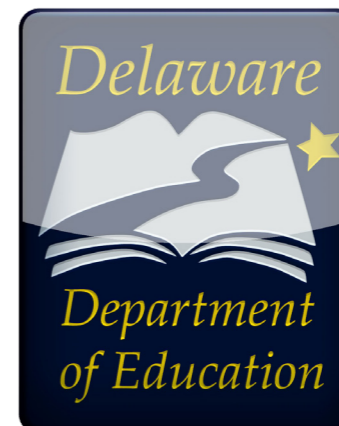




CONNECTING DELAWARE STUDENTS TO CAREERS

Final Evaluation Report on Career Pathways and
Work-Based Learning in Delaware



Background

2014



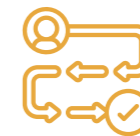
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Bloomberg Philanthropies awarded Delaware a \$3.25 million grant to expand and strengthen Delaware Pathways by:



Expanding work-based learning in middle and high schools and at DelTech



Engaging employers in pathway development and work-based learning

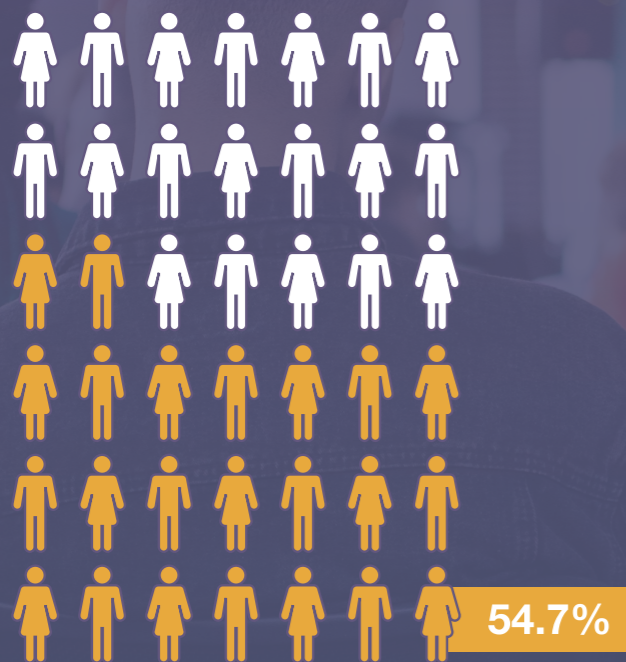
2021



This final evaluation report summarizes the findings of the project's third-party evaluation, conducted by RTI International, over the project's three years

Delaware Pathways Outcomes

HALF OF HIGH SCHOOL STUDENTS ENROLLED IN DELAWARE PATHWAYS IN 2019-20



IN THREE YEARS, ENROLLMENT INCREASED FROM:

8,329 TO 23,009

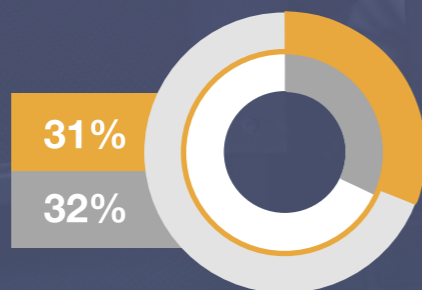


24 DELAWARE PATHWAYS are offered across...

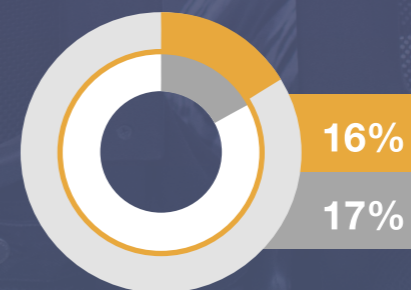


11 HIGH GROWTH INDUSTRY SECTORS

The race/ethnicity of Pathways students is representative of all high school students



For example, 31% of Pathways students are Black, compared to 32% of all students.



Latinx students represent 16% of Pathways students and 17% of all students.



Delaware is implementing opportunities for students to earn credentials valued by employers

OVER
100

Industry credentials have been vetted by employers and approved for secondary students

1 OUT OF **10**

high school seniors earn an industry recognized credential with aligned with a high-demand, high skill occupation



Delaware expanded opportunities for students to be college ready



1 OUT OF 5 SENIORS
earned postsecondary credit in 2019-20



The number of pathway-aligned dual enrollment opportunities available to secondary students **INCREASED BY 156% DURING THE GRANT**



Delaware Office of Work-Based Learning [DOWBL]

With the DOWBL, I've seen more action this year than I have in years past. Their coordination helps. [Planning with schools] can go into this limbo phase of "great we want you to help" and then nothing ever kind of comes of it. [The DOWBL] has set up meetings for us and it's been a tremendous help. I think that having DOWBL as our coordinator is the only reason that we're moving forward at this point.

– EDGEWELL PERSONAL CARE EMPLOYEE (MANUFACTURING)

Delaware
OFFICE OF **Work-Based**
Learning

A Del Tech Innovation

By 2021, the DOWBL:

FORMALIZED PARTNERSHIPS

with 20 high schools and 5 Delaware Technical Community College departments

ENGAGED 150+ EMPLOYERS

to provide WBL opportunities, including 40 employers hosting immersive experiences

DEVELOPED TOOLS

including a website, training, and playbooks, for employer recruitment

CATALYZED STATEWIDE INDUSTRY COUNCILS

for energy, manufacturing, and engineering; healthcare; and information technology

SUPPORTED SUMMER AND AFTER-SCHOOL WBL PROGRAMS

with Strive and Code Differently, community-based organizations

The Delaware Department of Education created statewide infrastructure to support high-quality immersive work-based learning experiences in all pathways



Developed work-based learning standards and related practicum course, a teacher professional development program, and a resource toolkit



In 3 years, the practicum course was implemented in 17 of 19 districts

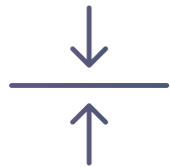


Early results: In 2019-20, over 1,000 grade 12 students met the state's work-based learning standards through the practicum course.

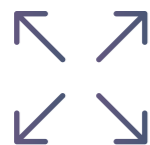
The DDOE is exploring options to signal students' learning and mastery of workforce readiness skills to schools and employers, such as micro-credentials and badges



The Delaware Department of Education (DDOE) strengthened Delaware's WBL-related policies by:



ALIGNING THE STATE EDUCATION ACCOUNTABILITY MODEL for youth across the federal Workforce Innovation and Opportunity (WIOA), The Strengthening Career and Technical Education for the 21st Century (Perkins V), and Every Student Succeeds (ESSA) acts



EXPANDING POSTSECONDARY PERKINS PROGRAMS to include short- and long-term credential programs, Registered Apprenticeship, and two-year degree programs



DEVELOPING A PAY-FOR-PERFORMANCE MODEL by leveraging federal, state, and private funding sources to expand student access to and performance in college and career readiness, including \$1.25 million in state funding to continue pathways and work-based learning development in 2021



PROVIDING TARGETED SUPPORTS to local education agencies and coordinated services to youth to ADDRESS ISSUES OF EQUITY, SPECIFICALLY FOCUSED ON RACE, GENDER, AND ABILITY



Districts and Schools: Delaware Pathways Outcomes

High-quality work-based learning is dependent upon a system of career pathways that provides high-quality programs aligned with high wage, high demand, and high skill job opportunities statewide

SCHOOLS REPORT THAT Delaware Pathways have:



Increased the overall
quality of career pathways
programs



Opened career and
college opportunities
for students



Eased the transition for
students who change
schools during high school

Delaware Pathways programs have attracted kids that wouldn't necessarily have said, "I'm going to college," or who didn't know where their pathway was going. They're learning about career fields and feeling, "I can do this level of coursework." I think it really puts a good taste in their mouth to say they will go to college.

– MILFORD HIGH SCHOOL TEACHER

Districts and Schools: Work-Based Learning Outcomes



EXPANDED WORK-BASED LEARNING PARTICIPATION:

In 2020-21, over 1,000 grade 12 students participated in virtual work-based learning statewide



INCREASED CAPACITY TO SUPPORT WBL:

District and schools instituted formal policies and procedures for working with employers and administering WBL programs, hired coordinators, trained existing staff, worked with guidance staff to adjust schedules, and updated pathway programs to incorporate WBL.



INCREASED EMPLOYER CONNECTIONS:

Schools reported increased employer connections resulting from their own efforts and collaboration with the DOWBL. Although statewide data are not available, as an example, Appoquinimink School District has increased WBL from 20 to 66 percent of senior students since 2018 and reported 250+ employer partners in 2021



CREATED A WBL 'CULTURAL SHIFT':

School staff shared that WBL has changed from an option for career and technical education programs to an expectation for most students. In addition, WBL experiences are more student focused and align better with pathway programs.



[Since 2018] there has been a change in our thinking about work-based learning. We've always been doing it, but I don't think we were ever doing it cohesively... It's finally all coming together but it's going to take time.

