



Report on the Early Childhood Education Pre-Apprentice Model

Prepared for the District 1199C
Training and Upgrading Fund

DISTRICT 1199C
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COLLEGE OF ARTS AND SCIENCES

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All opinions are those of the authors and do not necessarily reflect the opinions or recommendations of study participants or supporters. All errors are the responsibility of the CREC and CURS team: Sophie Kelmenson, Allison Forbes, Ph.D, and Nichola Lowe, Ph.D.

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Glossary of Terms

Career and Technical Education (CTE) programs and courses focus on the skills and knowledge required for specific jobs or fields of work. K-12 CTE programs in Pennsylvania provide career exposure and training in industries that offer life-sustaining wages without a college degree.

Early childhood education (ECE) is defined as education for children under five.

Pre-apprenticeship prepares individuals to enter and succeed in apprenticeship. Pennsylvania recognizes and supports these preparation programs when there is a formal partnership with a Registered Apprenticeship program.

Registered Apprenticeship is a program establishing practitioners as qualified technicians in their chosen trade or profession through a combination of on-the-job training and classroom instruction. It is operationalized by a formal training contract or other agreement between an employer and their employee and completion is recognized by a Certificate of Completion.

Acronyms

CCP	Community College of Philadelphia
CDA	Child Development Associate credential (professional certification)
CTE	Career and technical education programs
DVAEYC	Delaware Valley Association for the Education of Young Children
ECE	Early childhood education
ECE CTE	Early Childhood Education and Childcare Career and Technical Education program
NOCTI	National Occupational Competency Testing Institute
OAC	Parkway West's Occupational Advisory Council
PAI	Philadelphia Academies, Inc.
TANF	Temporary Assistance for Needy Families program

Introduction

Early childhood education (ECE) helps to break the cycle of poverty by providing low-income children access to high-quality learning environments during a critical developmental period. Expanding ECE in low-income neighborhoods also offers another, less recognized benefit to low-income youth entering adulthood: the prospect of a rewarding teaching career as an ECE instructor.

The School District of Philadelphia has piloted a model for ECE development that gives high school students an opportunity to support childhood education in their community while advancing their own professional skills and earnings. The new program, hosted by Parkway West High School, is located in a low-income neighborhood and links career preparation in high school to accelerated credentialing and higher compensation in the ECE industry. The program allows students to advance within the ECE field, securing upwardly mobile positions that serve the community's need for well-trained teachers.

Critical to students' success is the way that high school programming is integrated with established efforts to upskill ECE instructors and enhance ECE service provision. Students who complete the Parkway West program earn a professional certification recognized in the ECE industry, begin coursework toward college credentials required for teaching, and have the option to start an apprenticeship with a participating employer. High performing ECE centers support student

earn-and-learn experiences with qualified staff serving as mentors.

The program provides a much-needed jumpstart for students seeking to support their families and contribute to their communities through the field of education. Without this program, the higher levels of teaching credentials required to substantially improve ECE quality are often out of reach for many hopeful young educators.

Pursuing higher education can be expensive and difficult for teaching aides, who generally earn minimum wage. This expensive credentialing process can discourage teachers in low-income neighborhoods, exacerbating issues of under-representation by people of color in higher level teaching positions. This dynamic, in turn, reduces teaching quality for low-income students and students of color.

The Parkway West case highlights ways to leverage industry and higher education partners to fortify curriculum and student pathways to work. By documenting the steps taken to create this pioneering program, this report shows it is possible for other cities and states to improve their ECE systems by preparing the next generation of ECE instructors. This example may be instructive for school districts seeking to enhance career exploration and training programs for high school youth in ECE and other industries.

The Parkway West Early Childhood Education Program

Parkway West High School (Parkway West), part of the Philadelphia public school system, specializes in early childhood education (ECE), offering students a series of ECE preparation courses and work experiences as part of its Early Childhood Education and Childcare Career and Technical Education (ECE CTE) program. As a Career and Technical Education program, the primary goal is to prepare students to move into rewarding, well-paying careers by linking the high school experience to applied skill-building opportunities and two- and four-year college degree programs.

After graduation, students who complete ECE-related coursework may go directly into jobs in the ECE industry or launch other careers. Some enroll in Associate's or Bachelor's degree programs. A third pathway involves a commitment to apprentice with a sponsoring ECE center and to complete college certificate and degree programs on the path to becoming an ECE instructor or administrator. Parkway West offers students a well-defined "ramp" to each of these post-graduation pathways, but none is entirely exclusive of the others, and each pathway is equally supported by school counselors and administrators. The most consequential decision students make is whether to opt out of ECE CTE programming after 9th or 10th grade, in which case they proceed through typical high-school diploma requirements and, potentially, dual enrollment in college. Students that choose to stay the course in the ECE CTE program may go on to pursue one of multiple additional "ramps" that support both career and college readiness.

