Work-based Learning Ecosystems

Improving **OPPORTUNITY** for All by Integrating **SCHOOL, COMMUNITY** and the **WORKPLACE**

GETTING **SMART**
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GPS Education Partners has over 20 years of experience designing, implementing, and executing innovative work-based learning programs. GPSEd provides customized work-based learning solutions that change the lives of students, validate career pathways, and provide students and their communities with a pathway to prosperity.

Getting Smart® is a learning design firm helping education leaders discover and implement what's next. Getting Smart's media channel GettingSmart.com is a community of learners, leaders and contributors that cover important events, trends, products and publications across K-12, early, post-secondary education and lifelong learning opportunities.

Every young person should have the opportunity to earn a family-sustaining income as an adult. Yet, even prior to the COVID-19 pandemic, just under 50% of American families did not meet this goal. The pandemic has increased these challenges; and for families with female, Black, Latino or Hispanic leaders (and for those without high school degrees), more than half did not earn family-sustaining income. These challenges can be ameliorated when every student, whether college bound or not, engages in a work-based learning (WBL) program and experience that leads to certification and a set of career-ready skills developed directly in the workplace (whether remote or on-site). This is the future of WBL. WBL should also be extended into college and university experiences, as employers continue to find inadequate preparation among college graduates. This aspirational vision will only be possible if we collectively build on our past learning and construct collaborative and replicable ecosystem models to scale nationwide.

Every year, 3.7 million students graduate from American high schools, and most head directly into the workforce, the military or a postsecondary learning experience. In June, 2021, 8.7 million Americans were unemployed while 10.1 million job openings were reported. While some of this mismatch may be due to geographic isolation or unemployment benefits, much of it has to do with an accelerating skills and experience gap due to a rapidly adapting workplace. Jobs exist; requisite skills and experience do not. Whether after high school, military service or college, too few young people entering the workforce are prepared with the skills, knowledge and experiences required by employers. The challenge lies with employers not adequately prepared to retrain, schools not adapted to support and implement comprehensive and integrated workforce-ready programs for all, and community employment organizations not connected to schools to share relevant data. Additionally, communication between these three WBL ecosystem partners remains limited and less collaborative than needed.

Too few young people entering the workforce are prepared with the skills, knowledge and experiences required by employers and too few schools offer real-world work-based learning experiences to all students.

This deficit leads to significant numbers of families that do not earn a family-sustaining income. These numbers are amplified in those families led by women, Black, Latino, Hispanic, and individuals without high school degrees.

By building resilient ground-up and scalable work-based learning models supported by intermediaries that successfully integrate schools, employers, and community partners, we can imagine a future of work-based learning for all.

When every student in high school engages in a work-based learning experience that leads to certification and/or a set of career-ready skills developed directly in the workplace, families thrive, regions prosper and the nation becomes more resilient in a complex and uncertain world.

Despite the continued challenges, bright spots exist when the education sector, employers and community organizations mobilize together to focus directly on building creative and innovative programs that put both the learners' future and community economic vitality at the center. Already, numerous entities exist to help young people, whether college-bound or not, develop the critical employability skills they need to find immediate success in the workplace. Intermediaries who have experience bringing together the WBL ecosystem can accelerate and improve outcomes for students and communities.

By creating structures supported by intermediaries that successfully integrate schools, employers and community partners to build resilient ground-up and scalable WBL models that last beyond grant funding or individual leadership, we can imagine a future of WBL for all.

With high-quality scaling of WBL programs, individuals and communities prosper while businesses and schools thrive. Done piecemeal, communities struggle with languishing business, unemployment and residual impacts on mental health, including depression, anxiety and self-esteem. These trends accelerated in the pandemic years, with decreasing enrollments in public schools increasing financial challenges. Innovative and sustainable WBL models attract and retain students in schools.

The goal of this paper is to advance the case for equitable WBL models for all through an ecosystem approach that is scalable and sustainable. We first articulate a short synthesis around the challenges, solutions and research surrounding WBL. Second, we describe the core ecosystem that incorporates the three critical partners in scalable WBL models. Third, we analyze different types of WBL relative to the ecosystem model. Finally, we provide a set of recommendations and starting points to empower community groups to start the journey toward a robust WBL program—and a positive future for both young people and their communities. Rich with examples, this overview provides a clear starting point for any community interested in developing innovative, sustainable and scalable WBL programs.

GPS Education Partners (GPSEd) defines WBL as programs that "give students exposure to the world of work through a set of sequenced and coordinated activities. It addresses the shared goal of educators and employers in preparing students with the knowledge and skills necessary for productive careers." As a field, WBL has been well-described (see exhibit).

MAKING THE CASE FOR WORK-BASED LEARNING

→ Making Work-based Learning Work (JFF, 2016) – Principles for effective work-based learning.

→ Work-based Learning for Youth at Risk (OECD, 2016) – Policy Tools for employers to on-board at-risk youth through work-based learning.

→ Work-based Learning Tool Kit (DoEd, 2017) - Guide for state administrators to launch and maintain high-quality work-based learning.

→ Working to Learn and Learning to Work (ASA, 2021) – Analysis of state-by-state policy for work-based learning.

→ Work-based Learning Can Advance Equity and Opportunity for America's Young People (Brookings Institute, 2020) - Connecting work-based learning to equity and opportunity.

→ The Big Blur (JFF, 2021) – Building a new system to streamline the progression between secondary education and employment.

→ Connecting Every Learner (Advance CTE, 2021) – State-wide frameworks to advance equity in work-based learning models.

→ How Family-Sustaining Jobs Can Power an Inclusive Recovery in America's Regional Economies (Brookings, 2021) – Increasing opportunity for family-sustaining jobs improves the local, regional and national economy.

WBL programs often follow a sequence of exposure and awareness to immersion and certification. Clear progressions lead every student to an opportunity for a career with a family-sustaining income. Beginning in the middle grades (and sometimes earlier), students explore occupations and experience a variety of careers. They develop specific skill areas in the older grades, leading to career development and placement.