– DOVER HIGH SCHOOL STAFF MEMBER



We've had a lot of growth in our mindset of what work-based learning is. In the past, it was very much a co-op model: students had to go out and be making money. Now we have them working in internships and doing things to extend their learning in their career pathway, even if unpaid, increasing the number of students doing work-based learning.

– MILFORD HIGH SCHOOL STAFF MEMBER



Delaware Technical Community College partnered with high schools to offer immersive pathways, which combine secondary and postsecondary coursework with hands-on experience to meet critical labor force needs



Patient care technician and advanced manufacturing students earned 700+ industry credentials

1 in 5 advanced manufacturing students entered the industry within 1 year of graduation

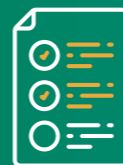
56% of patient care technician students entered jobs in the industry within 1 year of graduation

188 students participated in these programs by 2020

Delaware Innovations for other States



Scalable career pathways models to promote high-quality and consistent programs statewide



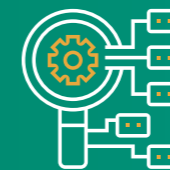
Statewide work-based learning strategies, including course standards and curriculum addressing career readiness competencies, paired with accountability incentives to expand and strengthen work-based learning programs



Partnerships with community-based organizations to provide work-based learning opportunities to diversify options for students, such as after school and summer programs



A statewide intermediary that serves as a clear entry point for employers to engage in education



Statewide industry councils to connect employers in high-growth economic sectors, such as IT and healthcare, and promote employer ownership of education partnerships

Data Recommendations

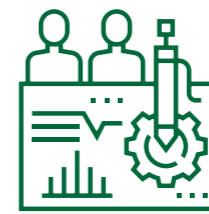
Work-based learning data collection is new and challenging nationwide. Delaware has multiple projects underway to provide robust data on students' career readiness.

To gain a deeper understanding of the relationship between WBL and student outcomes as data system changes are underway, RTI suggests the following strategies:



COLLECT ADDITIONAL DATA ON THE TYPES OF WBL THAT STUDENTS COMPLETE

Students participate in a variety of work-based learning experiences, from job shadows and workplace tours to internships that last weeks or months. Information on the duration and content of these experiences will help programs and districts understand their impact on students education and career paths.



ADMINISTER BASELINE, EXIT, AND FOLLOW-UP SURVEYS TO PATHWAYS STUDENTS

To collect data on pathways graduates' career interests, baseline skill and experience levels, and details on their work-based learning experiences, such as duration or number of hours and location.

The survey could provide data on pathways' student employment outcomes not currently available through state data systems.

DELAWARE WORK-BASED LEARNING AND EMPLOYER ENGAGEMENT

FINAL EVALUATION REPORT

Sandra Staklis & Natassia Rodriguez Ott

rti.org



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Background

2014



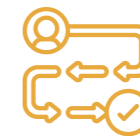
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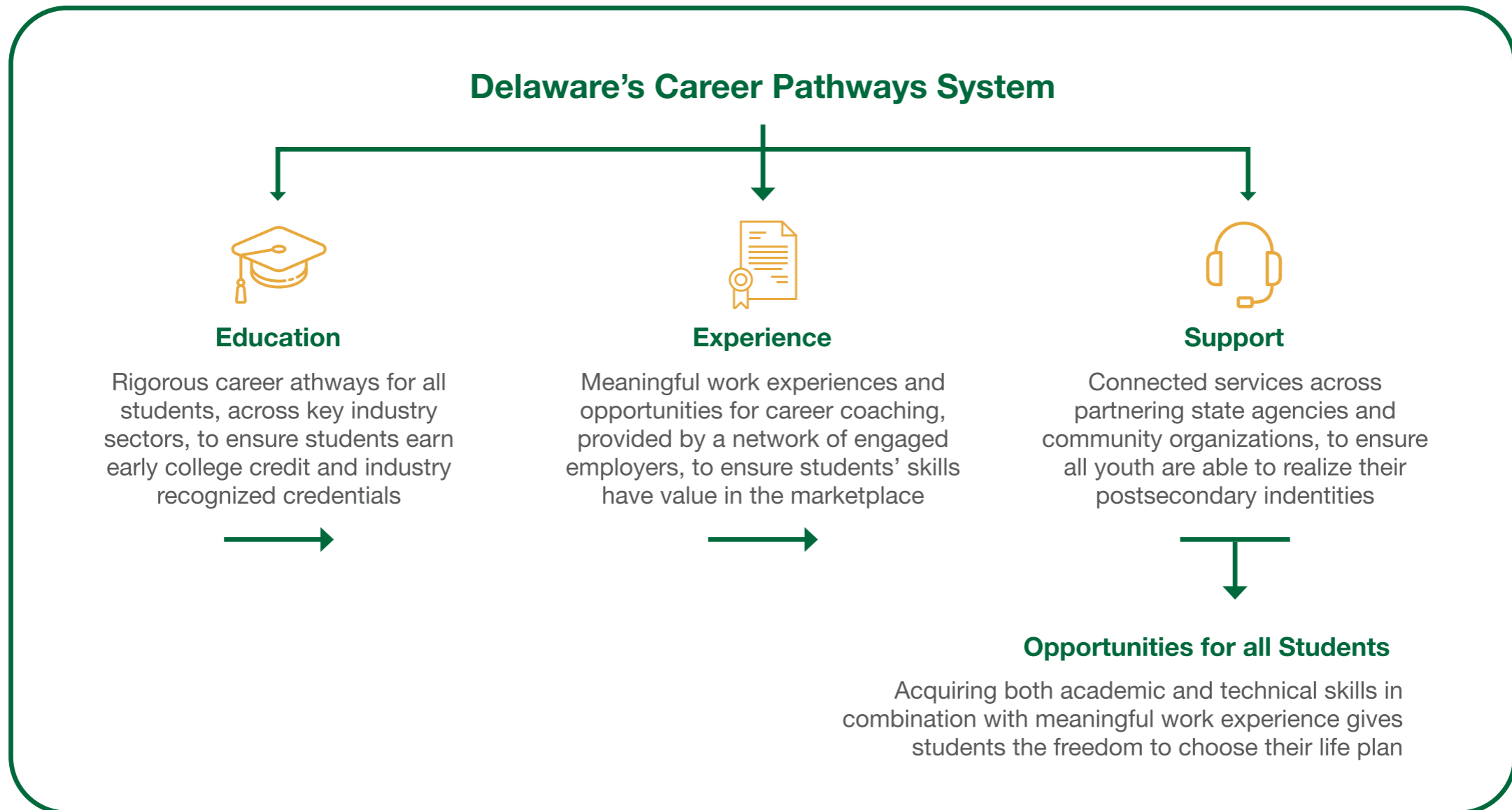
Engaging employers in pathway development and work-based learning.

2021



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The Delaware Pathways Systems Model



Source: Delaware Department of Education

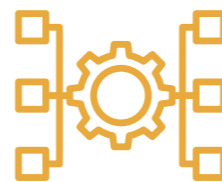
The Evaluation

To what extent has the initiative strengthened Delaware Pathways by expanding opportunities for students to connect with employers through work-based learning?

The evaluation answered this question by examining outcomes, promising practices, and lessons learned in three domains:



**Student experiences
and outcomes**



**Statewide capacity
and infrastructure**



**District and
school capacity**

STUDENT OUTCOMES

During the last three years, Delaware Pathways increased college and career readiness opportunities for students statewide



DELAWARE PATHWAY PARTICIPATION



WORK-BASED LEARNING



CAREER AND EMPLOYER CONNECTIONS

Student Outcomes: Delaware Pathway Participation



Enrollment in Delaware Pathways programs, which provide opportunities for students to combine rigorous coursework and aligned work-based learning, more than doubled from 2018 to 2021.

OVER
100

Industry credentials have been vetted by employers and approved for secondary students

1 OUT OF 10

high school seniors earn an industry recognized credential with aligned with a high-demand, high skill occupation

+23K

More than 23,000 students enrolled in 24 Delaware Pathways programs in 2021, up from 9,000 students in 14 pathways in 2018

THE MOST POPULAR PROGRAMS INCLUDE:

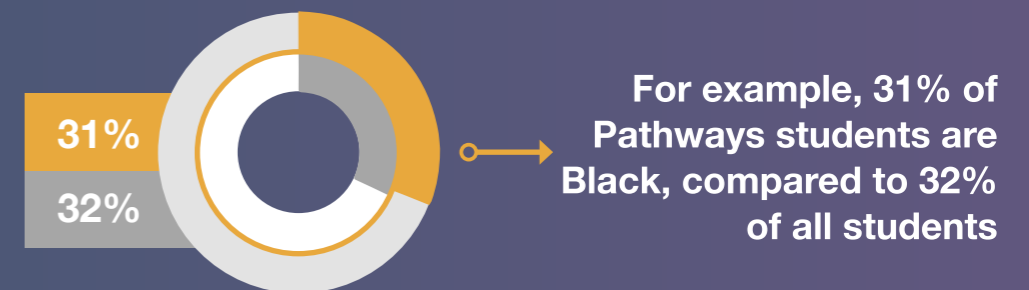
 Agriculture and Natural Resources

 Education and Training

 Hospitality and Tourism

 Health Sciences

The race/ethnicity of Pathways students is representative of all high school students



Student Outcomes: Work-Based Learning

A graduating senior is considering full-time employment with a guest speaker who visited the plant science program when the student was in 10th grade. That's the success [with WBL] that we're starting to see.