ECE Credentialing Requirements and Forging a Career Path

The ECE credentialing system that has emerged at the state level links the acquisition of degrees and of certifications to career advancement. Better paying jobs in the ECE field require completion of an ECE degree program or a related degree with an ECE specialization. Each year, ECE staff apply for a Career Pathway Certificate to document their progress and position within this credentialing system. The Office of Child Development and Early Learning (OCDEL) recognizes college coursework, degrees, and certifications.¹

However, entry level positions in ECE require little experience and no formal credentials, and it can be difficult to get started on the established credentialing path to better paying jobs. Typically, there is no formal training or mentorship for entry-level employees, making it difficult to know how to advance one's career. Another bottleneck in the system occurs after workers gain their CDA credential. The CDA is essential to professionalization but does not necessarily link to further professional development opportunities.

Students begin summer internships after 10th grade, gaining work experience and the option to graduate with a professional (non-degree) credential called a Child Development Associate credential (CDA), the standards for which are set by the Council for Professional Recognition.ⁱ

The CDA credential gives Parkway West students advanced standing in the ECE field. Students can immediately leverage this credential in their work at ECE centers. For students aiming to apprentice for multiple years after graduation, an additional step is

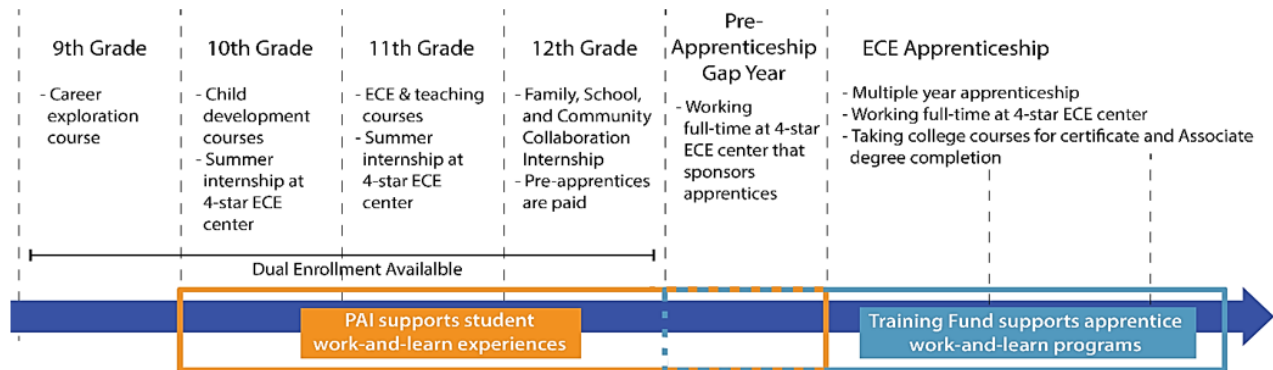
needed—a year of work experience is a prerequisite for apprenticeship. This is where the Parkway West pre-apprentice “ramp” comes in, filling this experiential gap and feeding into a well-established ECE apprenticeship program run by the 1199C Training and Upgrading Fund (Training Fund).

Students may choose to join the pre-apprentice “ramp” in 12th grade, making a commitment to pursue a post-graduation apprenticeship. They continue their coursework without disruption of the CTE or CDA obligations; and they retain the option

Table 1: Early Childhood Education CTE Curriculum at Parkway West High School

	<i>10th Grade</i>	<i>11th Grade</i>	<i>12th Grade</i>
<i>Course Instruction</i>	Typical and Atypical Child Development, Learning, and Cognition I: Pre-Natal-Age 6	Introduction to Early Childhood Education and Teaching: Grades PreK-4	Family, School, and Community Collaboration
	Typical and Atypical Child Development, Learning, and Cognition II: Age 7-13	Introduction to Special Education and Teaching: Grades PreK-8	Complete CTE program with 1080 hours of classroom instruction
<i>Work Experience</i>	Optional: Summer Internship	Optional: Summer Internship	School-year Internship: Early Childhood and Special Education
<i>Options and Decisions</i>	Opt into CTE for 11th and 12 th grade.		Opt into pre-apprenticeship at start of 12 th grade
<i>Exams and Credentials</i>	Babysitting & Childcare Certification through the American Red Cross	Infant & Child CPR via the American Heart Association	Childhood Development Associate (CDA) certification National Occupational Competency Testing Institute (NOCTI) exam to complete the CTE program

Figure 1: Pre-Apprenticeship Program Design



to simultaneously pursue college credits. Their senior year internship site will likely match them with their pre-apprentice and apprentice employer.

The Training Fund initially established its apprenticeship program to help incumbent ECE workers advance their careers and secure higher wages and has had to make a few adjustments to accommodate career starters graduating high school. As apprentices, experienced ECE workers are paid as instructors by their sponsoring ECE centers. This is not possible for Parkway West seniors and recent graduates who are not ready—or, if under 18, are not allowed—to instruct.

Parkway West pre-apprentices, however, earn above minimum wage during their senior year internship and year of work experience thanks to grant funding secured by a Parkway West community partner, an additional benefit to students committing to this pathway to work. The grant support for pre-apprentice wages ensures that Parkway West students have the option to “earn while they learn” during senior year and immediately after, making participation possible for low-income students that need to generate income while in school.