The GPSEd Work-based Learning Journey™

SCHOOL

WORK

| CAREER AWARENESS GRADES 8–10 | > | CAREER EXPLORATION GRADES 9–11 | > | CAREER EXPERIENCE GRADES 10–12 | > | CAREER PREPARATION GRADES 12–14 | > | CAREER DEVELOPMENT GRADES 12–16 |

Characteristics

WBL programs have common shared characteristics that indicate high-quality implementation. Significant overlap occurs with other naming conventions used in organizations that connect learning and the workplace. The Partnership to Advance Youth Apprenticeships (PAYA) identifies five common principles of WBL programs.

1. **Career-Oriented.** Students focus on knowledge, skills and dispositions related to careers that pay a family-supporting wage.

2. **Equitable.** Every student can access WBL programs, with targeted support for those students impacted by inequity in the workplace and education sectors.

3. **Transferable.** Students earn certification and college credit for WBL experiences that continue to expand future options.

4. **Adaptable.** Knowledge and skills are transferable across many workplaces and not just focused on a specific employer.

5. **Accountable.** Established metrics measure success of the WBL program to ensure ongoing excellence.

These principles are supported by key indicators that exemplify high-quality WBL programs.

1. **Placement within a workplace.** High-quality WBL is located in the industry itself rather than taught within the school. This placement can be virtual or on-site depending on the job and sector.

2. **Mentorship and mentor training.** Successful placement of young people in the workplace requires a strong mentorship program with a professional in the field. Investment in training in this area indicates high-quality WBL.

3. **Skill quality and verification.** Skills verification is a critical element of high-quality WBL programs. The skills themselves need to be adaptable, industry-aligned and focused on specific employability skills.

4. **Choice.** Students in WBL experiences should have choices in how and where they progress. Many students will need to experience a series of different WBL settings in order to better understand a best fit.

Finally, the actual work in WBL models should reflect the well-described synthesis of research around employee satisfaction. Satisfied employees work harder, commit longer and complete higher-quality work. This should apply to WBL experiences as well. Many employers build conditions for high job satisfaction around Job Characteristics Theory.

HIGHER JOB SATISFACTION IS CORRELATED WITH FIVE KEY FACTORS

Skill Variety
Am I using a variety of skills to complete a task?

Task identity
Do I see the bigger picture and the end product?

Task Significance
Is the task meaningful?

Autonomy
Do I have the ability to plan and make decisions to best complete the task?

Feedback
Am I receiving continual feedback to get better at what I do?

Priority Skills to Build a Better Workforce

While there is not universal agreement about success skills, research identifies similarities. Research from the DeBruce Foundation articulated three types of skills: durable (also referenced as soft skills or self-actualization skills), semi-durable and perishable (technical). Perishable skills are specific technical workplace skills (such as fabrication, coding and assembly) that frequently change based on industry needs. Semi-durable skills are field level skills that represent a body of knowledge and would be replaced less frequently. Durable skills are a set of mindsets and dispositions that transcend industry and field level changes.

The DeBruce Foundation describes the following as durable skills:

- **Communication:** The ability to adapt within various channels and to connect effectively with clients, co-workers, supervisors and other collaborators.

- **Collaboration:** Cohesive teamwork that recognizes and leverages the skills and knowledge of colleagues across a range of disciplines.

- **Critical Thinking:** Problem-solving that synthesizes information, anticipates new challenges and opportunities, and builds strategies toward workplace effectiveness.

- **Interpersonal Skills:** Treating others with empathy and respect, building trusting relationships, and creating a sense of belonging and shared purpose.

- **Proactivity:** Taking the initiative to seek out and act on opportunities to learn, innovate and add value to an organization.

- **Executive Function:** The self-accountability needed to work independently, manage tasks and resources to meet deadlines, and deal with ambiguity.

The World Economic Forum identified a similar set of durable workplace skills and added 1) creativity, originality and initiative, 2) technology use, monitoring, control, design and programming, and 3) leadership. A recent study by McKinsey described a set of 56 skills that are predicted to lead to higher levels of employment, job satisfaction and compensation.

What is High-Quality Work-based Learning?

Employers are becoming more sophisticated at identifying the skills needed for job success. Through internal and external research, a growing number are leveraging skills-based hiring instead of relying solely on degrees as proxies for success. A recent study by the Federal Reserve Bank of New York found that 33.8% of all college graduates were employed in a job that did not require a college degree. Developing these key skills and providing WBL trajectories for all students, regardless of college attendance, can reduce both under-employment and accumulated college debt.

These workplace conversations parallel those in the community driven by K-12 schools about what young people should know and be able to do—and about adopting broader measures of success than just reading, writing and math achievement. Some communities call these expanded views a Portrait of a Graduate, which serves as a clear target that describes the competencies and mindsets young people need for success in an uncertain and complex future. These portraits are based on input from the community around gaps, future needs and current realities within a region. WBL skills develop a number of areas identified in community-designed Portraits of Graduates, such as collaboration, communication and creativity.

All occupations, not just those in career and technical education pathways, require durable skills. And because durable skills are efficiently developed and demonstrated in WBL experiences, all young people deserve access. Through awareness, exploration and actual work-based experience, all young people entering the workforce can be more prepared and more successful with highly developed and appropriate skill sets.

Challenges

While WBL has held an important role in learning, past and present, it has yet to be consistently incorporated into communities as permanent, funded, scalable and useful structures for all students. Challenges include:

1. **Collaboration.** Often WBL efforts emerge from education systems (PK-12, community college), industry or the workforce development system as one-dimensional efforts that bring in partners after the initiative has begun. The success of a scalable WBL program depends on a collaborative, community-organized project where all constituents have an investment in both support and long-term outcomes. Joint ownership will ensure long-term viability.

2. **Innovation.** With exceptions of vocational-technical/CTE education programs, the structure of the high school model of the last 100 years does not support innovative WBL models. Seat-time requirements, short bell schedules, inability to distribute vocational and general revenue funding, teacher certification and transportation challenges create numerous barriers to successful and scalable WBL for all.

3. **Measurement.** Success in K-12 schools is narrowly focused on standardized test scores, with some states adding in parent/student/teacher feedback scores. Narrow metrics decrease the incentive and focus on programs that do not directly influence tested student outcomes. Districts that engage in quantitative evaluation of expanded views of college and career readiness, such as New Berlin in Wisconsin, provide a more rich and relevant indicator of graduates' long-term success.

4. **Perception.** WBL is often recommended for only some students—typically those who are not college-bound. All students (and their future employers) can benefit from WBL. Some positive signs emerged in specific sectors, with recent surveys indicating that "56% of Gen Z respondents saying views have changed toward the field with 77% viewing the [manufacturing] industry as more important."