– APPOQUINIMINK HIGH SCHOOL STAFF MEMBER

The collection of statewide data on student participation in WBL is in development. As of 2021, available data indicates:

+1,035

1,035 12th grade students and 3,451 postsecondary students statewide participated in immersive WBL experiences aligned with their career pathways

250

167 students completed immersive WBL experiences with the help of the DOWBL

20% → 66%

Appoquinimink District increased participation in WBL from 20% of grade 12 students in 2018 to 66% in 2021

Student Outcomes:

Making connections to support their career paths

[Meeting] employers allows you to make connections. It's basically like networking... you'll have connections that will help you to get to the career that you want to pursue in the future.

– HEALTHCARE STUDENT

I [was hired for a paid] internship at the Summit Bridge Veterinary Hospital. Before that I was a volunteer there [through my pathway program] and met the practice manager. Knowing the manager of the place before my interview to get the internship helped because she already knew about me and how I work.

– ANIMAL SCIENCE STUDENT

WBL Connects Students with Employers' Hiring Pipelines



“This isn’t a summer job. This is a permanent job. And we have tuition reimbursement [at our company], so we could potentially help them get their degrees as well... We really try to address students’ interests to keep them and make them want to come back.”

– Beebe Hospital

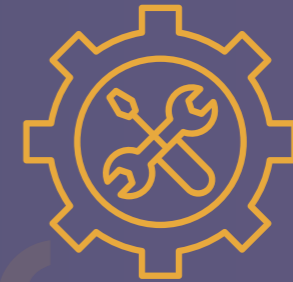
HEALTHCARE



“I feel as though their comfort level, with having taught in our school district alongside their soon to be colleagues, makes them want to apply to work at our district and that transition into being hired here is super smooth.... It’s almost like a direct pipeline.”

– Appoquinimink District

EDUCATION



“We rotate students in different areas of IT – help desk, networking, desktop, cybersecurity, or biomed, and they are like, ‘I didn’t know you could do that,’ or ‘That looks interesting.’ And we say, ‘Well, this is what you do. Do these classes, get certified, and then come back to us.’”

– IT Department at Beebe Hospital

INFORMATION TECHNOLOGY

STATE-LEVEL OUTCOMES

The Delaware Office of Work-Based Learning and the Delaware Department of Education developed tools and resources to support high-quality work-based learning statewide.



Establishing the Delaware Office of Work-Based Learning



Building employer engagement through industry councils



State education agency policy shifts and supports



Adapting WBL in the pandemic

STATE-LEVEL OUTCOMES

Delaware Office of Work-Based Learning [DOWBL]

We want companies to have internship programs (rather than just an intern) and make WBL part of their culture. We are setting the expectation with employers that we will work with them over time to establish more significant programs to support WBL.

– BRYAN HORSEY, DOWBL DIRECTOR

Delaware
OFFICE OF **Work-Based**
Learning

A Del Tech Innovation

The DOWBL was established in 2018 to engage schools, businesses, and community-based organizations in creating robust WBL opportunities that align with students' pathway programs.



SUPPORT individual schools in developing lasting local employer partnerships

BROKER partnerships with large or statewide employers to offer student opportunities across schools

PROVIDE guidance and frameworks for employers and community-based organizations to engage with students at different levels of commitment

ONBOARD employers using DOWBL tools and trainings, such as the Employer Playbook, on effective practices for working with schools and students

Delaware Office of Work-Based Learning [DOWBL]

With the DOWBL, I've seen more action this year than I have in years past. Their coordination helps. [Planning with schools] can go into this limbo phase of "great we want you to help" and then nothing ever kind of comes of it. [The DOWBL] has set up meetings for us and it's been a tremendous help. I think that having DOWBL as our coordinator is the only reason that we're moving forward at this point.

– EDGEWELL PERSONAL CARE EMPLOYEE (MANUFACTURING)

Since launching in 2018, the DOWBL:

FORMALIZED PARTNERSHIPS

with 20 high schools and 5 Delaware Technical Community College departments

ENGAGED 150+ EMPLOYERS

to provide WBL opportunities

FACILITATED 1300+ WBL OPPORTUNITIES

including more than 250 immersive experiences

DEVELOPED TOOLS

including a website, training, and playbooks, for employer recruitment

CATALYZED STATEWIDE INDUSTRY COUNCILS

for energy, manufacturing, and engineering; healthcare; and information technology

SUPPORTED SUMMER AND AFTER-SCHOOL WBL PROGRAMS

with Strive and Code Differently, community-based organizations

DOWBL: Lessons Learned in Supporting Schools

Our modern technology academy has a hard time finding local employers and opportunities for students. The DOWBL helped round up those connections. It's been great for helping to close some of those gaps.

– POLYTECH HIGH SCHOOL STAFF MEMBER

One of the most difficult things that we face as teachers is trying to build employer partnerships because we're so concerned about teaching the curriculum and spend so much time prepping for the curriculum part.

– SMYRNA HIGH SCHOOL TEACHER



SCHOOLS NEED INTENSIVE SUPPORT TO SCALE WBL TO MOST STUDENTS:

The DOWBL is assisting schools with expanding their WBL programs. As schools assume the coordinating role, the DOWBL's three staff members (one full time and two part time) will shift to focusing more on employer engagement.



PROVIDING WBL SERVICES TO SCHOOLS BUILDS TRUST:

Initially, schools were concerned about competing with the DOWBL for employer partners. As the DOWBL has assisted schools in finding new employer partners and opportunities for students, those fears have faded.

DOWBL: Lessons Learned in engaging employers

What impressed me with [our intern] was that he was prepared. He was a young man who has a good work ethic...He was helpful in looking at marketing communication from a younger demographic perspective.

– MARKETING EMPLOYER



EMPLOYERS RESPOND BEST TO SPECIFIC REQUESTS:

The DOWBL recruited employers by asking them to fill specific WBL needs identified in partnership with schools and building deeper partnerships from those experiences.



ONBOARDING LARGE EMPLOYERS TAKES TIME AND FLEXIBILITY:

Although large employers are key to scaling WBL statewide, they typically have national policies and requirements that can take up to six months to negotiate.



EMPLOYER MOTIVATIONS FOR WBL VARY BY FIELD:

The DOWBL estimates that about half of their partnering employers regard WBL as a community service. Employers in tight labor markets and low barriers to entry are more likely to view WBL for high school students as a hiring strategy.

COVID-19 and the Expansion of Virtual WBL

“

The world of virtual meetings has opened up doors, We don't have a lot of engineering connections locally. Now, students can work with employers from across the country.

– MILFORD HIGH SCHOOL STAFF

”



In response to the COVID-19 pandemic, the DOWBL worked with employers and schools to develop virtual work-based learning opportunities.



DOWBL staff members anticipate that virtual work-based learning will continue given employer interest, the effective program models developed in 2020—21, and that virtual experiences eliminate the need for transportation to a work site, a common barrier to student participation.



Employer interest in virtual WBL was higher than anticipated. For employers, virtual interactions simplify scheduling, take less time, and avoid concerns about having students younger than 18 onsite.

Building Career Awareness Virtually



Through a virtual career day in fall 2020, staff from the Dover Air Force Base [DAFB] Child Development Center introduced 112 high school students from around the state to their workplace and careers.

EXPERIENCE



During the event, staff described their career journeys and day-to-day work activities.



Students asked questions about employment qualifications and internship opportunities.



Presenters shared career resources for students and teachers, including free online training resources.

STUDENT BENEFITS



Experience in talking to professionals about career opportunities.



Connections with education professionals.



A deeper understanding of career options in the field of education.

Building Career Awareness Virtually



In summer 2020, staff from the Delaware Department of Natural Resources and Environmental Control, the Bloodbank of Delmarva, Diamond Technologies, and Bank of America worked with 28 high school students through a virtual career exploration and work experience program.

EXPERIENCE



The natural resources group interviewed staff from Delaware State Parks about challenges in their work.



Based on their research, the students explored the problem of littering among teenagers, with guidance from State Park staff.



The students developed a social media campaign, Beautiful Wilmington, to combat littering among their peers.

OUTCOMES



The project culminated in a virtual presentation to over 50 employers and educators.

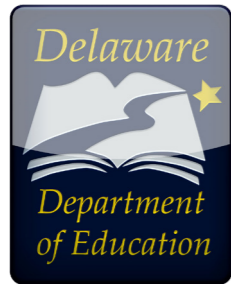


Students gained work relevant skills in teamwork and verbal communication.



Students developed a network of local professionals and an understanding of job opportunities within industries.

From On-site to Virtual Student Work Experience



With the Delaware Office of Work-Based Learning, Beebe Hospital and Cape Henlopen High School transformed in-person experiences for 10 health and computer science pathways students into year-long virtual programs mentored by hospital staff members.