After graduation, pre-apprentices continue to gain work experience, now as full-time employees in a work-based learning environment. This post-graduation “gap” year provides the necessary work experience they need to qualify for the next phase of their career as apprentices. When they turn 18, pre-apprentices can transition from teaching aides to ECE teachers, with the associated earnings benefits.

To further ensure a seamless transition from high school to apprenticeship, students are supported by Parkway West’s non-profit partner Philadelphia Academies, Inc. (PAI). PAI coordinates all Parkway West ECE internships, including the senior year internship. To do this, PAI maintains a network of ECE employer relationships and provides customized case management support to students and businesses. PAI also supports students who pre-apprentice during their “gap” year, serving as the official pre-apprenticeship sponsor. Augmenting PAI’s support system, Training Fund staff running the apprentice program also help

secure ECE center positions for pre-apprentices and provide them with additional mentorship.

There are still more ways that these programs create access for students who need to work during and immediately after graduation. For example, pre-apprentices receive support in preparing for and passing ACCUPLACER post-secondary placement exam, which make students eligible to enroll at community college, which qualifies them for the TEACH scholarships that support their for-credit coursework and incentivize wage increases.ⁱⁱ Post-secondary placement test preparation is essential because approximately 70% of Philadelphia high school students fail the math portion of the ACCUPLACER exam and must enroll in remedial coursework before they can begin credit-bearing coursework counting toward a degree. Should any remedial coursework be required, pre-apprentices complete it before starting as apprentices to ensure they can quickly progress towards their degree while on a TEACH scholarship.

In summary, the ECE CTE program at Parkway West provides a network of interlocking supports for students, establishing overlapping tracks or “ramps” and layered resources that help students make steady progress toward their education and career goals during and after high school. The supports proactively address gaps in the talent pipeline for ECE: career mentoring and coaching, job placement, professional development, industry-vetted ECE instruction and work experience, access to career-enhancing credentialing, and preparation for higher education. In addressing these needs, the program demonstrates solutions to universal challenges facing high school students

Credentialing Benefits to ECE

ECE teachers with higher education levels and teaching credentials are better able to have a positive impact on children’s learning outcomes. Investments in early childhood education have been shown to reduce the achievement gap, reduce the need for special education, increase healthier lifestyles, lower crime rates, reduce overall social costs, and lead to improved social and economic equity.

High quality early childhood education has been shown to be influential in mitigating inequality among students and for their long-term outcomes. Early childhood education that includes cognitive and social skills can mitigate or reverse adverse genetic, parental, and environmental impacts.

transitioning from youth to adulthood and independence, offering a model for an earn-and-learn program that meets students where they are and broadens their options.

Building the Parkway West Pre-Apprenticeship Program

In 2018, the School District of Philadelphia officially recognized the Parkway West ECE CTE program, and in doing so credited the deep institutional partnerships that the program had established. Industry, non-profit and higher education partners helped Parkway West design the ECE CTE curriculum, identify and engage leading centers, implement the required courses and, critically, design the pre-apprenticeship classroom and work experiences. The School District is the most recent partner, and its endorsement signifies that within a larger CTE program, pre-apprenticeship is given equal recognition, thus enabling Parkway West to hold this up as a supported and valued pathway. (See Table 2 for a list of partners and their contributions to program development and implementation.)

Still, there is a risk that with any program serving dual pathways that the non-traditional route—in this case, the pre-apprenticeship—will get downplayed or marginalized. The Parkway West ECE CTE program has avoided that pitfall by ensuring that the program's teachers and administrators were engaged early on, partnerships were established with top employers, and finally that funding ensured program survival.

PAI collaborated closely with Parkway West on program design starting in 2013 and secured outside funding essential to program development, early growth, and systematization within the broader ECE ecosystem. The initial work of program development, developing curriculum and designing internship experiences, helped forge the partnerships that will sustain youth

access to ECE jobs, training, and credentialing going forward. Through the process of setting up the program, higher education and industry were activated to work together to accomplish key activities discussed below: preparing teachers, establishing high-quality work experiences, securing funding, and connecting to established ECE career pipelines.

Parkway Teachers' Support of Pre-Apprenticeship (training the trainers)

Adult support for new youth programming is critical, especially among the trusted contacts that students turn to for advice in a school setting. With this in mind, Parkway West administrators and partners took steps to prepare teachers and staff—including general education teachers, CTE teachers, and guidance counselors—to support the pre-apprenticeship route into ECE careers.

The guidance counselor needed to gain familiarity with the CTE program so they could better advise students in identifying and pursuing their post-graduation goals. General education teachers, particularly math teachers, needed to better prepare students for work settings and college expectations. Finally, ECE CTE teachers, many of whom are former ECE center directors, needed to translate their substantial industry experience working with young children into effective high school lessons and classroom practices. They also needed to better understand the exam requirements of the NOCTI (for CTE completion) and CDA (professional credential required for ECE CTE specialization).