5. **Integration and relevance.** Employers know the immediate needed skills, but difficulty emerges in integrating these skills with high school and community college programs. The traditional high school model rarely shows a direct connection between classroom content and the skills that employees need. True WBL with authentic and connected real-world experiences promises solutions. Teachers with direct experience in trade are critical for successful integration. Additionally, communities, schools and employers acknowledge the uncertainty around which skills will be needed in the future. With more manufacturing delegated to machines and many other industries predicting the type of needed jobs, WBL must include critical professional skills such as problem-solving, growth mindset and professionalism at the core.

6. **Opportunity gap.** Increasing numbers of students of color, students living in poverty, geographically isolated students and other marginalized identities are struggling with the opportunity gap (Freeland Fisher, 2021). Those with more affluence and power have more access to build skills and networks than those without. This opportunity gap impacts young people, for whom early identification and strong programming could help support gainful employment with family-sustaining income. Instead, the potential for dropping out of school increases. The global pandemic has only widened this gap. WBL programs that include certification, licensing and skill badging can make headway on overcoming this challenge.

7. **School to work employment tracks.** An increasing focus on college-for-all over the last two decades has driven more young people to college—and for good reason. College graduates earn higher salaries and have more workplace options than those without a college degree. However, this push has led to high levels of student debt, and many young adults are left with unfinished degrees or find themselves under-employed. While four-year college matriculation rates have increased to 70%, six-year graduation rates hover around 60%, with those from the lowest-income quartile at only 11%. Additionally, Black and Hispanic students graduate at lower rates than white students. Forward-thinking employers recognize that a college degree is not a proxy for talent. It is a choice among many employment tracks, each leading to productive and satisfying careers with increasing wage equity. The lack of integration of college attendance and WBL as a combined pathway is a formidable obstacle.

What is High-Quality Work-based Learning?

1. Strategies
2. Funding Streams
3. Services and Support

Grands + Corporate Giving + Individual Giving

Funding Models and Policy

Funding of these models can come from a variety of sources. Government funding at the state level and federal level can be offset. Based on surveys, over 50% of states use federal Perkins funding to support WBL programs. Some states offer financial assistance to employers who support WBL programs, while other states use short-term grants to launch programs. A handful of states include WBL line items in the state budget.

A commitment to funding, policy and leadership at the state level can accelerate the implementation of WBL programs. CareerWise Colorado focuses state-wide attention on building youth apprenticeships for all in an effort to create talent pipelines for sectors needing increased employment. Funded by the state government along with industry partners and advocates, CareerWise Colorado provides a strong state-level example of coherent and continuous funding streams. The Tri-Agency Workforce Initiative in Texas links education and workforce through legislated education reform initiatives to support solutions for long-term workforce needs in the state. Some states, such as West Virginia with its Jumpstart Savings Program, have signed into law vocation savings and investment accounts to complement college savings accounts. States also provide funds to employers that host apprenticeships, often through intermediaries such as Apprenticeship Carolina and Wisconsin's GPS Education Partners Consortium. All of these programs require significant legislative and regulatory measures to provide support, funding and flexibility through policy actions.

At the federal level, funding from Perkins V, the Workforce Innovation and Opportunity Act, the Every Student Succeeds Act (ESSA) and now the pandemic-related American Rescue Plan Act provides significant resources to begin WBL programs in communities.

Corporations can also fund programs. The Cristo Rey private school network partners with more than 3,500 employers to provide opportunities for students to build skills and earn wages in corporate workplaces. Employers pay a fee to support the program while a school program acts as an employment agency.

Support for WBL needs to innovate through braided funding models. These models seek multiple funding sources for one WBL program while separately tracking and reporting on each source of funding. In these models, all partners must share specific goals and equitable benefits.

Research Base Supports Value of Work-based Learning

A meta-analysis by Wonacott found significant positive outcomes associated with WBL. Within the secondary level, WBL positively correlated with increased attendance, increased course enrollment, increased graduation rates, increased postsecondary enrollment and decreased drop-out rates. Surveys of students reflect positive attitudes toward WBL models, especially those that are personalized, mentorship-based and industry located. Post-graduation employment rates generally trend higher with graduates of WBL programs.

More recent reviews by Brookings (2020) summarize key research supporting core elements of WBL. These include positive adult mentorship, development of social capital and the benefits of hands-on experiences that provide new expectations and environments for learners. The development of social capital relates to the quantity, quality and impact of the adult relationships found in WBL programs.

Additionally, race and socio-economic status matter. Black and Hispanic students are less likely to graduate high school, less likely to attend college, and more likely to end up in lower-wage careers. When high-quality scalable WBL programs focus on access for every student, outcomes improve. Uneven access to WBL threatens to curtail the economic mobility and career prospects of low-income and low-skilled individuals. A lack of access to WBL can have immediate financial consequences. Students and workers who do not have opportunities to develop the professional and career-track skills offered by WBL may struggle to enter and advance in careers. A survey by the National Association of Colleges and Employers found that more than 65% of students with paid internships received full-time job offers compared with 39% of students with no internship experience.

Data suggest that WBL is an important tool to support young people during critical transitions from school to employment, but access remains a challenge.

Work-based Learning Ecosystem Model

Educators
- K-12 Schools
- Colleges and Universities

Employers
- Business and Industry
- Industry Associations

Community
- Community-based Organizations
- Economic Developers
- Local and Regional Government Agencies

INTERMEDIARY

Successful WBL models are scalable, systematic and sustainable. Using codified and research-based structures, WBL models are designed from the beginning as scalable models. While grants typically fund start-up WBL efforts, sustainable design practices must be built at the outset. Budgeted and secured funding streams from multiple partners within the ecosystem lead to long-term sustainability after initial capital investment. Additionally, successful WBL initiatives are systematic and include all ecosystem partners. These partners consist of employers, schools and community organizations. By articulating a shared challenge and collective vision, the commitment of the constituent group remains high throughout the design and implementation of the program. Unfortunately, these three areas rarely communicate effectively and thus prevent opportunities to scale.

Communities that seek out intermediaries within the WBL ecosystem can accelerate the launch of a new program as they can bring expertise, tools and processes to ensure a high-quality program with long-term viability.