EXPERIENCE



Mentors help groups of 2 to 5 students research a key challenge in their field, such as patient-doctor trust and vaccine safety.



Student and mentors communicate by email and meet virtually every other week.



Near the end of the project, students virtually present their work to hospital and school staff.

STUDENT BENEFITS



Employability skills, such as time management, communication, and teamwork.



An understanding of key challenges and job opportunities in their internship field.



Industry contacts and access to professional networks.

Statewide Industry Councils

EMPLOYER LEADERSHIP

The DOWBL catalyzed the development of statewide industry councils in energy, manufacturing and engineering, healthcare and IT to connect students and employers and build talent pipelines.



COUNCIL PROFILE: IT Industry Council

30 IT employers are collaborating to position Delaware as a nationally recognized tech hub and build an inclusive tech employment pipeline. Prior to the council, the IT industry lacked statewide coordination to support education and labor market development



The IT Industry Council is currently refining the group's goals and metrics of success and hiring an executive director.

COUNCIL MEMBERS RANGE FROM LARGE HEALTHCARE PROVIDERS TO FINANCIAL SERVICE FIRMS EMPLOYING A FEW DOZEN SPECIALISTS AND INCLUDE:



INCYTE is a biopharmaceutical company with 1,500 U.S. and international employees, founded and headquartered in Wilmington.



DIAMOND TECHNOLOGIES is a Delaware-based consulting firm specializing in business technology solutions.

STATE-LEVEL OUTCOMES

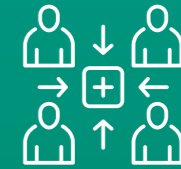
The IT council is about building an inclusive tech pipeline and ecosystem so that talent and opportunities come together. How do we build an ecosystem that attracts companies and individuals to the state, retains who's here, and provides the opportunities across the board? I think the mission of the council is what's needed in Delaware. And I think Delaware is uniquely positioned to support this type of effort.

– IT INDUSTRY COUNCIL MEMBER

The IT Industry Council objectives:



UNDERSTAND the industry's labor demand and supply



ENGAGE AND GROW Council membership



EDUCATE AND SUPPORT Council members in offering, filling, and managing work-based learning experiences (internships, pre-apprenticeships, and apprenticeships)



HELP the industry meet diversity and inclusion goals and **EXPAND** Delaware's tech talent pools through work-based learning



INFORM AND SHAPE education programs and industry credentials for graduates to have the skills and capabilities required to fill jobs in the sector



STRENGTHEN Delaware's position as a national leader in tech

The Delaware Department of Education (DDOE) increased its capacity to support WBL by:



INCLUDING WBL in state and federal education accountability systems to incentivize participation

HIRING a new staff member to provide WBL leadership

DEVELOPING the Work-Based Learning Policies and Procedures Guide to support the implementation of high quality CTE programs of study and WBL

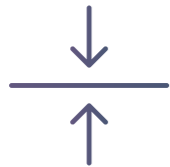
DEVELOPING WBL course standards and a competency-based practicum course to prepare students for WBL

SUPPORTING the implementation of the WBL practicum course in 16 of Delaware's 19 school districts

EXPLORING strategies, such as micro-credentials and badges to signal students' attainment of work-ready skills to employers

SECURING \$1.25 million in state funding in 2021 to continue pathways and work-based learning development

The Delaware Department of Education (DDOE) strengthened Delaware's WBL-related programs and policies by:



ALIGNING THE STATE EDUCATION ACCOUNTABILITY MODEL

for youth across the federal Workforce Innovation and Opportunity (WIOA), The Strengthening Career and Technical Education for the 21st Century (Perkins V), and Every Student Succeeds (ESSA) acts



DEVELOPING A PAY-FOR-PERFORMANCE MODEL

by leveraging federal, state, and private funding sources to expand student access to and performance in college and career readiness, including \$1.25 million in state funding to continue pathways and work-based learning development in 2021



EXPANDING POSTSECONDARY PERKINS PROGRAMS

to include short- and long-term credential programs, Registered Apprenticeship, and two-year degree programs



PROVIDING TARGETED SUPPORTS to local education agencies and coordinated services to youth to ADDRESS ISSUES OF EQUITY, SPECIFICALLY FOCUSED ON RACE, GENDER, AND ABILITY

DDOE: Lessons Learned

The DDOE is in a better place with work-based learning than two years ago. They are better at providing support on the efforts and mindset needed for [this work]. I think that's a positive thing from my perspective.

– DOVER HIGH SCHOOL STAFF MEMBER



SCALING WBL REQUIRES MORE CAPACITY BUILDING THAN ANTICIPATED:

Changing WBL to an expectation for most students requires a multi-year process to secure employer partners and trained staff, and revise programs and school schedules. State agency staff found that all schools, including those with long-standing WBL programs, needed assistance to expand.

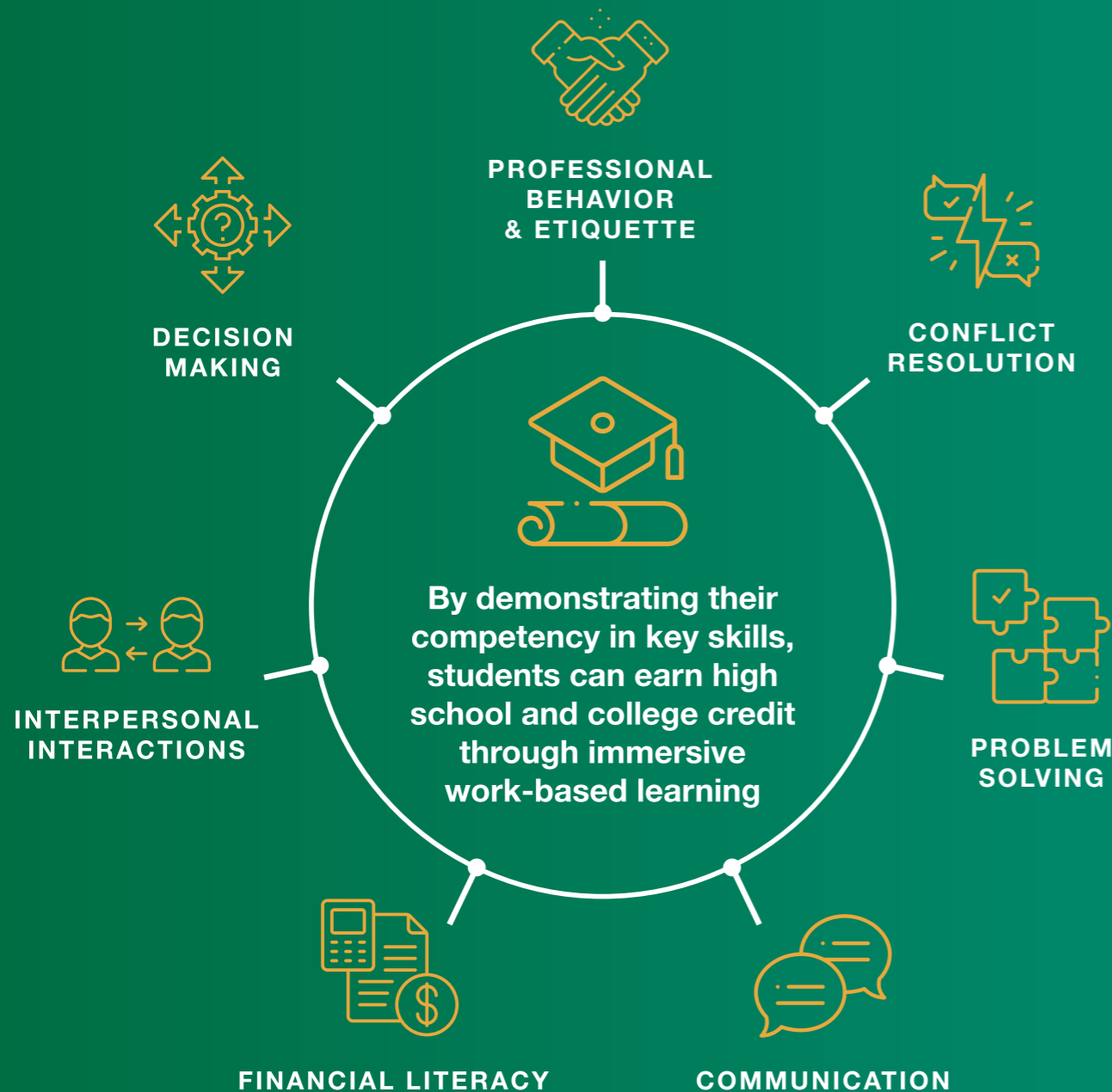


DISTRICTS NEED CUSTOMIZED SUPPORT TO ENGAGE IN WBL:

The DDOE adjusted their support for WBL implementation to fit staff members' level of experience with WBL, available staff resources, the pathway programs offered, and school location. Small and/or low-resource districts may need to contract or partner with an outside organization to provide WBL effectively.

