National Governors Association

NGA Paper

State Strategies to Scale Quality Work-Based Learning

Executive Summary

Industries in every state are struggling to find qualified applicants for jobs, while job seekers too often find they lack the skills needed to enter or move along a career pathway to a good job. Preparing a workforce that is poised to meet the needs of businesses and ultimately to make the state more economically competitive is a top priority for many governors. Therefore, many of them are exploring ways to scale—increase opportunities for—high-quality, demand-driven work-based learning as a proven way to prepare their citizens for the modern workforce.[1]

High-quality work-based learning is a continuum of programs that provide work and education experiences to help participants advance along a career pathway. Those programs consist of: a clear agreement between the participant and the sponsoring employer, an authentic work experience, structured learning activities aligned with the work experience and a culminating assessment and recognition of skills.[2] Work-based learning offers significant benefits to participating individuals and employers, and governors can play a key role in bringing work-based learning to scale.

While there are examples of high-quality work-based learning in all states, achieving scale has been elusive. The key to sustainable growth and continual improvement of high-quality work-based learning programs is for governors to establish and support "talent pipeline" partnerships—functional workforce, education and industry partnerships focused on aligning education and training with the needs of the economy—and embed these partnerships within existing state systems. Governors, with the support of talent pipeline partners, can take concrete steps to scale high-quality work-based learning experiences:

- Elevate the state vision for high-quality work-based learning;
- Implement state-led pilots of high-quality work-based learning programs and plan to evaluate and expand them;
- Build an infrastructure to support talent pipeline partners' efforts to scale the programs;
- Provide incentives for industry to launch and continue sponsoring the programs; and
- Provide incentives for educational institutions to integrate work-based learning into the education system and support students who participate.

The above steps are most effective when integrated with other strategies to build a skilled workforce, such as increasing the employment of youth and young adults to offset a retiring workforce; building a workforce with more science, technology, engineering and math (STEM) skills for middle skills industries; implementing the Workforce Innovation and Opportunity Act (WIOA), which requires states to expand work-based learning opportunities; setting and achieving higher education attainment goals; promoting competency-based education; and building industry sector and career pathway partnerships.[3] Governors who connect their states' effort in scaling up high-quality work-based learning with other workforce development efforts are best positioned to build a skilled workforce that meets the needs of the economy.

Introduction

Industries in every state are struggling to find qualified applicants for jobs, while job-seekers too often find they lack the skills needed to enter or progress along a career pathway. There is a growing mismatch between

the needs of industry and the skills of American workers.[4] This skills mismatch has a significant impact on the economic competitiveness of a state. Preparing a workforce with the skills necessary to make their state more economically competitive is a top priority for governors across the United States.

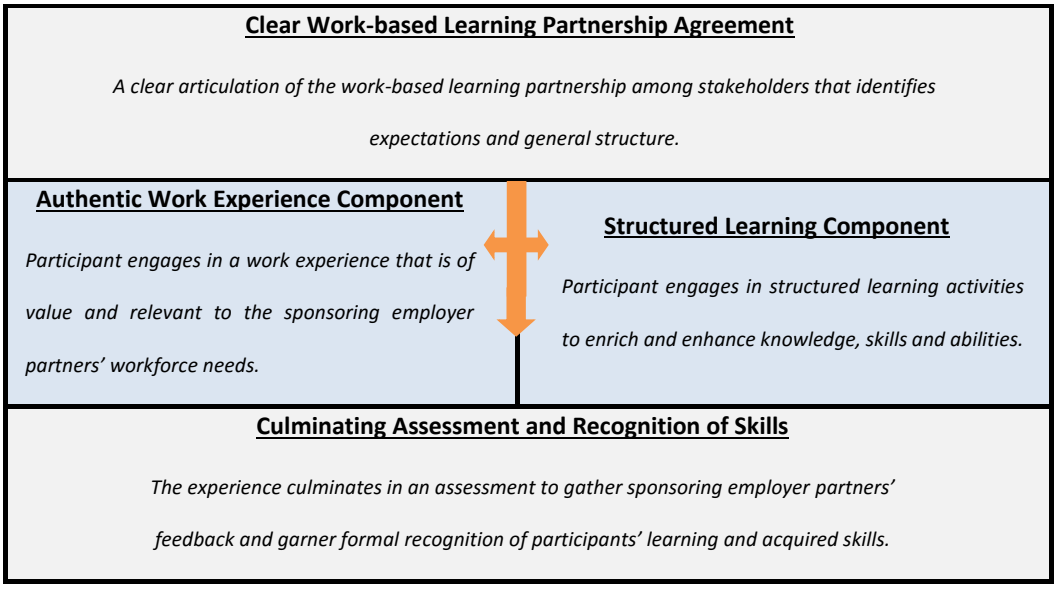
One promising strategy to address the skills mismatch is to expand high-quality work-based learning opportunities. These programs are hosted by employers in partnership with educational institutions that connect authentic work experiences with structured learning activities. The goal is to reinforce practical and theoretical concepts and thus better prepare trainees for the realities of the workplace while meeting the needs of industry. In every state there are pockets of high-quality, demand-driven work-based learning programs. The challenge before governors and states is to identify those promising programs and bring them to scale across industries while maintaining high quality.