Employers

Employers recognize the challenge of hiring unprepared employees. The skills gap reduces long-term success due to retraining costs for hard skills, challenges with developing professional behaviors and the presence of outdated practices that slow productivity and innovation. While industry sectors vary in terms of technical skills, the durable professional skills endure both cross-sector and into the future. Employers need to pivot from passive "receivers" of new employees to "builders" of new employee cohorts. This includes partnering with schools and communities to build collaborative WBL models.

Many employment sectors partner in WBL ecosystems.

SECTOR	EXAMPLES
Agriculture	Chicago High School for Agricultural Sciences **provides significant high school coursework in agricultural subject areas. The** In the Fields Program**, sponsored by the** Hawaii Agricultural Foundation**, provides hands-on pathways for agricultural careers.**
Construction	Build UP **is an Alabama-based model that provides construction experience, home ownership and associate degrees to high school students through an apprenticeship model. Students at** ACE Leadership High School **in Albuquerque engage in student projects focused on architecture, construction and engineering.**
Education	**Students at** Cherry Creek School District **in Colorado become educator paraprofessionals through** CareerWise Colorado**, a state-wide nonprofit organization that supports employer partners in building apprenticeships with public schools.**
Energy	Green Energy Technology Academy **at Laguna Creek High School, California partners with renewable energy companies to build career ready skills.** Green Tech Academy **students in Olathe, Kansas learn about energy and sustainability while working with industry partners on projects, internships and entrepreneurial experiences.**
Finance	Union Bank in Los Angeles **partners with five high schools to operate student-run banks and train/certify students in financial/banking skills. There are 208** NAF Academies of Finance **in 120 school districts. All students participate in paid internships with industry partners.**
Health care	Richardson Independent School District **in Texas partnered with Methodist Richardson Medical Center to build a high school campus for medical sciences in the hospital for students to earn college credit and medical certifications.** **Health solutions provider** Cerner **offers internships to students from a dozen districts in Kansas City.**
Manufacturing	GPS Education Partners **in Wisconsin offers a state-wide Youth Apprenticeship/ Alternative Education Program to support work-based learning with several education centers placed in manufacturing centers.**
Technology	**IBM sponsors** P-TECH**, a network of more than 240 high schools that combine college credit opportunities with technology work experiences.**

Community Organizations

Community and regional economic advocacy and workforce development organizations play an important role in the WBL ecosystem. These organizations specifically identify economic outlooks and trends, demographic shifts and employment stability. Additionally, community organizations track poverty levels and housing security as measures of a region's social stability. By providing this data, both current and future, community organizations play a vital role in the WBL ecosystem to set context and identify trends.

At the federal level, the Department of Labor funds and supports numerous programs, including apprenticeships and summer programs to provide on-the-job training for young people. The Department of Labor also maintains robust data on employment numbers, types and trends. This data can be accessed in the federal O*NET database. Regional workforce development councils promote vitality and connect job seekers with employers. The San Diego Workforce Partnership provides personalized and localized guidance to students and adults. Locally, chambers of commerce support and advocate for the needs of business owners. Many, including the Denver Metro Chamber of Commerce, provide a database of apprenticeships and internships.

Schools

All WBL programs are connected in some manner to local school districts (with some exceptions in online schools). Many WBL opportunities are driven through secondary schools' Career and Technical Education (CTE) programs. Out of approximately 15 million students enrolled in 9th-12th grade in 2019, about 7.6 million participated in CTE programs (with an additional 3.5 million at the postsecondary level). WBL encompasses academy programs, internships, apprenticeship models and whole-school models. Additional WBL opportunities occur in postsecondary settings with certification and internship programs in two-year and four-year degree programs.

Building a Work-based Learning Ecosystem

Founded in 1959, Generac Power Systems is a leading designer and manufacturer of energy technology solutions and other power products headquartered in Waukesha, Wisconsin.

When Generac was looking to expand within its new facility in Jefferson, Wisconsin in 1996 and hire 250 new employees, the manufacturer quickly discovered a lack of high school graduates and a lack of work readiness. Around the same time, the state announced it was dedicating more resources to apprenticeship initiatives. In 2000, Generac launched the Second Chance program to provide disengaged students with the opportunity to earn a high school diploma and learn the skills needed to be employed by the manufacturer.

After working with the state to relax youth apprenticeship rules and engaging schools, businesses and the community to demonstrate the benefits of WBL, Second Chance merged with Partners in Education and became Second Chance Partners for Education, an independent 501(c)(3) nonprofit in 2005. In 2013, they officially rebranded as GPS Education Partners (GSPEd), and expanded to include programming for ALL students that included advanced industry credentials and certifications.

Now, in collaboration with GPSEd, Generac continues to host a work-based learning program on-site in partnership with five regional schools to support a pipeline of new employees and strong opportunities for high school graduates. A number of the graduates go on to work for Generac after high school.

To implement successful WBL programs, secondary schools need to transform the learning model to increase flexibility in both structure and pedagogy. Structurally, schools need to accommodate large blocks of time off-campus (or even locate courses in employer facilities), arrange for transportation, increase flexibility for awarding credits and acknowledge various paths to teacher certification to allow for nontraditional teachers in WBL programs. Pedagogically, schools need to move toward competency-based approaches to assess at the level of skill rather than the level of course. Personalized approaches allow each student to earn certifications at the pace appropriate for them rather than on timelines forced by semester and yearly schedules. These changes transform all learning at the school, and thus a culture of innovation must be established throughout the system.

Community colleges contribute to the ecosystem, often in partnership with secondary schools, through dual enrollment options, certification programs and other credential opportunities. The variation in implementation at this level is significant, which makes measuring success challenging. In this area it is critical to measure long-term outcomes from WBL programs in community colleges beyond typical credit-bearing experiences. Community colleges also provide important opportunities for dual-enrollment WBL experiences where high school students can get college credit for on-the-job internships and apprenticeships. This opportunity for early credit addresses affordability and relocation challenges experienced by students.

Intermediary

WBL occurs in a complex ecosystem of schools, colleges, employers, trade associations and municipal and state governments. Providing high-quality WBL opportunities for all learners requires strong integration. An intermediary can play a critical role in facilitating and coordinating scaled programs. Intermediaries exist in a number of states and can be individuals or organizations.