Example of Enhanced DDOE Capacity: Work-Based Learning Practicum Course for High School Students

In response to employers' concerns about high school students' readiness for work-based learning, the DDOE developed a set of education standards and curriculum modules for teaching work-ready skills.



The competency-based approach allows students to focus on the skills they need most



Students create portfolios to document and signal their skill attainment to employers



Students enter immersive work-based learning experiences prepared, increasing the likelihood of a positive experience for both students and employers

DISTRICT SCHOOL OUTCOMES

During the last three years, districts and schools increased opportunities for students to participated in Delaware Pathways and pathway-aligned work-based learning.



DELAWARE PATHWAYS



WORK-BASED LEARNING



LESSONS LEARNED

Districts and Schools: Delaware Pathways Outcomes

High-quality work-based learning is dependent upon a system of career pathways that provides high-quality programs aligned with high wage, high demand, and high skill job opportunities statewide.

SCHOOLS REPORT THAT DELAWARE PATHWAYS HAVE:



Increased overall quality of career pathways programs



Opened career and college opportunities for students



Eased the transition for students who change schools during high school



Delaware Pathways programs have attracted kids that wouldn't necessarily have said, "I'm going to college," or didn't know where their pathway was going. They're learning about career fields and feeling, "I can do this level of coursework." I think it really puts a good taste in their mouth to say they will go to college.

– MILFORD HIGH SCHOOL TEACHER



Districts and Schools: Work-Based Learning Outcomes

We've had a lot of growth in our mindset of what work-based learning is. In the past, it was very much a co-op model: students had to go out and be making money. Now we have them working in internships and doing things to extend their learning in their career pathway, even if unpaid, increasing the number of students doing work-based learning.

– MILFORD HIGH SCHOOL STAFF MEMBER



EXPANDED CAREER-READINESS COURSEWORK:

In 2020-21, 16 of Delaware's 19 school districts offered work-based learning coursework, up from 6 during the 2019-20 pilot.



INCREASED EMPLOYER CONNECTIONS:

Schools reported increased employer connections resulting from their own efforts and collaboration with the DOWBL. Although statewide data are not available, as an example, Appoquinimink School District has increased WBL from 20 to 66 percent of senior students since 2018 and reported 250+ employer partners in 2021.



INCREASED CAPACITY TO SUPPORT WBL:

District and schools instituted formal policies and procedures for working with employers and administering WBL programs, hired coordinators, trained existing staff, worked with guidance staff to adjust schedules, and updated pathway programs to incorporate WBL.



CREATED A WBL 'CULTURAL SHIFT':

School staff shared that WBL has changed from an option in some pathways to an expectation for most, including pathways outside of traditional career and technical education fields.

Districts and Schools: Lessons Learned



SCALING WORK-BASED LEARNING REQUIRES SIGNIFICANT CHANGE IN HOW SCHOOLS OPERATE:

Scaling WBL requires hiring staff, training existing staff, coordinating across multiple staff roles, instituting flexible or block scheduling, and developing new coursework and updates to pathway programs.



WBL REQUIRES LEADERSHIP SUPPORT:

WBL requires the support of district and school leadership, school board, and the community, and should ideally be included in district strategic plans with dedicated resources.



WBL EXPERIENCES DIFFER BY SCHOOL, PROGRAM, AND EMPLOYER:

WBL programs reflect schools' staffing, location, and mix of pathway programs, and also require adaptable guidelines that can be adjusted for each program (e.g., service learning in engineering and clinicals in applied health) and to meet employer needs.



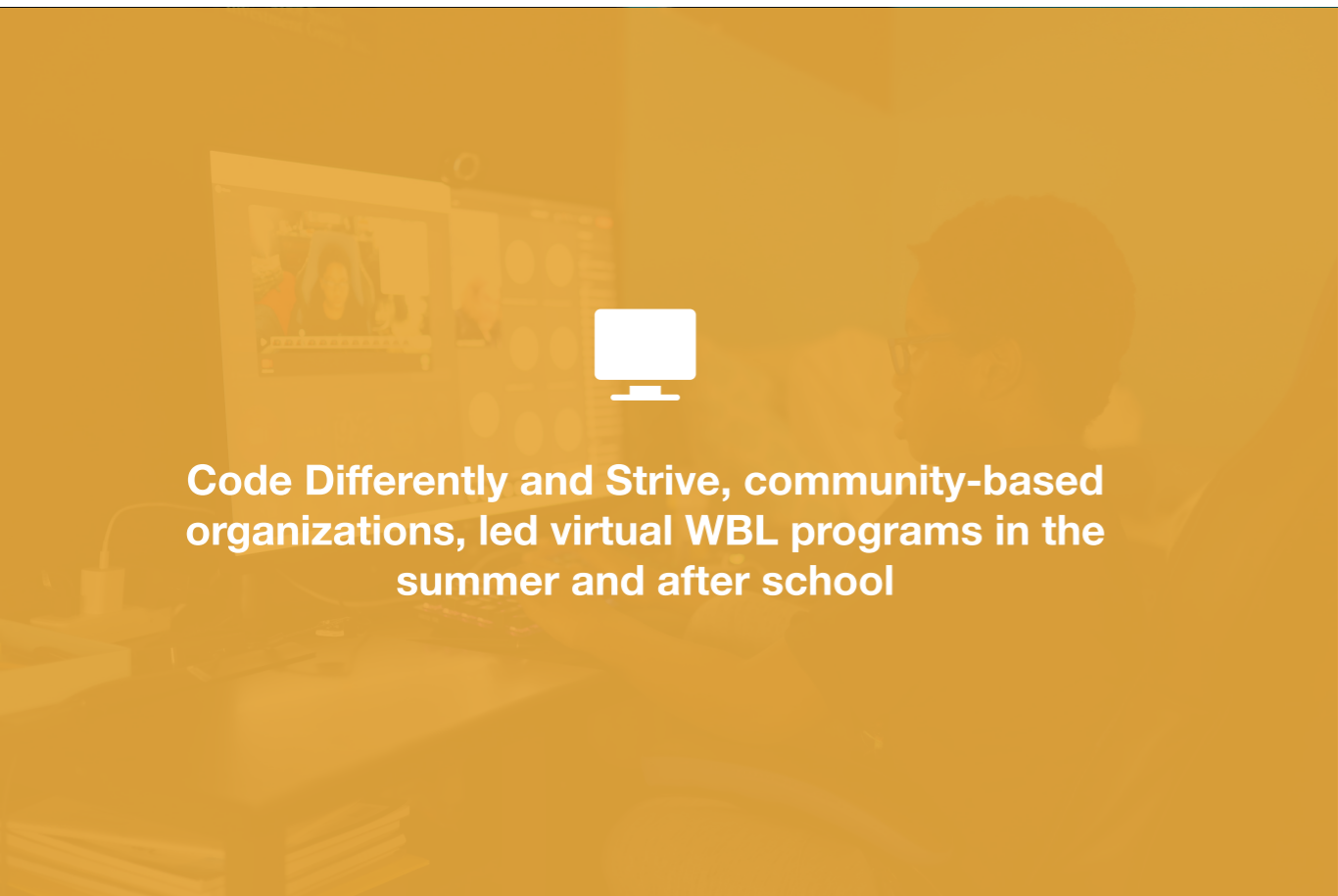
EARLY PLANNING IS NEEDED FOR WBL:

Finding appropriate employers and designing effective WBL experiences for pathway students can take from a few months to up a year for some fields.

INNOVATIONS

in Work-Based Learning and Pathways

In addition to building state and local capacity to support school-based WBL, the Delaware Pathways team partnered to expand the types and fields of WBL available to students.



Code Differently and Strive, community-based organizations, led virtual WBL programs in the summer and after school



Delaware Technical Community College partnered with districts to develop immersive career pathway programs leading to high demand occupations in advanced manufacturing, healthcare, and construction

Expanding Work-Based Learning with Community-Based Organizations

The Strive Summer Immersion Internship provided students real-world training that can be applied in all areas of their lives. The feeling of engagement and empowerment from leveraging their own resources (e.g., social media, peer groups) to create solutions [to a challenge] was prevalent throughout the presentations. I was grateful to participate and witness their creative minds in action.

- EMPLOYER PARTICIPANT, SUMMER 2020

It's definitely possible to do internships online. One challenge was time management. You think, being at home, you'll get a lot done, but you get caught up. Getting paid and coming away with college credits—it was a big benefit, especially since I want to go to a four-year college.