Starting in 2013, partnerships with institutes

of higher education helped prepare Parkway West teachers to meet these challenges. A Drexel University professor helped design the initial curriculum and other Drexel University professors helped CTE teachers understand the CDA exam process, which requires creating a portfolio, teaching demonstrations, and paperwork to establish that the classroom and work experience criteria have been met.

Parkway West math teachers partnered with faculty at Community College of Philadelphia (CCP) to enhance their curriculum to support students aiming to pass the ACCUPLACER exam for college entry and scholarships. CCP faculty provided guidance and feedback to Parkway West teachers and invited them to observe college-level math instruction courses at CCP. Temple University supports teacher certification for ECE CTE teachers with industry experience, a requirement for all CTE teachers in the Philadelphia School District to teach high school students. Arcadia University professors observed ECE CTE teachers at Parkway West and provided input on improving classroom design to reflect a true ECE setting. In Fall 2020, Arcadia University was in the process of certifying ECE teachers as Professional Development Specialists to administer the professional CDA examination and conduct the qualifying observations on-site at Parkway West.

Establishing Quality Work-based Learning Experiences

Any successful pre-apprenticeship must be linked to a high-quality work experience. Parkway West has ensured this critical connection by building partnerships with local employers through summer internship programs. Students that choose the pre-apprenticeship option also have a

meaningful gap year experience with employers that support both the internships and the eventual apprenticeship.

Parkway West partners PAI, the Training Fund and First Up/DVAEYC helped to identify, recruit, and retain ECE centers as internship and pre-apprentice hosts. Partnering with top-rated ECE centers is vital for sustaining the quality of the pre-apprenticeship experience. Top-rated centers help students to apply classroom learning and form good habits on the job. Center staff must be able to mentor the pre-apprentices through their first year of full-time work, helping them to adjust to their new environment while evaluating their performance.

PAI facilitated a partnership with Children's Village, an ECE center that has become a leader in the industry. Children's Village plays an outsized role in supporting the Parkway West program by hosting summer interns, school-year interns, and pre-apprentices. PAI identified additional opportunities for Children's Village, such as offering a career day for Parkway West 9th graders, teaching "master classes" on special topics for Parkway West students, providing technical assistance to CTE teachers, hosting a course at CCP, sitting on Parkway West's Occupational Advisory Council (OAC), and providing administrative support to the Parkway West program. Children's Village also typically hosts the most Parkway West student interns—between five and seven each summer.

Parkway West aims to expand partnerships with top rated ECE centers, but few are located near the school, prompting the idea to build an operational ECE center on site. This would increase student access to learning experiences in an applied work environment and increase earn-and-learn

training opportunities.

Finally, some basic building blocks for alignment with industry needs were in place from the start. The Delaware Valley Association for the Education of Young Children (DVAEYC – since rebranded as First Up), an organization that provides technical assistance to ECE centers and staff training, has been a consistent advocate for the Parkway West program, providing an orientation for summer interns, serving on the curriculum review panel, and supporting summer internship curriculum development. DVAEYC also supported Parkway West’s shift to an ECE focus by identifying top-rated ECE centers for students to work at during the first summer of ECE programming in 2012.

Securing Funding to Support and Sustain the Program

Another critical need for any program development is funding. Fortunately, Parkway West was able to secure support from the William Penn Foundation, which provided much of the funding for program development and initial implementation of the pre-apprentice program. PAI received a total of three grants from the foundation specifically for the development and implementation of CTE and pre-apprentice programming.

The Pennsylvania Department of Labor and Industry is another funding source, as it recognizes the importance of pre-apprenticeship as a link to employment opportunities and includes pre-apprenticeship as a funding objective in their PAsmart grant initiatives. This grant program invested \$1.6 million to support registered apprenticeship and pre-apprenticeship through Ambassador Networks and more than \$2.9 million to build a diverse talent

pipeline, including an expansion of non-traditional registered apprenticeships and pre-apprenticeships. PAI was one PAsmart grant recipient, receiving funding to expand Parkway West’s newly registered pre-apprenticeship program in a non-traditional industry (ECE). This effort included establishing a pipeline to a registered apprentice program for at least thirty pre-apprentices from non-traditional populations (women, minorities, and socio-economically disadvantaged individuals).

In addition to this funding, partners describe the process of braiding funding sources together to establish the ECE programming at Parkway West. For example, because students under the age of 18 may not become official employees at ECE centers in Pennsylvania, and the ECE industry is already under-paid with low margins, securing well-paying internships at top-rated ECE centers for students to get adequate work experience is difficult, if not impossible, without outside funding. PAI applies annually to access WorkReady funds for summer internships. These funds are managed by the Philadelphia Youth Network and provided by public and private investors including the city’s Office of Children and Families with support from the US Department of Labor and the Pennsylvania Temporary Assistance for Needy Families (TANF) Youth Development program.

Other federal funding supports a range of relevant activities, including apprenticeship, youth development, and career development services—including support for student workers through higher education. State funding, meanwhile, has been focused more explicitly on apprenticeship, while local and foundation funding has supported ECE initiatives more directly. See Table 4 in

Appendix B for a list of funding sources that support different aspects of Parkway West's CTE and pre-apprenticeship programming.