The information presented in this paper is drawn from an experts roundtable convened by the National Governors Association Center for Best Practices (NGA Center) in September 2015 with a group of researchers and other experts in the field of work-based learning. It also draws on the experiences of the six states participating in an NGA Center policy academy focused on scaling work-based learning programs in high-demand, middle-skills science, technology, engineering and math (STEM) careers, as well as on the lessons learned from the NGA Center's technical assistance to grantees under the U.S. Department of Labor's American Apprenticeship Initiative. The initiative aims to expand participation in registered apprenticeship.

Elements of Quality Work-Based Learning

High-quality, demand-driven work-based learning bridges the worlds of education and work through a blend of work experience and applied learning. It develops participants' employability and technical skills while helping businesses to access and develop the talent they need to stay competitive. Work-based learning refers to a variety of activities that take place in the workplace; participants gain industry-relevant knowledge, skills and experience that enable them to advance along a career pathway to a good job.[5] Figure 1 below shows the components that make up a high-quality work-based learning program. The framework provides enough flexibility to tailor work-based learning programs to meet the needs of specific populations and industries, while positioning those programs to realize positive results for participants and businesses alike.

Figure 1. Framework for High-Quality, Demand-Driven Work-based Learning



The framework consists of four components for high-quality, demand-driven work-based learning programs. The program should include a clearly articulated agreement between the employer, participant and education institution or intermediary organization that identifies expectations for each partner and the general structure of the experience. The participant should engage in an authentic work experience linked with a structured learning component to connect theory with practice and workplace skills. The work experience should be supervised and mentored by an industry professional. Lastly, the program should culminate in an assessment and recognition of skills by a third party to ensure that recognition is aligned with the attainment of a credential or progress along a career pathway.

Different states have identified various types of programs that are considered to be work-based learning. For example, the Vermont Agency of Education created a work-based learning manual that includes the following descriptions of different types of work-based learning programs:[6]

- **Internship.** A time-limited work experience with an employer to help a participant learn about a particular industry or occupation. Participant activities may include special projects, a sample of tasks from different jobs or tasks from a single occupation.

- **Paid work experience.** A competency-based, educational experience that occurs at the work site and is tied to a student's curriculum. The experience is guided by a training plan that coordinates and integrates a student's school-based instruction with a work site experience.

- **Cooperative work experience.** A program of work experience in an actual employment setting related to the vocational interests and educational programs provided to a student at an area vocational or technical education center.

- **Apprenticeship.**[7] An agreement through which the apprentice gains instruction and support in exchange for work. The apprentice learns with masters of the trade, craft or profession and begins an occupational career while contributing to the productivity of the enterprise. Youth 16 and older can enroll as a pre-apprentice.