GPS Education Partners, a WBL intermediary, supports national efforts to create high-quality WBL programs in partnership with community organizations, businesses and schools. With a core focus on accelerated, customized and outcomes-based solutions, GPSEd partners with employers using a delivery model that includes designing a pilot based on talent needs, building a pilot program, executing and scaling the program, and then refining and evaluating for continuous improvement. By design, intermediary models integrate all three elements of the WBL ecosystem.

PAYA, the Partnership to Advance Youth Apprenticeship, was launched in 2019 by New America. PAYA assists innovative organizations to develop robust apprenticeship programs that meet school, community, and industry needs. By providing grants and support to community organizations, PAYA is a consortium of state and local agencies, corporations and national organizations that build WBL educator capacity to increase access, equity and workforce diversity.

The Real-World Learning Initiative in Kansas City, sponsored by the The Ewing Marion Kauffman Foundation, was initiated through a set of community agreements that made WBL (including internships, client-connected projects, entrepreneurial experiences and industry-recognized credentials) a priority for the 100,000 high school learners in the region. The foundation and a web of civic organizations and technical assistance providers serve as a regional intermediary for the initiative and help increase the number, quality and equity of WBL experiences across the region.

Intermediary Partnerships

The **DuPage Work-Based Learning and Youth Apprenticeship Collaboration**, a partnership between eight DuPage high schools, the DuPage County Regional Office of Education, College of DuPage Hire-Ed and GPS Education Partners is designed to help students ages 16 and older access employment, education, training and support services to succeed in the labor market.

Students enrolled in this program are paid student apprentices with local business partners. As student apprentices, they work toward 450 hours of work-based learning during the year-long course.

High-demand sectors such as manufacturing, cybersecurity, information technology, health services and logistics are just some of the career pathways available to students. Students in the program also have the opportunity to tour workplaces, shadow jobs, intern, and participate in paid pre-apprenticeships.

Communities of practice are the systems that communities create to achieve WBL goals. More schools, communities and employers are engaging in a variety of formats to increase access and impact with variable contributions from the partners within the ecosystem. The communities of practice are reviewed through two lenses: first, by looking at the types of WBL experiences, and second, by examining WBL models.

Types of Work-based Learning

WBL falls on a spectrum of implementation types that exist across a variety of sectors. By using a common language, ecosystem partners can better create collaborative and scalable models. These implementation types can fall along a continuum as demonstrated by GPSEd in the image below.

CONNECTING TODAY'S CLASSROOMS WITH TOMORROW'S CAREERS

GPS EDUCATION PARTNERS WORK-BASED LEARNING JOURNEY ™

SCHOOL — WORK

CAREER AWARENESS	CAREER EXPLORATION	CAREER EXPERIENCE	CAREER PREPARATION	CAREER DEVELOPMENT

MIDDLE SCHOOL >>> HIGH SCHOOL >>> POST-SECONDARY

STUDENT BENEFITS	STUDENT BENEFITS	STUDENT BENEFITS	STUDENT BENEFITS	STUDENT BENEFITS
Discover your passions and interests, and how they can relate to an attainable career.	Explore potential career pathways and start creating a data-driven career plan.	Learn valuable hard and soft skills while building an impressive portfolio through on-the-job training.	Gain work experience in your desired career pathway while taking classes that advance your career options.	Implement a personalized career-training plan, whether that means securing employment in your desired job or continuing education.

SCHOOL BENEFITS	SCHOOL BENEFITS	SCHOOL BENEFITS	SCHOOL BENEFITS	SCHOOL BENEFITS
Ignite a sense of purpose by creating relevance between school and work through real-world interactions.	Increase student interest in academics with work-based learning experiences.	Provide new learning opportunities giving students the work-experience needed to validate their pathway choice.	Increase student engagement in academic coursework related to their desired careers.	Increase the amount of students who graduate career-ready.

EMPLOYER BENEFITS	EMPLOYER BENEFITS	EMPLOYER BENEFITS	EMPLOYER BENEFITS	EMPLOYER BENEFITS
Demonstrate the impact your work has on the community while increasing student awareness of technical careers.	Align student's interests and aptitudes with job opportunities that meet your employment needs.	Train and develop the future workforce to create a more robust and diverse talent pipeline.	Teach students the skills necessary to thrive in your workforce while increasing your productivity.	Gain access to highly motivated employees trained and developed to meet your company's needs.

STUDENT ACTIVITIES	STUDENT ACTIVITIES	STUDENT ACTIVITIES	STUDENT ACTIVITIES	STUDENT ACTIVITIES
• Worksite Tour • Guest Speakers • Career Fair • Visit parents at work • Career in Classroom Day • Interest Inventory • Aptitude Assessments • Community Project	• Career Fairs • Industry Projects • Interest Inventories • Mock Interviews • Job Shadows • Company Tours • Mentoring • Simulations	• Internships • Pre-apprenticeships • Youth apprenticeships • Co-ops • Service Learning • Project-based Learning	• Clinical Experiences • Credit for Work Experiences • Internships • Pre-apprenticeships • Mock Interviews	• Internships • Registered apprenticeships • Paid Work Experiences • On-the-job Training • Employee Development • Transition Services • CTE Programs

TYPES OF WORK-BASED LEARNING

CAREER AWARENESS

Exposure:
Quick introductions to the world of work through job shadows, field trips, mentor conversations, and virtual connections on applications like Nepris help learners make informed choices about extended work-based learning experiences.

CAREER EXPLORATION

Simulated Workplace:
In rural places, finding meaningful work-based learning can be challenging. West Virginia's Simulated Workplace Program provides virtual simulations to increase opportunity and access in isolated areas of the state.

CAREER EXPERIENCE

Internship:
Learners perform meaningful job tasks at a worksite or approved location under the guidance of a qualified supervisor. These experiences should qualify for high school and/or college credit and/or be paid and evaluated. Massachusetts-based Education Cooperative Internship Program offers selective internship placements for 11th- and 12th-grade students to explore career opportunities during the school year and summer.

CAREER PREPARATION

Courses:
Defined high school courses that are based on specific trades or general vocational training. Craftsman with Character integrates purpose-making with career orientation in a full high school course.