Working Backwards from a Well-Established Base

A pre-apprenticeship program is only useful if it links to a high-quality apprenticeship. Without that connection, there is nowhere for a student to go with the skills learned in pre-apprenticeship. The Parkway West program links to an apprenticeship that anchors an established ECE career pipeline and a much broader system of adult education critical to students' success.

The adult-focused ECE apprenticeship program was established in 2017 to connect the frontline workforce to skills, credentials and teaching opportunities that would lead to advancement and wage increases. The program helped to address citywide concern about the quality of ECE in Philadelphia and limited access to universal pre-K. The 1199C Training and Upgrading Fund (Training Fund) manages the program, which requires work experience and a CDA for entry. The program gives credit for prior work experience and leads incumbent workers through coursework to earn an Associate's degree.

ECE leaders have expanded this career pipeline by creating links both into and beyond the apprenticeship. A pre-apprenticeship is the critical bridge that connects high school students into the existing upskilling infrastructure of apprenticeship and higher education opportunities. Those with an Associate's degree can continue on to earn a Bachelor's degree and teaching credential within this pipeline. The Training Fund has enhanced this infrastructure by creating an "umbrella" approach to statewide apprenticeship,

linking programs across the state into one career pipeline by encouraging transferability across programs, leveraging competencies and guidelines for early childhood educators developed by the National Association for the Education of Young Children (NAEYC). By doing so, the apprenticeship formed the core of the ECE workforce development infrastructure.

The apprenticeship program features three articulating levels—the entry-level CDA credential, an Associate's degree in Early Childhood Education, and a Bachelor's Degree with Pre-K-4 teaching certification. It links to thirteen institutions of higher education (IHEs) that provide these credentials. There are seven regional hubs in Pennsylvania, three intermediaries, 63 employers, and 135 ECE apprentices (with a waiting list of 63) as of October 2020.

The concurrent design of the ECE CTE program at Parkway West with the apprenticeship program at the Training Fund was loosely coordinated. The design of the pre-apprenticeship, however, was a joint effort. Most of the pieces for a pre-apprenticeship were already in place because, like the CDA and the apprenticeship, the Parkway West CTE curriculum relies upon the nationally-recognized NAEYC competencies, referenced above. Parkway West, PAI, and the Training Fund sought additional continuity in programming by overlapping support services for pre-apprentices during and after their senior year. Pre-apprentices' work placements and work requirements are coordinated with the Training Fund and PAI during senior year and through the post-graduation year of work experience.

PAI sought and received recognition as an officially registered Pre-Apprenticeship with

the Pennsylvania Department of Labor and Industry in 2019, when the program formally affiliated with the Training Fund’s ECE Apprenticeship. Later that same year, the school received a grant to support the development of the pre-apprenticeship program, with the goal of bringing 20 pre-apprentices through the program.

Creating the pre-apprenticeship and fortifying links to an established

apprenticeship built a bridge for high school students to further earn-and-learn opportunities in a vitally important industry. This link between high school and career ensures that the ECE field continues to upskill its teachers and expand, while attracting new ECE talent and creating opportunities for high school students, especially lower-income students.

Table 2. Partners Contributing to the Early Childhood Education (ECE) Career and Technical Education (CTE) Program at Parkway West	
Parkway West High School (Parkway West)	Parkway West is a high school in Philadelphia and home to the ECE CTE program.
School District of Philadelphia (the School District)	The School District administers public education funding, including for CTE programs.
Philadelphia Academies, Inc. (PAI)	PAI is a non-profit serving the education sector with a focus on youth development.
1199c Training and Upgrading Fund (Training Fund)	The Training Fund is a non-profit fund serving union and community members in the Delaware Valley, associated with District 1199C of the National Union of Hospital & Health Care Employees (NUHHCE) AFSCME.
Delaware Valley Association for the Education of Young Children (DVAEYC) now “First Up”	DVAEYC, now known as “First Up”, is an affiliate of the National Association of the Education of Young Children (NAEYC), the leading membership association for those working with and on behalf of children from birth through age eight.
West Chester University Drexel University Temple University Arcadia University Community College of Philadelphia	These Philadelphia-based institutions of higher education provided technical assistance to teachers and programs for students.
Children’s Village	Children’s Village is a non-profit ECE center that supports student earn-and-learn programs.
Philadelphia Works William Penn Foundation	These organizations provide critical funding for program development and summer internship training wages. See additional funding sources listed in Appendix B.