The choice of work-based learning program type depends on a number of factors the coordinating parties are considering, including the age, background and maturity of the participants; the needs and involvement of businesses hosting; buy-in from training institutions and schools; and pre-existing laws and norms concerning work-based learning in a state. Regardless of those factors, a high-quality work-based learning experience is one that incorporates significant input from the participant, the employer and the relevant intermediary organization; creates a close linkage between the work experience and the structured learning activities; and culminates in an unbiased assessment of gained skills and corresponding recognition.

The Promise of Work-based Learning

Research suggests that high-quality work-based learning programs can lead to improved outcomes for participants, sponsoring businesses and ultimately the state. The following section describes some of the benefits for each of those parties.

Businesses that invest in training their workforce are offered the opportunity to ensure that the skills they need to thrive are being taught in the classroom and reinforced in the workplace. By the time a participant successfully completes a high-quality work-based learning program, the employer that helped shape the program will have assurance that the graduate is a viable candidate for employment. Additionally, business investments in work-based learning can reduce traditional recruitment, hiring and training costs. Finally, during the authentic work component of high-quality work-based learning, participants already contribute to the host employer in a

Benefits to business include:

- Broader pool of trained, skilled workers;
- Reduced training expenses upon hiring;
- Productivity of participants in the workplace; and
- Improved employee morale.

number of ways, including increased productivity and improved employee morale with the development of relationships with their work mentors.[8]

Participants in high-quality work-based learning programs are offered a real-world application of concepts they are learning in the classroom. Research by cognitive psychologists suggests that most people learn better from a contextualized, hands-on approach than from the traditional lecture and textbook approach.[9] Work-based learning programs that are tailored to the individual participant can be valuable in offering an insight into industries and shaping career goals.[10] Because of the time spent in the workplace and the mentorship of employers, participants are also better equipped with workforce readiness skills such as time management, teamwork and communication. Improved technical and workforce readiness skills make a participant more employable upon completion of a quality work-based learning program.

Participants in work-based learning programs often earn monetary compensation for their activities in the workplace. A high-quality work-based learning program can offer participants a way to supplement their studies with earnings to offset the costs of tuition and other college costs. In addition to this shorter-term benefit, studies have consistently found a positive association between the amount of work experience individuals have and their employment or earnings several years later.[11] For example, the U.S. Department of Labor has calculated that workers who complete apprenticeship programs earn on average $300,000 more over a lifetime than their peers who do not complete an apprenticeship program.[12]

States, recognizing the significant benefits to both participants and business sponsors of high-quality work-based learning programs, may choose to develop strategies to scale such programs. Doing so can help greater numbers of people achieve the skilled training they need in high-demand careers to gain access to the middle class or beyond.[13]

The potential to deliver those outcomes bolsters the case for states to invest in work-based learning in order to simultaneously support their education, workforce and economic development objectives. States are deploying work-based learning as a skills development model for a range of populations, including secondary and post-secondary education students, out-of-school youth, dislocated and incumbent workers, veterans and people with disabilities. Further, work-based learning is being used to help businesses of all sizes, across industries and sectors, meet their talent needs.

State Policy Levers to Scale Quality Work-Based Learning

Governors are uniquely positioned to drive change in scaling high-quality, demand-driven work-based learning programs. The key is to work closely with workforce, education and industry "talent pipeline" partners to better align education and training systems to the needs of the economy. Governors can foster this partnership and promote cooperation of all stakeholders to bring work-based learning to scale.

Benefits to participants include:

- Reinforcement of concepts taught in class;
- Improved workforce readiness skills; and
- Compensation for work.