On-the-job-training:
Workplace-based opportunities for participants to develop career-track skills needed for entry to a particular industry or advancement along a career track. The Department of Labor's Job Corps is a free residential on-the-job-training program for at-risk youth ages 16 to 24.

Youth Apprenticeship:
Intensive work-based learning experiences, often paid, that generally last from one to six years and provide a combination of on-the-job training and formal classroom instruction. They are intended to support progressive skill acquisition and lead to postsecondary credentials and, in some cases, degrees. Efforts such as Future Focused Education in New Mexico are developing clear paths between youth apprenticeships and registered trade apprenticeships.

CAREER DEVELOPMENT

Client-Connected Projects:
Learners analyze and solve authentic problems, working in collaboration with other learners and professionals from industry, not-for-profit, civic or community-based organizations. Work involves authentic methods and tools used by professionals in a work environment; experience includes mentoring and evaluation by working professionals; and output is viewed as value-add by external stakeholders. Iowa BIG in Cedar Rapids, Iowa is a multi-district collaboration that partners students with local employers to solve real-world challenges.

Entrepreneurial Experience:
Students independently identify a compelling social or market problem and mobilize resources to research and solve it. Leveraging input and support from multiple stakeholders, students iteratively analyze, prototype, implement, reflect and adapt potential solutions. Uncharted Learning's INCubatorEdu program operates within 375 schools and 27 states.

Work-based Learning Models

There is a significant variety of WBL programs in the United States. While most have a common goal of increasing work-force readiness, there is variability in collaboration within an ecosystem model. As we think about the case for WBL for all and the focus on collaborative projects, we review a variety of case studies that include one or more elements of the collaborative model and the level at which they are involved.

Career and Technical Education

Almost every high school in the country offers some form of Career and Technical Education (CTE) program. The Center for Reinventing Public Education (CRPE) systematically reviewed CTE programs across the country to identify the most innovative and promising sites. The evaluation centered on CRPE's criteria for high-quality CTE programs, which include:

1. Connect to high-demand, living-wage careers.
2. Prepare for postsecondary success.
3. Deliver a relevant learning experience.
4. Focus on equity.
5. Use community resources
6. Develop responsive and sustainable programs.

The Center for Advanced Professional Studies (CAPS) provides real-world, project-based learning strategies through collaborations with business and community partners for juniors and seniors in the Blue Valley School District southwest of Kansas City. Sectors include bioscience, health care, human services, business and technology, engineering and entrepreneurship.

The next generation career center spurred national interest. More than 75 school districts have joined the independent nonprofit CAPS Network to share strategies for immersive real-world learning, including client projects and internships.

WBL is integral to CTE programs, and 23 states and the District of Columbia include WBL as a factor when approving new or existing CTE programs.

Curriculum

WBL can often be tied to curriculum models informed by workforce development data. While the curriculum itself, even based on employment opportunities, does not meet the definition of high-quality WBL, some examples stand out. Notably, Cajon Valley Union School District in eastern San Diego County built a World of Work program at the core of the district model. Often, WBL programs have guided pathways that build a coherent curriculum around career skill development.

With 54 immersive career experiences between kindergarten and eighth grade, Cajon Valley Union School District's World of Work builds on research around the RIASEC model and incorporates school-based experiences and connections with professionals into elementary and middle school programs.

Cajon partnered with the community college system and San Diego Workforce Partnership to build both the student-facing program and an intergenerational parent-facing career education program.

Communities of Practice

Academies

Schools can implement academy models to support WBL. Academies often focus on specific sectors and are embedded within larger comprehensive high schools. In particular, a few efforts have led to models that scaled regionally or nationally. The Linked Learning Alliance advances a high school model with internships embedded in more than 600 career academies in 18 states.

IBM sponsors P-TECH, a loose network of more than 240 high schools that combine college credit opportunities (up to an associate's degree) and technical work experiences with more than 600 industry partners. Students gain academic, technical and workplace skills through a single program, often while earning certifications or college credit. A codified WBL model in an entire school can be replicated in other schools nationally through networks. Big Picture Learning schools, found nationally and internationally, center on a set of common design principles that include two days per week spent in the workplace through internships.

> **NAF** is a national network of more than 600 high school career academies in one of five pathways: engineering, health, finance, hospitality and information technology.
>
> Each academy is supported by a strong business advisory council. After completing the academy curriculum and a paid internship of more than 120 hours, students earn a **NAFTrack** diploma, which is recognized by major employers.

Postsecondary Models

Robust WBL programs have emerged in colleges and universities, notably at the community college level, where partnerships with local districts are common to earn associate's degrees or industry certifications. Some four-year universities are designed with WBL at the center. The Work-Integrated Learning program at the University of Toronto at Scarborough leverages their long history of cooperative learning to place students in a wide variety of industries during the college experience. The Work Program at Paul Quinn College provides students with meaningful work experiences that develop competitive job skills while contributing toward the cost of their education.

> Students in the **Northeastern University Cooperative Education** program, with over 3,000 industry partners across seven continents, gain up to 18 months of paid experience as part of their degree.
>
> This 100-year-old program serves as an example for all colleges and universities as they aspire to scale work-based learning.

Military Service

While representing less than 1% of high school graduates each year (150,000), students entering the military have robust WBL opportunities throughout their tour of duty. Post-military, the COOL program supports the translation of military credentials into industry-recognized workplace credentials and certifications.

> **ROTC** and **JROTC** provide high school and college students opportunities for leadership and specific training related to the military.
>
> Junior ROTC is implemented in over 1700 schools in the United States and often counts for credit or as part of a CTE experience.

Business in School

In rural areas, there are often not enough opportunities available for young people to have authentic WBL experiences. A unique model that overcomes this challenge involves hosting businesses within the school facility. The rural Roscoe Collegiate Independent School District in Texas provides space for a chiropractic/wellness center, drone development company and veterinary clinic in exchange for WBL experiences for students as they develop skills to meet the needs of emerging employment within the region.

Simultaneously, students have the option to earn an associate's degree prior to graduation and a funded bachelor's degree two years after graduation in a separate adult learning program.

School in Business

Innovative employers have launched or hosted school sites directly inside of their facilities. The WBL is immersive in these models as the students interact with adult employees and experience the world of work in the business itself. Design Tech High School on the Oracle campus in California offers 50 internships and experiences in STEM fields

In **Chattahoochee County Middle/ High School** in Georgia, students run a **coffee shop** as a real-world on-site experience.