Key Accomplishments and Lessons Learned

To support efforts to upskill Early Childhood Education (ECE) teachers, policymakers in several states have launched “earn-and-learn” programs, which include apprenticeships. These are promising programs for incumbent workers and new ECE teachers alike as they make it easier to earn credentials and college credit while continuing to work. However, this career-preparation is often out of reach for low-income youth. By extending these opportunities to high school students via pre-apprenticeship, Parkway West High School in Philadelphia offers a career and college jumpstart. Essential features of the Parkway West pre-apprenticeship include:

- Students have options that are equally supported and valued. The program offers various pathways to college, several of which incorporate “earn-and-learn” experiences. The CTE program allows students to adjust the amount of specialized and on-the-job training in ECE based on their interest in the ECE field and their readiness for college coursework. The CTE program leads seamlessly into the pre-apprentice year following high school graduation.
- The curriculum provides students with work experience and industry-recognized certifications and prepares them to begin established apprenticeship and degree-granting education programs that award college credit for previous work experiences.
- Parkway West and their industry and training partners combine funding from city, state and federal sources to support students on their chosen path, including training wages for pre-apprentices.

The focus on ECE careers did not emerge easily from a fragmented ECE ecosystem. Political and civic leadership at the state and local levels drove various efforts to develop higher-quality ECE provision, which required more highly trained and compensated ECE teachers. Industry leaders helped to define career pathways. Non-profit and higher education partners helped Parkway West High School craft and implement a curriculum designed to meet industry and academic standards. By connecting to an existing apprenticeship program, the pre-apprenticeship extended the career pipeline for ECE educators and expanded options for youth to earn decent wages during and immediately after high school.

Skills Standards

A foundational element of developing the ECE career pipeline was incorporating competencies for early childhood educators developed by the National Association for the Education of Young Children (NAEYC) into training curricula. These competencies were created to formalize ECE as a profession and to create guidelines to translate existing work experience into a formal credentialing system that includes the Child Development Associate (CDA) credential. The CDA is the culminating professional credential of Parkway West’s CTE and pre-apprenticeship programs and is required before initiating the Training Fund’s apprenticeship program.

The Parkway West pre-apprenticeship was developed alongside other efforts to expand and improve ECE services provision. More than a dozen organizations in education and industry contributed to the development of the program. Key challenges these organizations faced (and considerations for policymakers and educators) include:

- Developing a program that provides best practice training and education that is informed by industry. This includes training for high school CTE instructors and advisors as well as employers.
- Linking high school career preparation to immediate employment, apprenticeship, and higher education.
- Creating paid work opportunities for youth in a fragmented and underfunded industry.
- Establishing connections with employers to provide convenient and high-quality work experiences.
- Providing credit for previous work experience.

The ECE CTE and pre-apprenticeship program, helping high schools get into the broader pipeline supporting the upskilling of ECE teachers, has yet to be extensively tested at Parkway West High School, given the COVID disruption. We expect, at a future date, to find benefits to students and employers alike—see page 20 for potential benefits.

Comparison Program: Keystone College Pre-Apprenticeship Program

Another pre-apprenticeship program within the Training Fund statewide umbrella is anchored by Keystone College, near Scranton. The college offers an Associate's, Bachelor's, and Master's degree in education. In 2018 the college initiated a pre-apprenticeship program in partnership with three local high schools and a four-star, nationally accredited ECE center program associated with the college. College faculty provide instruction to students in 11th and 12th grades who earn 12 college credits that articulate to Keystone's Associate's degree and the CDA credential. The first cohort of eight students had earned 12 credits of coursework by August 2020.

The ECE center is staffed by eight teachers working in four classrooms, all trained at the Bachelor's or Master's degree level. Each staff member serves as a coach for one of the pre-apprentices. Coaches meet weekly with a faculty mentor (the primary college instructor for the CDA curriculum) and the Assistant Executive Director of a large Head Start program. At the start of the program, the Training Fund and First Up (formerly DVAEYC) provided training to coaches. The faculty mentor, the Education Director from the School District, the Director of the ECE program, and the CDA instructor also attended the training to ensure "everyone was on the same page." This helped ensure that competencies gained through work experiences articulated to college credit. Students also engaged in paid work over the summer to meet the 480 work hours required to earn the CDA credential. The pre-apprentices worked at a summer camp run by the college and received a ten-dollar hourly wage.

Students also complete college coursework during the pre-apprenticeship. Initially, course instruction took place in the evenings, a time chosen by the students, at Lackawanna Trail High School. During the second year, students would transition to the college classroom. Due to COVID-19, classes went virtual instead.

Initial challenges for program leaders included aligning the work experience with coursework competencies and coordinating schedules for students from three different high schools. The program received grant funding from the Pennsylvania Department of Labor and Industry.

In reflecting on the pre-apprentice model, one leader in the development process found the pre-apprenticeship program raised the overall quality of the early education program at the college. For example, it created stronger connections with practitioners by incorporating competency-based learning into the curriculum and strengthened coaching, mentoring and peer learning supports.

Pre-Apprenticeship Growth and Replication

Above, we described how the Parkway West ECE pre-apprenticeship program links high school college and career preparation to an ECE apprenticeship and, by building this bridge, extends a broader system of professionalization and credentialing to high school students. Students build on their ECE CTE experience with a guided working year that further jumpstarts their career in education by providing an even more direct link to advanced standing in the ECE field. For students who need to earn while they learn during and immediately following their 12th grade year, the pre-apprenticeship and working year allow them to do so without limiting future career and education options.