State Highlight: Supporting Talent Pipeline Partnerships to Scale Work-Based Learning

At its core, Apprenticeship Carolina in **South Carolina** is an example of a state-supported work-based learning system developed through a talent pipeline partnership. Apprenticeship Carolina was developed as a result of a 2003 report commissioned by the South Carolina Chamber of Commerce report that detailed workforce needs in the state. One major recommendation was to increase the utilization of apprenticeship in the state to help decrease critical skills gaps.[14] That apprenticeship program is now housed in the South Carolina Technical College System's division of economic development, and its mission is to assist companies located in the state to understand, develop and ultimately register apprenticeship programs with the U.S. Department of Labor based on specific industry and occupational needs.[15]

To accomplish its mission, Apprenticeship Carolina expanded pre-existing traditional, high-quality apprenticeship programs into high-demand sectors such as health care, information technology, advanced manufacturing, construction and energy. The state offers a $1,000 tax credit to employer sponsors for every registered apprentice for up to four years. Apprenticeship Carolina consultants work one-on-one with companies to help them navigate paperwork, tax credits and the apprenticeship registration process.

As a result, by 2016 Apprenticeship Carolina has registered programs for over 800 companies in South Carolina. One hundred companies have registered youth apprenticeship programs, which provide apprenticeship opportunities for high school juniors and seniors.

Steps to Scale High-Quality Work-Based Learning Experiences

Governors, with the support of their states' talent pipeline partners, can take a variety of concrete steps to scale high-quality work-based learning experiences.

Elevate the State Vision for High-Quality Work-Based Learning

Once the state has established a vision for high-quality work-based learning, governors can share that vision with the talent pipeline partnership and integrate it into state plans for workforce, education and economic development. The process of elevating the state vision across agencies and partners can take different forms. For example, in 2015, **Colorado** Governor John Hickenlooper charged the state's workforce development council with developing, evaluating and implementing a systemic solution for integrated work-based education and training to meet the needs of Colorado's economy.[16] In response, the Business Experiential Learning Commission was formed. The commission shares information related to work-based learning with its partners, researches successful models and has worked with partners to develop an online portal to match supply of training opportunities with demand.[17]

Other governors have elevated high-quality work-based learning by establishing a state vision and hosting a summit or forum for stakeholders to increase their awareness of work-based learning. **Indiana** Governor Mike Pence chairs the Indiana Career Council, which convened schools and businesses in 2015 for a work-and-learn summit. Summit participants discussed the council's strategic plan to transform Indiana's workforce, which highlighted promising work-based learning programs across the state.[18] The Indiana Department of Workforce Development and its partners are committed to hosting host work-and-learn summits annually.

Implement State-Led Pilots of High-Quality Work-Based Learning Programs

Governors may choose to initiate a state-led pilot of high-quality work-based learning programs with plans to evaluate and expand efforts based on lessons learned. The coordinated efforts of talent pipeline partners can identify where there is a need for more skilled workers in certain industries. In turn, the governor can call for a small pilot to address the need; work with a small group of employers, schools and intermediaries to revise the pilot based on results; and scale to larger geographic and industry areas if the pilot is successful. For example, **Michigan** Governor Rick Snyder created the Michigan Talent Investment Agency (TIA) in 2014 by executive order to coordinate programs involving skills training and jobs preparedness.[19] Talent pipeline partners in Michigan identified a lack of workers with information technology and advanced manufacturing skills, and the TIA was tasked with administering a state-led, apprenticeship-like training program called Michigan Advanced Technician Training (MAT^2).[20] MAT^2 began in one region with a small group of manufacturers. Informed by lessons learned from this first iteration, including a better understanding of the timing and costs, MAT^2 soon expanded to other industries across the state, giving more employers and participants opportunities to participate.[21]

New York is the birthplace of Pathways in Technology Early College High Schools (P-TECH), a public-private collaboration that offers students in an extended grades 9-14 learning program leading to a high school diploma and a cost-free associate degree with relevant internships and hands-on experiences in high-growth sectors.[22] The New York City Department of Education and City University of New York—in collaboration with an employer—launched the first school in Brooklyn, New York. They then identified lessons learned from employers and developed a digital playbook to shape the expansion of the program.[23] This playbook provides examples of skills-based internships and also contains tools to help schools develop a skills-based curriculum. As a result of improvements in the program as well as tools that can guide the development of other P-TECH schools, New York Governor Andrew Cuomo has supported the expansion of P-TECH across the state through additional funding.[24] P-TECH schools have grown from one in 2011 to 55 by September 2016, with plans to expand to other states.[25]