Students gain skills in the service industry as well as build an understanding of small-business ownership in areas such as supervision and finance.

Raisbeck Aviation High School in the Highline School District in Washington sits within the King County/Boeing field in King County, Washington.

Ninth-grade students build professional networks through job-shadowing through the Aviation Careers program, a semester-long course to understand careers in the aviation and aerospace industries. Tenth-graders connect with industry professionals who volunteer as mentors, helping students clarify goals, establish timelines and network in the aviation industry. Throughout the high school program, students have options to take a variety of electives such as Introduction to Aerospace Engineering, Aviation Photography, Aviation Law and the History of Aircraft Design.

Technology

While WBL programs are not dependent on technology, technology can support the documentation, communication and credentialing of these experiences. Additionally, technology is essential for scalable WBL solutions.

Continued work around distributed ledgers using blockchain technology will enhance the record-keeping and authentication of all WBL experiences. This progress will help collate and organize the over one million credentials available in the United States today, including those earned from WBL programs. Eventually, organized open-source documentation of WBL experiences will help match employer need with authenticated candidate skills. This specificity in hiring will reduce some of the time lost to training new employees in both professional and technical skills.

A number of solutions exist to help support WBL programs. ImBlaze, created by Big Picture Learning, helps learners identify and secure internships. Students check in and out of work locations, allowing teachers to monitor their activity. Workplace supervisors can also provide daily feedback to learners.

Transeo manages the exploration, communication and searchable database of WBL opportunities for school districts. Practera plays a similar role for universities.

A number of solutions for workplace upskilling have emerged, driven by employer need. Multiverse, an online platform for employers and prospective employees, matches skill development and employer need through apprenticeship programs. Apprenticeships are applied, independent of a college degree and paid.

Traditional Learning Management Systems (LMS) are insufficient for WBL programs due to privacy issues and models that depend on coursework, credit and school employee use. A few solutions are dismantling these walls to help support out-of-school experiences. HEADRUSH, an agile learning platform, recently introduced guest assessment, where individuals outside of the school (such as an employer) can interact with assessment tools to support WBL.

WBL for all requires collaboration within the ecosystem, a commitment to high-quality programs and frameworks for scaling. By design, models must be replicable and sustainable from the beginning.

Getting Started

Intermediary services can facilitate charting a path to success with a full WBL ecosystem. The following steps articulate a plan to get started.

Identify Need

Employment data, future trends, and community experts should identify the requisite skills for employees.

Consideration must be given to not only existing industries, but opportunities for changes within and between sectors. Example: Kentucky Center for Statistics

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Collaborate

Build a working group composed of school, community and business leaders with a clear champion in each area. Add high school students to the group.

Build shared norms, expectations and commitments up front. Example: Public Workforce System

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Agree

Articulate the agreement between the partners with roles/responsibilities, financial commitment and long-term vision. These community agreements will provide guidance and guardrails throughout the implementation process. The agreement must also include a clear definition of high-quality WBL and tools to evaluate partnerships. Example: Kauffman Real World Learning

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SCHOOLS

Review school data on student preparedness for workforce (graduate surveys, program evaluation, etc.).

EMPLOYERS

Human resources departments identify challenges and gaps in hiring and retraining employees.

COMMUNITY

Review and identify regional trends on employment; identify future regional economic trends.

SCHOOLS

Engage workforce readiness staff currently employed by school and identify a lead.

EMPLOYERS

Engage Human resources team and identify a lead for the program.

COMMUNITY

Engage community workforce and economic growth team and identify a lead.

SCHOOLS

Get school leadership approval to agree on community partnership.

EMPLOYERS

Get employer leadership to agree to and support program.

COMMUNITY

Determine data source teams and commitments to longitudinal tracking.

Future Vision and Recommendations

Recruit

Through chambers of commerce, economic councils and other workplace advocates, recruit a set of committed businesses willing to partner for the long term. Each business partner should see a critical need fulfilled with a WBL program. This need typically includes talent development and/or expected vacancies. Example: Department of Education

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SCHOOLS

Sign agreements with employers to build work-based learning program.

EMPLOYERS

Sign agreements with schools to build work-based learning program.

COMMUNITY

Connect employers with schools to build work-based learning ecosystem.

Integrate

Review existing CTE programs and other WBL programs in regional schools. Work to integrate all programs to ensure common language and measurement of outcomes. High school programs need to rethink scheduling, seat-time requirements and credit delivery, and they must build flexible systems that accommodate high-quality WBL. Example: Kansas City Schools

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SCHOOLS

Redesign school structure and processes to accommodate work-based learning opportunities.

EMPLOYERS

Select work-based learning locations and support staff to mentor students.

COMMUNITY

Provide technical support.

Certify

Professional organizations, technical colleges and community colleges match the needs identified by industry with coursework leading to degrees and/or certification. Example: DC Public Schools

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SCHOOLS

Connect certifications with graduation credit and dual enrollment through community college pathways.

EMPLOYERS

Identify opportunities for industry-recognized certifications that meet employer needs.

COMMUNITY

Build integrated resources for industry-recognized certifications.

Transportation

Remove any transportation barriers by offering transit passes, using existing school infrastructure or partnering with service providers such as HopSkipDrive . Example: Innovating School Transportation

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SCHOOLS

Review school-controlled transportation options for providing access for all students.

EMPLOYERS

Evaluate in-house availability for transporting students to work-based learning sites.

COMMUNITY

Partner with regional transportation hubs to ensure access to work-based learning programs.

Teach

Many students will not understand basic workplace agreements. Establish and teach these prior to launching the pilot. These might include punctuality, dress code or professional communication as well as the durable/soft skills and technical skills required. Example: Utah Workplace Skills

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SCHOOLS

Design and integrate durable/soft-skills learning for all students in school.

EMPLOYERS

Build capacity for workplace trainers to coach and guide students around technical skills.

COMMUNITY

Build unified vision for set of durable skills and technical skills that are regional in scope to ensure common language.

Pilot

Begin with a small pilot to determine early data and efficacy. A few students, one business partner and a community college partner can test the program's processes and systems. Example: Pilots in schools

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SCHOOLS

Design and host small-scale pilot for first group of students.

EMPLOYERS

Pilot employer hosts and documents program.