- STUDENT PARTICIPANT, SUMMER 2020

STRIVE and **CODE DIFFERENTLY**, community-based organizations serving youth, piloted work-based learning experiences for high school students that:

Expanded students' options for participating in work-based learning through after-school and summer programs

Offered work-based learning opportunities in fields that are either oversubscribed or unavailable in schools

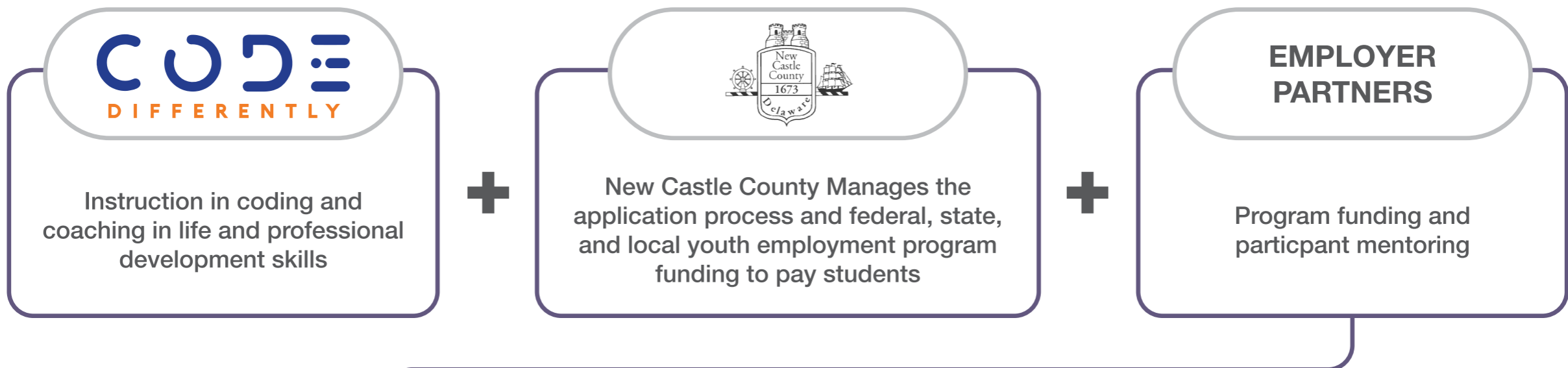
Provided paid experiences and supportive services for low-income and underrepresented students


Trained and coached employers on working with students effectively



Code Differently Model

PIPELINE DEVSHOP




THE PROGRAM 

Under the direction of a software engineer, high school students learn programming skills by developing software-based solutions to common challenges. The paid 10-week summer and after school programs primarily low income students, who also receive career coaching.

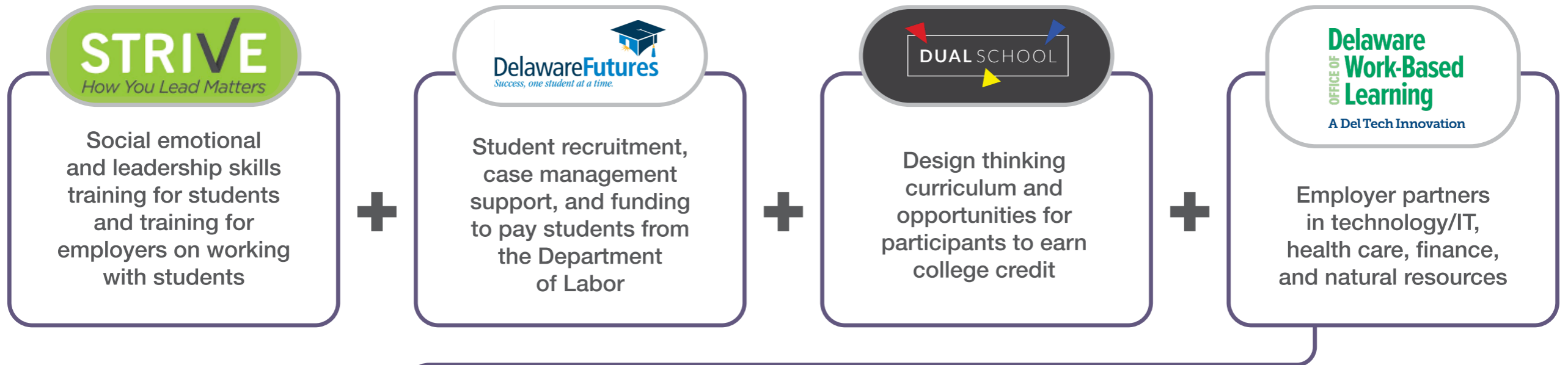
WHAT'S NEXT 

- Immersive work-based learning experiences on employer premises
- Collaboration with high school IT pathways and work-based learning programs
- Connecting graduates to employer talent pipelines offering full-time employment, employer-sponsored training, and tech apprenticeships

 Members of the DevShop's 2019 cohort who had no prior IT experience are now working at BNY Mellon as a software support analyst and at JPMorgan Chase as a data analyst.

Strive Model

VIRTUAL SUMMER IMMERSION INTERNSHIP



THE PROGRAM

During the six week summer program, high schoolers receive leadership training and use a design thinking process to research and present solutions to a business challenge. At the end, the students present their results to their business partners for feedback

WHAT'S NEXT

- Adaptation of the program for use in pathway programs during the school year
- Alignment of program with the Delaware Department of Education work-based learning practicum course
- Development of resources to prepare employers to participate in work-based learning



For the Blood Bank of Delaware, interns designed a social media campaign to encourage blood donation among 17-24 year olds and increase the diversity of blood donors, a critical need statewide

Immersive High School/College Pathways

Delaware Technical Community College partnered with schools to develop pathways combining high school and on-campus college coursework that provide:

Multiple and advanced industry credentials

Paid work experience

Dual credit

Classes with postsecondary instructors

Seamless connections with postsecondary programs

Advanced apprenticeship standing

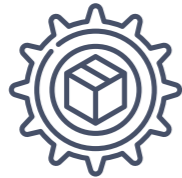


I would recommend my pathway to other students because it would help them in the actual world. Instead of staying at school and learning about history, it gets you out of school and into a class where you build stuff. It has a job class in senior year that helps with finding jobs.

- 11th grade construction pathway student



Immersive High School/ College Pathways



MANUFACTURING PRODUCTION

Graduates of the 3-year program:

Earn OSHA 10, Forklift, and Manufacturing Skill Standards Council (MSSC) Safety and Quality certifications

Earn up to 13 pathway-aligned early college credits

Complete 600+ hours of paid work experience

**Mechanical Engineering
Technologists & Technicians**

Average wage: \$45,700



PATIENT CARE TECHNICIAN

Graduates of the 2-year program:

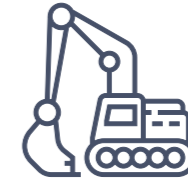
Earn Certified Nursing Assistant, CPR/First Aid, Phlebotomy, and Patient Care Technician certifications

Earn up to 7 pathway-aligned early college credits

Complete 220 hours of hospital clinical experience

Healthcare technicians

Average wage: \$64,700



CONSTRUCTION & MACHINERY OPERATOR

Graduates of the 4-year program:

Earn OSHA Construction Safety and ATSSA Flagger Certifications following the NCCER curriculum