Build an Infrastructure to Support Talent Pipeline Partners' Efforts to Scale High-Quality Work-Based Learning

Sharing a vision for high-quality work-based learning and creating a pilot project can only go so far in bringing high-quality work-based learning to scale. States can also build an infrastructure that connects the disparate efforts of the talent pipeline partners and creates a foundation for scaling work-based learning. Examples of infrastructure to support the connection and scale of work-based learning efforts across systems include integrating funds and implementing supportive policy.

In 2015, **Utah** Governor Gary Herbert's office of economic development partnered with the Utah Department of Workforce Services and several employers to develop the Utah Aerospace Pathways Program, which creates work-based learning opportunities for high school students and adult learners in the state's aerospace industry.[26] This program allows students to matriculate into stackable post-secondary training programs and be better prepared to make career decisions. The governor's office through its education and workforce partners integrated funding to develop a program that would connect career pathways to the needs of industry. This investment in work-based learning was part of the infrastructure that enabled the Utah Aerospace Pathways Program to expand to target populations, including underemployed and unemployed Utah residents.

States can support promising practices that scale high-quality work-based learning. In California, Linked Learning is an approach that integrates rigorous academics with workplace experiences for high school students.[27] As the Linked Learning model demonstrates significant increases in credit accrual, college eligibility and graduation rates for its students,

Linked Learning pathways have been integrated in more districts, schools, and community colleges.[28]

Provide Incentives for Industry to Sponsor High-Quality Work-Based Learning Programs

Companies unfamiliar with the cost and benefits of high-quality work-based learning programs may need incentives to get involved. The governor can work with talent pipeline partners to identify barriers to employers hosting work-based learning experiences and target state resources strategically to overcome those barriers. Such barriers include the initial cost of developing a program; a lack of experience training mentors and developing curriculum; and a lack of insurance to cover trainees. Incentives to employers who host work-based learning programs can be monetary or non-monetary; examples include tax breaks, grants, specialized training, and provision of liability and insurance protection.

For example, **New Hampshire**'s Job Training Fund provides a 1 to 1 cash match grant between $750 and $100,000 for customized training of a company's employees, including work-based learning.[29] Between 2007 and 2016, the Job Training Fund awarded $9,169,892 in grants that have been matched by employers to train 26,513 workers. **Iowa** provides state appropriations to encourage Registered Apprenticeship growth through the Iowa Apprenticeship Program. Through this program, non-competitive training grants are made available to lead sponsors of Registered Apprenticeship, including employers and trade organizations, to support the costs of maintaining and conducting their apprenticeship programs.[30]

Provide Incentives to Education Institutions to Integrate High-Quality Work-Based Learning and Support Participants

The education system holds great potential to scale work-based learning, but schools and other training institutions face barriers similar to those that employers face, such as cost and time spent integrating high-quality work-based learning into the current structure. Governors can work with the education system to identify barriers and seek responses. For example, education providers may need incentives to change a curriculum, develop a new curriculum that supports a more hands-on, authentic work experience or translate work-based learning experiences into credits for continued education. Incentives can take the shape of financial assistance, provision of curriculum and standards models, teacher training and recognition of schools that participate in high-quality work-based learning.

The **Montana** Department of Labor & Industry provides curriculum and guidance to licensed teachers who are involved in Jobs for Montana's Graduates program, which includes instruction of students through project and work-based learning experiences in high schools, middle schools and alternative schools, as well as through out-of-school programs.[31] Through Jobs for Montana's Graduates, the department also provides an opportunity for full-time participants who need financial assistance to apply for scholarships.[32] Both types of assistance incentivize schools to participate in work-based learning opportunities, as their teachers have more access to support and their students have more access to funding to enable them to participate.

