Honoring the Power of Place: Rural Educator Development in Early Childhood & Elementary Education Using a Childcare Apprenticeship Model

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Abstract

While historically aligned to skilled labor and trades, and unlike many European nations, apprenticeship models in the United States have long existed outside the realm of university teacher preparation programs and other professions requiring four-year degrees. With threats of increasing childcare options, teacher shortages and difficulty in teacher recruitment, particularly in rural areas, a national spotlight now shines on apprenticeship programs, a "place-based" or "working-integrated" educational approach that occurs in the community childcare centers and schools. The authors explore the critical need for high quality early childhood educators and the many challenges and barriers impacting individuals and rural communities invested in high quality early childhood education. Several place-based models of apprenticeship will be explored with particular emphasis on the Apprenticeship Program at Carlow University, the first four-year Department of Labor approved program in Pennsylvania.

Keywords: *place-based, early childhood apprenticeship, rural education, teacher preparation*

Introduction

According to the US Department of Labor (2022), registered apprenticeship (RA) programs provide many benefits: skilled workforce, improved productivity, reduced turnover, customizable training, retain greater percentage of workers, and increase workforce diversity. With roots in skilled labor, apprenticeship programs have grown across many fields: transportation, telecom, hospitality, healthcare, information technology, energy, financial services, manufacturing, construction, and cybersecurity. "RA programs are typically sponsored by an employer or group of employers, labor–management organizations, industry associations, or an intermediary such as a community-based organization or community college" (Rolland, 2015, p. 2) Programs can be primarily course-based with minimum hour requirements or competency-based and evaluated by performance is supervised apprenticeship program. Given the wide range of occupations utilizing an apprenticeship approach, program time varies significantly (Rolland, 2015). With over 800,000 recognized apprentices operating in the country, interest in the model is growing across professional fields.

Brief History of Apprenticeship

The history of apprenticeship reaches back to the Middle Ages and gilded craftsmen and includes indentured relationships used in Colonial United States. After the Industrial Revolution, the relationship with apprenticeship models expanded to accommodate union engagement and then

interest from US political forces for a highly skilled labor popular to support war efforts (Jacoby, 2001). In 1937, the Registered Apprenticeship Program was codified in law as the Fitzgerald Act (Apprenticeship USA, n.d.), but apprenticeship as a concept remained aligned with trade and vocational positions and not professional degree "white collar" positions. In much of the late 20th century, apprenticeship models, associated with vocational programs, fell out of favor in the American educational system, a system hyper-focused on a more traditional collegiate pipeline (Ferenstein, 2018) and elite institutions of higher education. Institutions of higher education have historically watched apprenticeship from the sideline, only recently collaborating in the practice of developing programs in collaboration with State legislators, The Department of Labor, or school districts experiencing teacher shortages. The inclusion of higher education into the apprenticeship landscape stands to strengthen career progression and upward social mobility for individuals if barriers for university engagement are addressed (Anderson et al., 2012) and true collaboration is valued and respected by workforce partners and Universities which leads to "co-designed models" (Bravenboer, 2016).

European Connection

Many European nations are historically heavily invested in apprenticeship programs with substantial financial commitments and a deep cultural respect for connecting school to work practices (Alliance for American Manufacturing, 2019). Switzerland is lauded as "the gold standard of vocational learning, where roughly two thirds of higher education students work and learn at the same time, graduating with little to no debt" (Ferenstein, 2018, para. 6). The Swiss model of vocational education and training (VET) is integral to the design of secondary school and University preparation, and hailed by industries, from high-tech to trade, as fundamental to a qualified workforce. Adolescents ages 16-19 choose from hundreds of paid internships/apprentice opportunities which seamlessly transition to full-time employment opportunities or further educational pathways (Ferenstein, 2018). Nationally, Swiss invests one percent of its GDP to support VET in 200+ different apprentice programs, with most funding for paid apprentices coming from the employers themselves (Swindal et al., 2019).

Apprenticeship in Education

Over the last ten years, challenges in teacher recruitment, teacher shortages, teacher diversification, and pay equity have taxed US school districts and State Departments of Education and reignited interest in "Grow-Your-Own Programs" and apprenticeship models. In a jointly released memo, United States Secretary of Labor, Martin Walsh, and United Stated Secretary of Education, Miguel Cardona (2022), outlined their case for State adoption of Registered Apprenticeship Programs (RAP) to address pressing teacher shortages, particularly in high-demand disciplines, and to ensure teacher candidates are not strapped with crippling debt from pursuit of their degrees with teacher certification. "Two of the most important actions states and districts can take to address these challenges are to provide affordable high-quality pathways into the profession and to ensure that the teaching" (Walsh & Cardona, 2022, para. 2).

The Secretaries outlined various recommended funding mechanisms sources, many federal, to fund programs and address pay equity, particularly for teacher assistants and paraprofes-

sionals who constitute a large portion of the potential teacher pipeline. Secretaries Walsh and Cardona (2022) further request enhanced collaboration with workforce organizations and educational systems as seen in comparable international models.