Earn up to 9 pathway-aligned early college credits

Complete on-the-job training with on of the program's 27 business partners

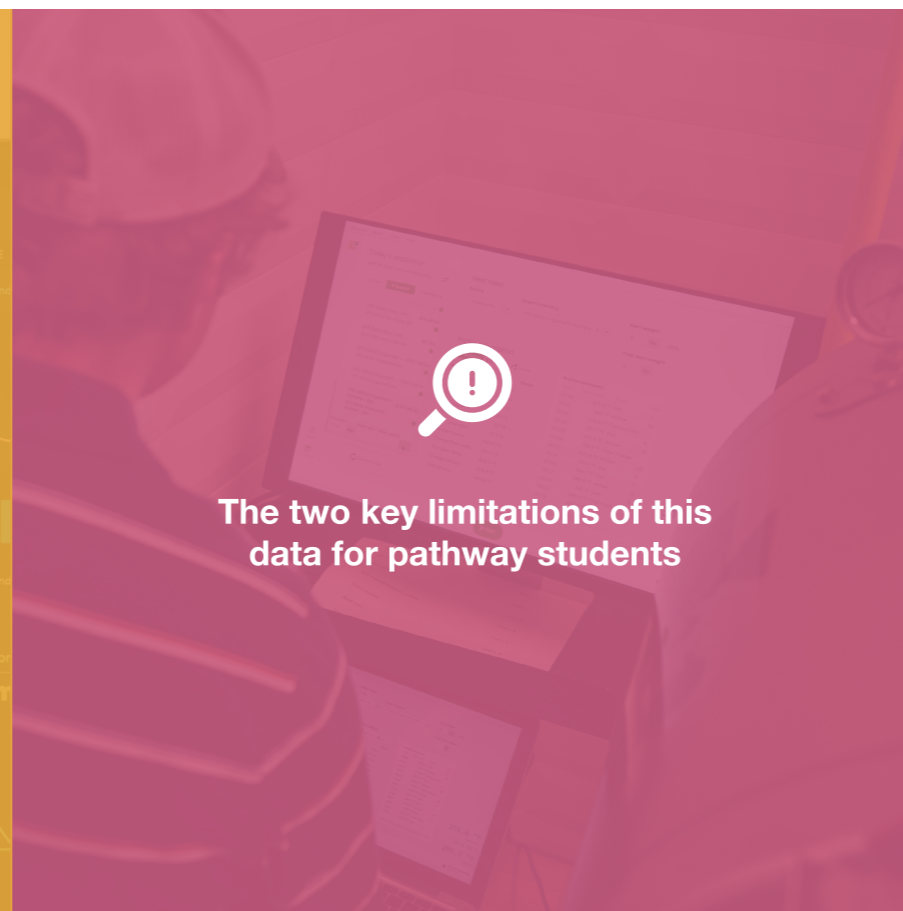
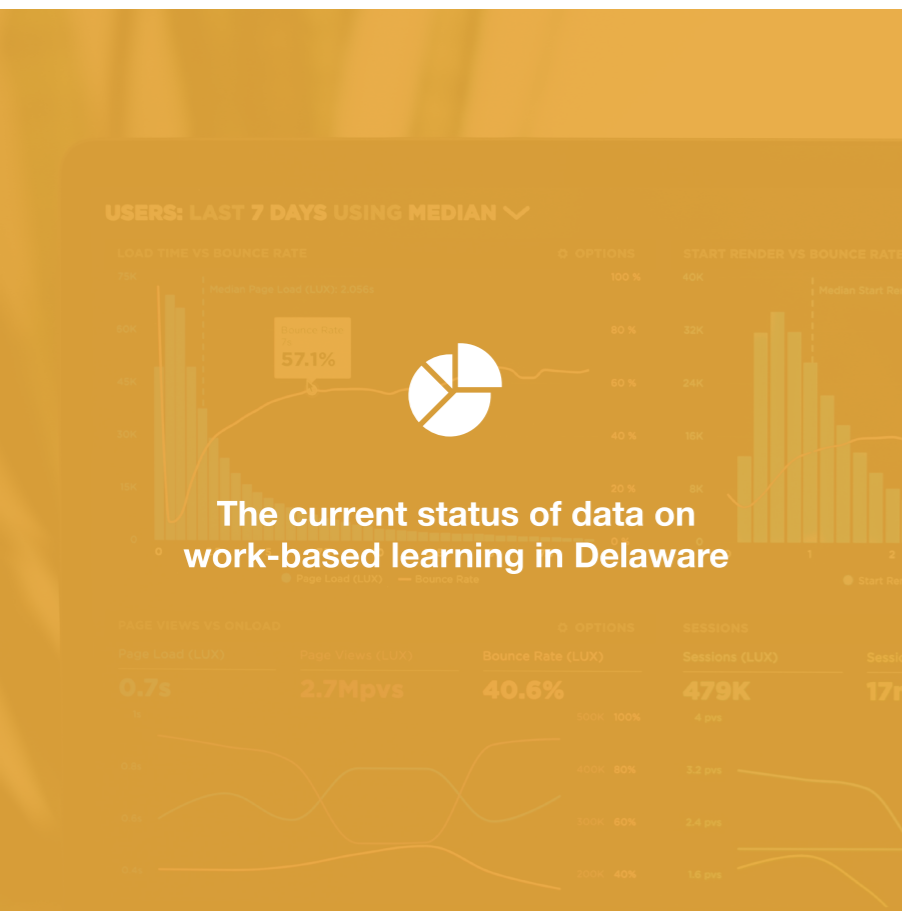
Can enter a registered apprenticeship in construction with advanced standing

Construction workers

Average wage: \$52,800

DATA ON WORK-BASED LEARNING

Since 2018, the Delaware Department of Education (DDOE) has expanded its capacity to collect statewide data on student participation in Delaware Pathways programs and work-based learning. The DDOE is partnering with Delaware State University and the University of Delaware's College of Education and Human Development to secure funding for education research and improvements to the state's education data systems.



What questions CAN currently be answered about work-based learning in Delaware?



- 1** What proportion of Delaware high school students complete a cooperative learning experience?
- 2** What proportion of Delaware high school students complete a Delaware Pathway Program that offers the option to participate in work-based learning?
- 3** What are the postsecondary education outcomes of students who complete these experiences?
- 4** How do the above differ by race/ethnicity, gender, region, socioeconomic status, and pathway program?

What questions **CANNOT** yet be answered about work-based learning in Delaware?



- 1** What proportion of Delaware high school students complete a work-based learning experience (other than cooperative education) during high school?
- 2** How does Delaware students' participation in work-based learning vary by experience type (job shadows, project-based learning, worksite internships, etc.) or intensity (hours or weeks)?
- 3** What is the association between students' participation in immersive WBL and employment outcomes?

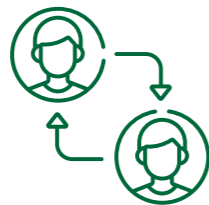


Answering these questions requires more and more detailed data on students work-based learning experiences and their post-high school employment outcomes.

Delaware is piloting the collection of data on students' completion of a work-based learning course

DELAWARE DEPARTMENT OF EDUCATION STAFF ARE ANALYZING THE RESULTS TO INFORM DATA COLLECTION IMPROVEMENTS OVER THE NEXT FEW YEARS

The course requires students to meet statewide career readiness standards and provides a consistent measure of students' career readiness. The data will have some limitations for tracking students' participation in work-based learning experiences:



The course competencies require student-employer interactions, but the type of experience is open-ended



The data do not indicate the type or duration of the WBL completed, which are likely to influence employment outcomes



Not all students who participate in immersive WBL will take the course



Key Data Limitation 1:

FLEXIBLE DEFINITIONS OF WORK-BASED LEARNING (STATE)

State guidance on work-based learning is flexible and includes many types of experiences



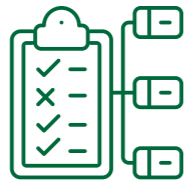
For state approval, programs of study are required to culminate in an industry-mentored project and/or work-based learning experience. These experiences may include, but are not limited to, supervised work-based learning activities such as experiential education, job shadowing, internships, cooperative education, and/or industry-mentored projects. Each activity should be designed to enrich and advance school-based instruction and provide students with the opportunity to demonstrate career readiness.



Key Data Limitation 1:

FLEXIBLE DEFINITIONS OF WORK-BASED LEARNING (LOCAL)

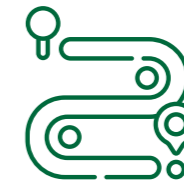
Within the state guidelines, schools and districts can develop customized work-based learning definitions.



Schools and districts define work-based learning using a **MIX OF CRITERIA** that can include whether the experience takes place in or outside of school, contact with employers, duration, and connection to the students' pathway and career interests.



Most **SCHOOL DEFINITIONS ARE FLEXIBLE** and many plan to retain the additional flexibility adopted during the COVID-19 pandemic.



Work-based learning can also **VARY BY PATHWAY** within schools and districts (e.g., clinicals in applied health versus service learning in engineering).

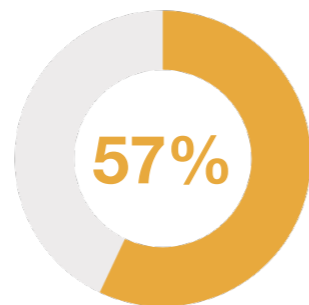


Appoquinimink School District requires an immersive work-based learning experience to include 50 hours of activities and 6 points of contact with employers, of which 4 must be conversations.

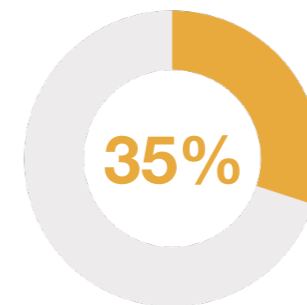
Key Data Limitation 2:

LIMITED EMPLOYMENT DATA

Delaware currently has data on the education outcomes of high school graduates, but data on employment are incomplete.



Delaware can track postsecondary education outcomes for the 57% of high school graduates who enrolled in college the fall semester after graduating high school.



The percentage of students entering the labor force is unknown, but the Delaware Department of Education estimates that it can account for about 30% to 35% of graduates' employment outcomes using Delaware Department of Labor data

BETTER DATA ON EMPLOYMENT OUTCOMES WILL REQUIRE:

- ✓ A higher match rate between education and labor market data from the Delaware Department of Labor
- ✓ Data sharing agreements with neighboring states that employ relatively high numbers of Delaware high school graduates

Delaware's education data systems use two data sources to track student accounts

Students and Adults in Delaware's K12 and Adult Education Systems



Youth and Adults After Leaving the K12/Adult Education System

DEPT. OF EDUCATION DATA

- Graduation status
- CTE or Non-CTE student
- Participation in an Adult Education Program
- SSN provided voluntarily by students
- First name, last name, DOB, etc.