In 2008, **Washington** funded the creation of the Aerospace Joint Apprenticeship Committee as an avenue for employers to provide specialized skills training to the next generation of tradespeople through a Registered Apprenticeship program. As an apprentice goes through the program, they earn corresponding credits from the state's community and technical college system, which can be used towards an associate degree. Upon successful completion of the program, the Washington State Labor and Industries division awards the apprentice a Journey-Level Certificate.[33]

Ensuring Success and Sustainability of Efforts

The previous section listed five concrete steps that governors can take to scale quality work-based learning, through partnerships with industry,

workforce and education. Governors have a key role in sustaining those programs by making sure that they are continually improved and aligned with related efforts (see Figure 2 below).

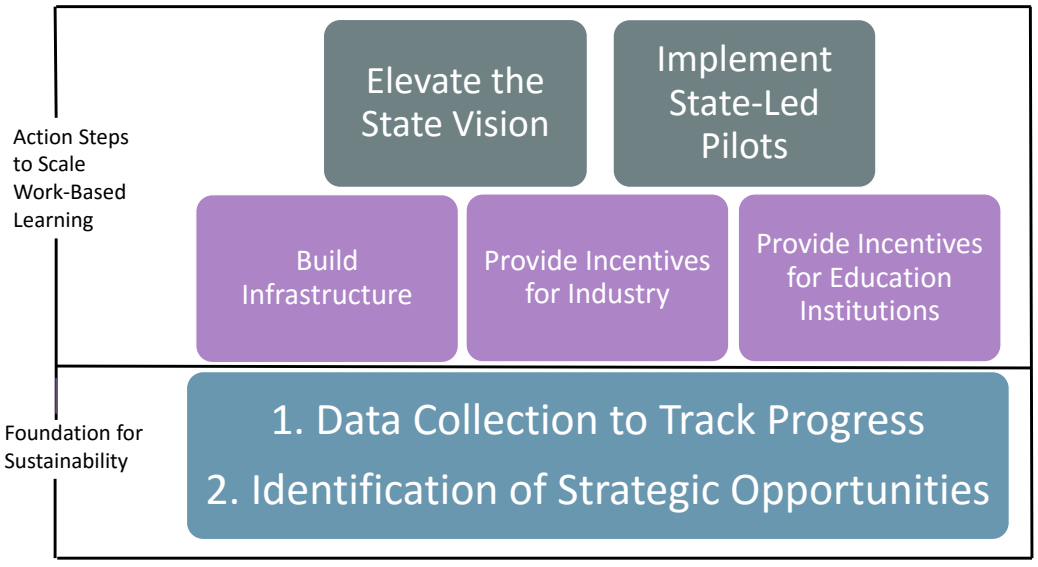
Governors are well-positioned to lead long-lasting, sustainable change in their states to scale work-based learning, especially when those efforts are built on the following foundations.

Improved Data Collection to Track Progress of Work-Based Learning Scale and Quality

As governors and talent pipeline partners take steps to scale high-quality work-based learning, it is important to continually measure both the scale and quality of programs in their state, as well as the outcomes for industry and individual participants. Data on scale and quality should be collected by all of the partners who organize work-based learning programs, breaking down results for specific industries and target populations. For example, data can be collected regularly to assess how many programs exist in the state and how many participants from various population groups take part. Data can also be collected to identify which programs have elements that correspond to the state's vision of high-quality work-based learning. **Tennessee** has developed a framework for high-quality work based learning in the state's "Work-Based Learning Policy Guide," which clearly outlines expectations along with an evaluation and assessment process to ensure that work-based learning experiences are of high quality for the participant.[34]

Data on outcomes for both employers and participants can be collected and made public to showcase the benefits of high-quality work-based learning and to promote it as a viable learning model among stakeholders. For example, parents are likely to react positively to enrolling their child in a work-based learning program that shows a correlation between participation in the program and an improved graduation rate. Return-on-investment (ROI) studies can show the benefits of investing in work-based learning to potential employer sponsors. Currently, the Joyce Foundation, JPMorgan Chase & Co. and Annie E. Casey Foundation have partnered with economists at Case Western Reserve University and the U.S. Department of Commerce to produce a study on the ROI of Registered Apprenticeship for U.S. employers.[35] Governors can identify industry representatives who have sponsored work-based learning opportunities and have data that demonstrates successful outcomes to facilitate a conversation with

Figure 2. Overall State Strategy to Scale Work-Based Learning



other employers to show how sponsoring work-based learning programs can positively affect their bottom line.