The pre-apprenticeship program offers a promising model that could be replicated and extended to other schools, school districts, and even other occupational fields across Pennsylvania. The Governor's support for apprenticeship, pre-apprenticeship, and the alignment of these programs with higher education requirements makes it possible for other high schools and career start programs to initiate new programs. However, the ECE pre-apprenticeship path has not been extensively tested. Leaders involved in program development hope to prove that the link between ECE CTE, pre-apprenticeship, and apprentice programs can be strengthened and sustained. Funding from the state, the federal government, foundations, and the School District will need to continue, especially to support CTE instruction, students' training wages, and coaching services as programs develop and expand. More ECE Centers need to be identified or developed to provide quality work experiences to students.

In addition to support for the effective operation of these programs, continued collaboration across key stakeholders across the state should encourage innovation, making it easier for other school districts, high schools, and their students to plug into the established ECE credentialing and upskilling infrastructure. New partners may discover innovative ways to fund and expand transitional work experiences such as pre-apprenticeships.

For example, another new ECE pre-apprenticeship program in Scranton, Pennsylvania, features similar industry and credentialing standards and partners (high schools and colleges work with the Training Fund and First Up). Still, this program takes a different approach to facilitation, with a more central role for higher education institutions. There, Keystone College, a private undergraduate institution offering Bachelor's and Master's degrees in education, takes on a prominent and centralized role facilitating a program (similar to PAI's work with Parkway West) that draws students from multiple area high schools (instead of only one school as in the Parkway West case). Student work experiences occur at a single leading ECE center affiliated with and co-located with the college (instead of at several partner centers). Program developers and facilitators emphasize how this unique set of institutional arrangements ensures a strong connection to leading ECE practice. Participants credit regular meetings between ECE center staff, college instructors, and pre-apprentices as creating important feedback loops for continuous program improvement. The broader workforce development

infrastructure is growing in other ways too. The umbrella system of colleges providing Associate's and Bachelor's degree options and teaching certification through the apprenticeship model continues to expand, including local options for Parkway West students, with the addition of Arcadia University in early 2021. Now pre-apprentices can go on to earn an Associate's degree at CCP and there is a direct link into Arcadia's Bachelor's degree program through apprenticeship.

Continued collaborative efforts such as these are important not only to enhance student transitions to adulthood and jumpstart their careers in education, but also to bolster childcare provision in the communities most in need of high-quality ECE. These programs provide on-ramps for low-income high school students that might otherwise be locked out of meaningful and rewarding careers. It is these on-ramps that could be replicated in support of low-income communities elsewhere.

Regardless of how communities address systemic challenges that limit adequate pay for ECE teachers, training wages for high school students will be essential to ensuring the diversity of the future workforce. Philadelphia area leaders seem to understand the systemic challenges to providing affordable, high-quality childcare to all residents as well as the need to address barriers to compensating its educators with life-sustaining wages and benefits. Parkway West and its partners, like leading organizations in Scranton, have demonstrated their commitment to an integrated approach that engages low-income students and improves local services in their neighborhoods. Regardless of whether and how the more systemic issues are resolved, adequate pay for low-income high school students will continue to be a challenge in this and other industries.

Potential benefits of linking pre-apprenticeship to apprenticeship

Pre-apprentices

- gain ECE CTE career preparation: professional development, industry-recognized credential, graduate with college credits
- earn a paycheck
- continue college and career advancement through the apprentice programs

Communities

- increase home-grown talent to sustain high quality ECE
- increase representation of people of color and community members in ECE teaching and leadership
- more credentialing among neighborhood ECE providers and higher quality service

Employers

- expand talent pool
- develop new talent through structured training on the job
- gain and retain credentialed staff and high quality ECE center ratings

ECE advocates

- enhance the quality of ECE in low income communities
- increase diverse representation among ECE teachers

State policymakers

- increase the quality of ECE for very young children and their families, particularly lower income
- enhance pathways for youth to college and to above-minimum-wage jobs

High schools and workforce agencies

- expand career and educational opportunities for low-income youth
- improve ECE in low-income and minoritized communities where ECE services need to expand

To bolster these benefits and improve developmental supports to children under the age of five, state policymakers must seek to ensure that ECE teacher wages increase along with higher quality and credentialing in the industry.

To extend these benefits, high schools and organizations supporting out-of-school youth can extend this model to accommodate more young people and further expand the talent pipeline.