COMMUNITY

Community partners share learning and support story-telling.

Fund

Determine financial support for the program beyond start-up costs. Consider sharing costs between all partners, with those benefiting the most supporting the most. Example: DC Public Schools

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SCHOOLS

Secure secondary-level accessible funding through local, state or federal channels.

EMPLOYERS

Commit to 3–5 year funding stream from employer linked to number of highly trained employees hired.

COMMUNITY

Advocate for regional/state level funding through legislative process to ensure long-term viability.

Implement

Launch well. Share widely. Learn fast. Example: GPSEd Implementation

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SCHOOLS

Review pilot data and build multi-year strategy for program including staffing, growth goals and success metrics.

EMPLOYERS

Align multi-year strategy with ecosystem around common goals and efficacy tests.

COMMUNITY

Create and host process for employers to join work-based learning ecosystem.

Scale

In order to reach a goal of WBL for all, the model must be set up to replicate in a variety of settings. Whether the program materials are open-source, fee-for-service or part of a network, set a goal to reach as many young people as possible through your model. Example: National Governors Association

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SCHOOLS

Codify model, share results and build school network.

EMPLOYERS

Codify model, share results and build employer network.

COMMUNITY

Present and share models in other regions; build systems to gather data nationally and synthesize learning.

Measure

Adopt tools and recruit third-party partners to measure the efficacy of the program. Consider workforce placement, attitudes and perceptions, employer surveys and long-term income data as important elements of an evaluation plan. Example: Measuring Work-based Learning

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SCHOOLS

Measure efficacy: high school graduation rates, % students employed.

EMPLOYERS

Measure efficacy: reliable pipeline, skill level of new employees.

COMMUNITY

Measure efficacy: regional employment rates, regional economic growth.

Opportunities and Next Steps

Vibrant communities and robust economies are supported by every family earning a family-sustaining wage. We know that this is not the case for large numbers of families, especially those from traditional marginalized communities and identities (race, gender, rural, high-poverty, etc.). While significant resources are already committed to WBL every year, the vision of WBL for all requires a stronger focus on the WBL ecosystem as a whole. The following recommendations for the field will help advance the quality of WBL as well as robust economies at the local, regional and national level.

1. **Design for equity.** Embed pathways to enable all learners to participate, build systems to accommodate transportation needs, skill up for success, monitor and mentor completion, and support documentation. Identify and recruit all students into WBL programs, especially those who have traditionally been underrepresented.

2. **Commit to quality.** For a successful WBL model, organizations must commit to quality and clear metrics. The complexity of these programs needs continuous evaluation and reflection.

3. **Build for scale.** Every WBL program should be constructed with scale in mind in order to reach more students. This might be within a community, region or the nation at large. To scale effectively, programs must document clear codification of the model and continually refine it as additional implementations occur.

4. **Partner with intermediaries.** Build a community partnership model that brings all constituents to the table in a strategic process to best serve individual students and the needs of the local economy. Intermediaries with expertise in WBL are excellent starting points for a quality WBL program. These intermediaries can bring tools and processes from other community builds to save time and resources and ensure the long-term viability of the program.

5. **Transform the school model.** Build a school commitment to embracing an expansive view of WBL for all to ensure that every child has access to reach their full potential. This will require reenvisioning basic structures of K-12 schools to ensure that students can receive credit for WBL and can locate learning outside of the school walls. Additionally, community college programs should adapt to meet the needs of the community. Promote WBL programs for every student, including those who are college bound.

6. **Find your champions.** Look for district leaders who recognize the absolute necessity of rethinking the high school model, business leaders who want to build a high-quality pipeline, and community leaders who clearly see the skills and experiences needed to build a strong, economically viable future.

7. **Involve employers from the start.** Employers typically commit to WBL programs at the request of schools. However, strong WBL programs address the ongoing need for a new, highly-trained workforce. When businesses, nonprofits and communities articulate the knowledge and skills needed at the beginning of a collaboration, the long-term impact is greater.

The future of work will be a dynamic one filled with uncertainty and complexity. We know that the technical skills learned today may not be relevant even 10 years in the future. However, a thriving economy depends on a strong and diverse workforce reflecting the nation as a whole. When new employees are highly trained, specifically certified and adept at the professional skills that many employers indicate are lacking, both the employee and employer thrive.

Questions about Work-based Learning?

Feel free to contact:

GPS Education Partners
Info@GPSEd.org
262.226.2001 | 844.821.8118

Innovation needs to occur within the WBL ecosystem and integrate with ongoing transformation. For example, many schools are pivoting to a more personalized, relevant, competency-based and project-based approach. WBL for all meets the needs of these schools with a clear connection to the needs of the community. By connecting existing WBL programs with innovative K-12 school models, students have more access to personalized programs that reflect the real world of work.

WBL for all will depend on quality, commitment, coherence and collaboration. Extensive documentation of quality WBL exists. New program builds should adhere to these principles and characteristics and continually reflect on program progress. Every constituent within the WBL ecosystem should commit to a clear shared goal: increasing the number of gainfully employed young people earning a family-supporting wage, and creating sufficiently staffed businesses and organizations. This means building structures and processes that provide inclusive environments and roadmaps for those typically excluded and advocating for WBL approaches as valuable elements of a college track. Numerous examples of WBL exist and are growing around the country. Recognizing that WBL comes in many forms builds a coherent national view and connects formerly disconnected parts of the ecosystem. Finding opportunities to share language, convene and include different partners will build momentum for WBL at scale. From the start, WBL programs must include collaborative representation from employers, communities and schools. With commitment and voice from all three of these invested partner areas and a dedicated intermediary at the onset, each program will sustain and scale to reach more young people.

WBL is not a new concept. However, the urgency for more WBL opportunities has increased with rapidly changing industries, increasingly complex workplace demands and significant numbers of young people, especially those most marginalized, disconnected from opportunities to earn a family-sustaining income. The pandemic has only accelerated this urgency. Workforce trends, combined with the emergence of community-connected and personalized learning experiences in high schools and redesigned community colleges, enables WBL for all. A thriving economy depends on a well-prepared workforce that does not exclude any individual. A well-prepared workforce builds family-supporting jobs and careers for all. Family-sustaining income for all reduces stress and mental health challenges. A commitment to WBL for all supports a thriving, equitable and robust nation.

Notes