Identification of Strategic Opportunities to Expand Work-Based Learning

The environment for scaling work-based learning is better today than ever. Both businesses and individuals are seeking ways to augment traditional training methods and find alternative methods. States are working across their education and workforce systems to respond to this demand. The following opportunities can be taken advantage of by governors to expand work-based learning.

Youth and Young Adult

By 2029, the U.S. Census Bureau predicts that 20 percent of the population will be over the age 65.[36] In order to prepare for the imminent retirement of a large portion of the skilled workforce, many governors are focusing on education and training opportunities for youth and young adults that will help fill the gap. Work-based learning, especially through close mentorship by experienced workers, can be used as a tool to improve training experiences that can better equip young people with the types of skills that tomorrow's employers require.

STEM-Intensive Middle Skills Industries

According to a study by the Brookings Institution, 20 percent of all jobs in the United States required a high level of skills in STEM in 2011.[37] Half of all STEM jobs do not require a four-year college degree and pay salaries of $53,000 on average.[38] However, they do require specialized skills training. Work-based learning can be used as a tool to help industry meet the demand for those types of STEM-intensive skills.

Workforce Innovation and Opportunity Act

The Workforce Innovation and Opportunity Act (WIOA) is designed to transform federally funded job training programs through partnership across human services, education, workforce and economic development systems and with industry. Those partners work together to ensure that everyone can access the skills and training they need to meet the demands of industry and to enable workforce participants, especially out-of-school youth, to join the middle class. Work-based learning is a prominent feature of WIOA. At least 20 percent of local youth formula funds must be used for work-based learning.[39] Further, WIOA raises the reimbursement levels for on-the-job training.

State Higher Education Attainment Goals

Many states have developed postsecondary attainment goals to make their workforce more competitive. High-quality work-based learning is well positioned to align with those goals, as work-based learning not only prepares individuals for higher education but, in the case of Registered Apprenticeship, is higher education.[40]

Competency-based Education

The education system is facing a discussion about the emphasis shift from inputs such as in-classroom time to outputs such as competencies obtained. Governors can help shape this conversation by advancing work-based learning, which is a competency-based model that can enhance traditional in-class methods.

State Strategies that Build on Sector Engagement and Career Pathways

As described previously, scaling work-based learning requires system alignment and buy-in from a variety of talent pipeline partners, from both the demand and the supply side. On the demand side, states can work with sector partnerships to determine common skill needs across an industry sector. Governors can play a leadership role in aligning state sector strategies with efforts to scale work-based learning. On the supply side, governors can work with education institutions to recognize skills developed outside of the traditional classroom through work-based learning programs and integrate them into traditional academic and career and technical programs as part of a recognized career pathway.

Conclusion

Research has shown that high-quality work-based learning is an effective strategy for equipping the workforce with industry-relevant skills that help individuals advance their careers and strengthening the competitiveness of the state. Governors, working with their industry, education and workforce partners, are uniquely positioned to scale and sustain participation in high-quality work-based learning. They can take steps to elevate the vision for high-quality work-based learning, implement state-led pilots and build an infrastructure to scale and sustain efforts, and provide incentives to host and support work-based learning opportunities. Those steps can be best sustained when supported by good data and aligned with relevant activities. Gubernatorial leadership to scale high-quality work-based learning can ensure that those opportunities are available statewide, benefit employers across industries and participants from varied backgrounds and further the state goals for a skilled workforce.

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Endnotes

[1] Demand-driven work-based learning programs are those that respond to employer's needs.
[2] Authentic work and education experiences provide the learner with a connection to real-world tasks and problem-solving.
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