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Appendix A: Study Participants

Table 3. Interviewees		
<i>Organization</i>	<i>Individual Interviewed</i>	<i>Individual Role</i>
District 1199c Training and Upgrading Fund	Teresa Collins	Acting Executive Director; Director of Early Childhood Education (ECE) Strategy
	Cheryl Feldman	Retired; Former Executive Director & ECE Strategy Director, 1199C Training Fund
School District of Philadelphia	Michelle Armstrong	Executive Director of Career and Technical Education
Parkway West High School	Dr. Kathleen McCladdie	Principal
	Amy Friedlander	Occupational Advisory Council Lead, Early Childhood Education
Community College of Philadelphia, previously with Philadelphia Academies, Inc.	Sarah Hill	Apprenticeship Coordinator at CCP; previously Academy Specialist, Manager of Programs, and Director of Career Pathway Strategies at PAI working with Parkway West
William Penn Foundation	Kellie Brown	Program Officer
New America	Taylor White	Senior Policy Advisor for K-12 Education and Workforce with the Education Policy program
Philadelphia Academies, Inc.	Stephanie Smith	Director - Business Partner Development
Philadelphia Works, Inc.	Meg Shope-Koppel	Chief Research Officer, Director of Philadelphia Chapter of PAYA
Keystone College	Fran Langen	Vice President for Institutional Advancement and Strategic Initiatives

Appendix B: Pre-Apprenticeship Funding Sources

Table 4. Funding Sources for Pre-Apprenticeship and Apprenticeship	
Workforce Innovation and Opportunity Act (WIOA) (federal)	The Workforce Innovation and Opportunity Act (WIOA) helps job seekers access employment, education, training, and support services to help them succeed in the labor market and matches employers with the skilled workers they need to compete in the global economy. Funding supports employment and training services for adults, dislocated workers, and youth. This includes Wagner-Peyser employment services administered by the U.S. Department of Labor (DOL) through formula grants to states.
PAsmart Apprenticeship (state)	PAsmart is a state grant program to expand classroom instruction and training. Through the Pennsylvania Department of Labor & Industry's Workforce Development program, PAsmart Apprenticeship grant funds are used to build a diverse talent pipeline into the building and construction trades; expand registered apprenticeships and pre-apprenticeship in non-traditional industries with an emphasis on health care, manufacturing, and information technology; and support registered apprenticeships and pre-apprenticeship through ambassador networks across the commonwealth.
T.E.A.C.H. (public/private)	The Teacher Education And Compensation Helps (T.E.A.C.H.) Early Childhood Pennsylvania Scholarship Program is a public-private partnership (funded by businesses, foundations, government) that offers scholarships to improve the education and compensation of child care workers. The money can be used to fund expenses related to schooling. Sponsoring employers provide a stipend or raise.
William Penn Foundation (foundation)	The William Penn Foundation is a family foundation based in Philadelphia that funds early childcare education efforts, among other areas of interest.
TANF Youth Development (state)	Philadelphia Works uses Temporary Assistance to Needy Families Youth Development (TANF YD) funding to entities providing workforce development services and other support to Philadelphia's youth and young adult job seekers and employers. TANF YD funding originates with the Pennsylvania Department of Human Services and is administered by Pennsylvania's Department of Labor & Industry.
U.S. Department of Labor Office of Apprenticeship (federal)	The U.S. Department of Labor (Office of Apprenticeship, Employment and Training Agency) has provided several rounds of funding for apprenticeship program expansion and innovation since 2016, including the American Apprenticeship Initiative, authorized by Section 414(c) of the American Competitiveness and Workforce Improvement Act of 1998 (ACWIA).

Table 4. Funding Sources for Pre-Apprenticeship and Apprenticeship

Perkins (federal)	The Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) is a principal source of federal funding to states and discretionary grantees for the improvement of secondary and postsecondary career and technical education programs across the nation. Part of Perkins funding is the Students Occupationally and Academically Ready (SOAR) program, which allows CTE students enrolled in a PA-approved program of study to receive free college credits upon completion of their CTE program. SOAR programs lead students into a career pathway that align high school courses to a college program to complete a degree or certificate.
Office of Early Childhood Education and Office of CTE (school district)	The Office of Early Childhood Education at the School District of Philadelphia supports and the Office of CTE provides Perkins funding to the Parkway West program.
WorkReady (city)	The WorkReady program, run by the Philadelphia Youth Network (PYN), helps teens and young adults engage in meaningful summer employment. PYN provides dependent and/or at-risk youth and young adults with a six-week summer employment experience. These experiences provide 120 hours of workforce preparation services and career exposure to the most vulnerable youth. The program is funded through public and private investment.
Educational Improvement Tax Credit Program (state)	Children’s Village applies for and receives Educational Improvement Tax Credit funding. Since 2001, Pennsylvania’s program has allowed businesses and individuals to lower their tax bills by donating to scholarship organizations and other educational enrichment initiatives.
Aspiring to Education (state)	The Pennsylvania Department of Education has awarded \$490,000 to West Chester University and six other partner universities and organizations as part of a new initiative with the School District of Philadelphia to cultivate and diversify the city’s educator pool.
Philadelphia Works (city)	Philadelphia Works, the City’s workforce development board, provides funding to train, recruit, and retain workers, including through apprenticeships.

Endnotes

ⁱ A CDA is not an Associate's degree (despite the title), but is a foundational industry-recognized professional credential and certification of ECE skills.

ⁱⁱ Through this scholarship program, the state of Pennsylvania provides funding to cover tuition and books for credit-bearing courses, travel stipends to get to class, and paid release time from work to attend classes, study, and handle personal needs. Students gain college credits and a stipend or a raise that employers are required and incentivized to provide. This scholarship requires that students remain working in the industry for at least a year after completion of the scholarship.