National Student Clearing House

Dept. of Labor Unemployment Insurance Data

ALL GRADUATES FROM DELAWARE K12 SYSTEM

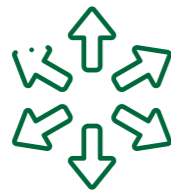
- ✓ Enrollment in a community college, college, or university
- ✓ Name of institution

ALL GRADUATES WHO PARTICIPATED IN CTE PROGRAMS

- ✓ If employed
- ✓ Periodic Wage

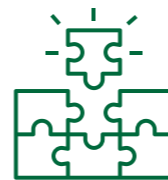
Future Data System Development

The Delaware Education Research Alliance has projects underway that are anticipated to improve the availability and quality of education data in the state over the next 5 years by:



EXPANDING EDUCATION RESEARCH AND RESEARCH CAPACITY:

Using data to answer key policy and research questions is key for improving data quality. In 2021, alliance members were awarded a 3-year research grant to study the links between career and technical education and high school graduation, postsecondary enrollment, employment, and wages, and planning for other projects is underway.



IMPROVING MATCH RATES TO EMPLOYMENT DATA:

Alliance members will work with Delaware data specialists to introduce new matching techniques and build data sharing agreements with neighboring states.



FACILITATING DATA CONNECTIONS AND ACCESS:

The Alliance will support the development of connections between Delaware's public data systems and memorandum of understanding to facilitate access by researchers and policymakers to the data needed to assess program impact.

Data Recommendations

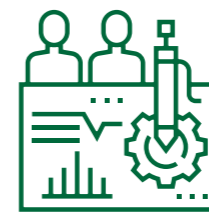
Work-based learning data collection is new and challenging nationwide. Delaware has multiple projects underway to provide robust data on students' career readiness. To provide data as these changes are made and gain a deeper understanding of the relationship between WBL and student outcomes as data system changes are underway, RTI suggests the following strategies:



COLLECT ADDITIONAL DATA ON THE TYPES OF WBL THAT STUDENTS COMPLETE

To keep data collection manageable, data collection might be limited to students engaged in longer and more intensive experiences, as opposed to job shadows or worksite tours.

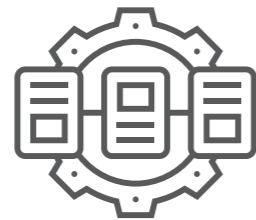
Alternately, data collection could focus on pathways with more consistent work-based learning experiences and high rates of student participation, such as healthcare, or in schools with relatively restrictive definitions of immersive experiences.



ADMINISTER BASELINE, EXIT, AND FOLLOW-UP SURVEYS TO PATHWAYS STUDENTS

The surveys could collect data on students' career interests, baseline skill and experience levels, and details work-based learning experiences, such as duration or number of hours and location. Data on 6-month or 1-year follow-up (post-graduation) employment outcomes could provide interim data until statewide access to employment data improves, and employment details that Delaware Department of Labor data does not collect, such as graduates' occupations and whether their job aligns with their high school career pathway.

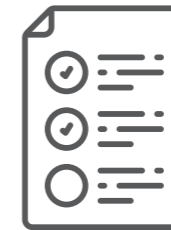
Delaware Models for other States



SCALABLE CAREER PATHWAYS MODELS:

Prior to the grant, the Delaware Department of Education worked with business and industry representatives, educators, and community stakeholders to create statewide model **Delaware Pathways**. During the past three years, the models have been implemented statewide, resulting in more students participating in programs that offer **aligned college-level coursework**, credentials with labor market value, and work-based learning.

Other states might adapt the Delaware Pathways model to expand student access to high-quality pathway programs.



STATEWIDE WORK-BASED LEARNING INFRASTRUCTURE:

The Delaware Department of Education included **work-based learning** in state and federal accountability systems, developed a certified work-based course standards, and created curriculum modules and implementation supports.

The **Delaware Office of Work-Based Learning** connected schools and employers, and organized industry councils to engage employers in education and workforce development planning.

These changes spurred parallel changes at the district level, enhancing schools' capacity to offer work-based learning statewide. States seeking to promote similar transformation might consider a similar suite of strategies.

Delaware Models for other States



A CLEAR ENTRY POINT FOR EMPLOYERS TO ENGAGE IN EDUCATION:

Through the **Delaware Office of Work-Based Learning**, employers can explore multiple opportunities to collaborate with educators and students. The Office connected employers with multiple schools to provide work-based learning experiences in hard-to-reach and high-demand industries. During the COVID-19 pandemic, the office helped schools and employers develop virtual experiences, and crafted WBL opportunities accessible to students across the state. The office also collaborated with postsecondary programs at Delaware Technical Community College and plans to expand these connections in coming years. Finally, the office's work with **industry councils** in high-demand fields such as IT provided networks for employers to find in-state job candidates and share their skill needs with educators.



EMPLOYER RELATIONSHIP-BUILDING STRATEGIES:

The Delaware Office of Work-Based Learning **partnered with schools** to identify clear and specific requests for work-based learning before approaching employers. The Office plans to reiterate this process to build partnerships with employers over time and cocreating Industry Councils. The office also developed a **handbook**, orientation materials, and a training for employers to introduce them to working with schools and students. In addition, Office staff noted that the virtual work-based learning programs developed in response to the COVID-19 pandemic were positively received by employers and are likely to continue to make it easier for them to participate.

Delaware Models for other States



Work-based learning partnerships with community-based organizations.

Delaware engaged **community-based organizations** to provide training on WBL for employer partners and teach work-based learning standards to students. The organizations also piloted paid immersive summer and after-school work-based learning experiences, expanding the opportunity to students who may not be able to participate in unpaid experiences during the school year. In addition, the organizations were able to offer programs in fields not offered in all schools.

Areas for Development



Schools reported a lack of communication about changes to immersive pathways

School staff were unaware of the reasons behind changes to the manufacturing pathway, and some students in these pathways were unable to access WBL opportunities. Schools may benefit with regular communication about DelTech's immersive pathways.



Clear staff roles are needed when transitioning employer relationships from the DOWBL to schools

The DOWBL organized WBL opportunities that some schools expect the office to continue managing moving forward. Some employers expressed uncertainty about how WBL is organized and who they should reach out to about future experiences.

Areas for Development



SCHOOLS REPORTED NEEDS FOR PAID WBL AND WBL WITH LOCAL EMPLOYERS.

Many students work out of necessity and are unable to participate in unpaid immersive WBL experiences. Additionally, students are less interested in opportunities, even virtual, with out-of-area companies because they felt that such experiences would not help them find local jobs in the future. The DOWBL might assist with identifying local, paid experiences or help students connect outside experiences with local employment options.



DATA ON WORK-BASED LEARNING IS INCREASING BUT LIMITED:

Delaware does not currently collect the education and employment data needed to assess the effects of work-based learning on students' education and career trajectories after high school. In the coming years, the Delaware Department of Education is working with partners in the state to increase the amount and type of data collected on work-based learning participation and employment.

Looking Forward



With support from Bloomberg Philanthropies, Delaware expanded state and local capacity to support and sustain work-based learning expansion.



The changes resulted in new and expanded WBL opportunities and employer connections across the state. Stakeholders also identified needs to ensure sustainability and success of the new programming:



School staff expressed a need to begin career exploration earlier in students' careers to ensure readiness for work-based learning during high school. Some schools have already begun career readiness programming in middle school to accelerate student preparedness.



Students and school staff reported benefits to the immersive pathways approach of combining industry-recognized and postsecondary credentials, dual credit opportunities, and workforce experiences.



Employers and students are looking for permeable pathways with stackable credentials, to support pipeline development for employers and career navigation for youth.

Looking Forward

EARLY DEVELOPMENTS AND INNOVATIONS SET THE STAGE FOR ADDRESSING THE FOLLOWING PRIORITIES IN THE NEXT PHASE OF IMPLEMENTATION:



STARTING

earlier by building out career readiness in middle school and encouraging work-based learning support earlier in high school



ADVANCING

students faster by awarding more credentials, dual credit opportunities, and immersive experiences in high-priority pathways



STRENGTHENING

employer co-ownership of talent pipelines by expanding apprenticeships, particularly in IT, and hiring more work-based learning participants



DEVELOP

a workforce data system to collect longitudinal data on work-based learning participants and employment outcomes



DEEPEN

capacity and innovation investments through DOWBL and industry council support

METHODOLOGY

The grant partners hired RTI International to evaluate program implementation and outcomes, as well as to identify promising practices and strategies for program improvement.

THE DATA ANALYZED FOR THIS REPORT CAME FROM THE FOLLOWING SOURCES:

Interviews with key project stakeholders, including state agency staff, employers, students, and community organizations

In-person and virtual site visits to schools and Delaware Technical Community College

Surveys of parents and employers

Interviews with state agency staff and document reviews on other states' practices to situate Delaware's strategies in the national context

METHODOLOGY, CONTINUED

10 high schools participated in administrator interviews and 5 participated in site visits involving administrator, teacher, and student interviews (denoted with an asterisk):

Appoquinimink*

Brandywine

Cape Henlopen

Delcastle*

Dover

McKean

Middleton

Milford

Newark Charter*

Polytech*

Seaford*

Smyrna

Sussex Tech

William Penn

Woodbridge

Employer interviews included professionals who were already working with schools or students, aspiring to work with schools or students, and/or collaborating on the statewide industry councils.

The employer survey was distributed in Spring 2019 via high school administrators, regional chambers of commerce, industry association, and social media posts.

Community organization interviews included Strive and Code Differently