Programmatic Expectations

Apprenticeship programs in teacher preparation are typically designed with programmatic expectations aligned to traditional teacher preparation programs; these include robust coursework, extensive practicum experiences, and identical student teaching requirements to those pursuing traditional routes of certification (Office of Apprenticeship, n.d.). Differences are noted in course delivery, with some on-on-the job classes offered, course offerings adjusted for working adult schedules, and on-the-job student teaching opportunities. In fact, apprenticeship programs, by design, provide for even greater "preservice" teacher experiences and practicum hours with an employment component.

It is only recently apprenticeship programs and alternative teacher certification have been posited to address the growing teacher shortage. Educator apprenticeship programs differ significantly from alternative routes. The latter usually involve less time in coursework and abbreviated or limited practicum or student teaching requirements. In some States, Pennsylvania being one such example, candidates in alternative certification paths take a different exam than traditional candidates. Other alternative certification pathways are orchestrated and governed by entities outside of university-based and State-approved teacher preparation programs. Approximately 18% of teachers entering the teaching profession completed an alternative certification pathway in 2015-2016 (National Center for Education Statistics, 2022). Participants in alternative routes experience greater turnover and are more likely to leave the teaching profession before five years (Center for Great Public Schools, 2019). Additionally, academic performance of PK-12 students may suffer under alternatively prepared teachers (Helig & Jez, 2010). However, alternative certification programs do tend to enroll a greater number of diverse candidates (National Center for Education Statistics, 2022).

Apprenticeship programs do not seek to circumvent robust coursework, extensive practicum experiences, or student teaching requirements. Instead, they directly address barriers for degree completion and teacher certification while engaging with individuals in the schools, classrooms, and childcare centers where they already work. Apprenticeship programs, by design, are centralized in community-based paid employment. Individuals already working in educational settings can immediately apply theory to practice and draw upon a wealth of scaffolded experiences to reinforce their learning. More pedagogical skills training coupled with intensive clinical experience leads to greater job satisfaction, longer tenures in employment, and greater academic benefits for students (Ingersoll et al., 2012).

Need for Apprenticeship

The pre-apprenticeship and apprenticeship model of teacher preparation can uniquely serve rural communities with individualized supports, place-based learning, mentorship, and coursework offered on-location and online. While challenges abound in the recruitment and retention of highly qualified educators in rural America, one approach, an apprenticeship model of educator preparation for early childhood and elementary education, has the advantage of simultaneously addressing another critical issue facing rural communities: a severe lack of childcare options. Sixty percent of

rural families face a child-care desert, defined as three or more children in need of placement for every childcare slot (Joughin, 2021). Accessible childcare also supports rural workforce development.

Challenges in Childcare and the Importance of High-Quality Early Education

Childcare in the United States is a multifaceted and complex system with intersecting dynamic factors. These factors overlap and influence one another; quality of care is directly influenced by the quality of personnel, and personnel quality is directly influenced by degree attainment.

Researchers overwhelmingly suggest that investing early pays off later (Borkholder, 2021). High quality childcare positively impacts a child's overall school readiness. This is particularly true for the racial gap in reading. Children who had access to quality preschool have a better chance of graduating from high school and going to college (Meloy et al., 2019). Children in high-quality care environments show more advanced language skills, do better in school, and have fewer behavior problems and better social skills. "Emotional well-being and social competence provide a solid foundation for emerging cognitive abilities, and together they are the bricks and mortar that comprise the foundation of human development," (Center on the Developing Child, 2015, para. 4). Quality of care is directly related to highly qualified educators who "use a developmentally appropriate program and provide adequate learning time for students" (Meloy et al., 2019, para. 7).

For many Americans, finding licensed childcare options is difficult. "As of 2018, half of Americans were living in a childcare desert with only one available childcare spot for every three children in need of care" (Joughin, 2021, p. 1). This is further exacerbated in rural areas, though suburban and urban areas remain negatively impacted. Childcare needs are directly related to workforce needs. Between 11 and 15 million families in the United States require childcare to maintain employment. Childcare options are even more limited for individuals who work "off-hours" after school, evenings, and weekends; these times are needed for those who work in service industries and in medical fields. With the cost of infant and toddler care two and a half times that of preschool age children, many centers struggle to provide childcare options for children one month to age three (Gibbs & Malik, 2022).

Staff turnover is greatest in centers with low wages, and low wages are the norm, not the exception. Childcare workers are among the most poorly compensated of all entry level professions (Porter, 2012). In the *Occupational Outlook Handbook* published by the Bureau of Labor Statistics (2022), the median pay was $13.22 an hour with an expected 150,000 open positions a year for at least the next ten years. Federal estimates of average hourly pay are $11.52 (Bureau of Labor Statistics, 2022).

Most educators in early childhood education are women, and almost half are women of color (McLean et al., 2021). "Early educators of color are more likely to be at the lower end of the wage continuum, even when controlling for education level" (Joughin, 2021, Section III). The COVID 19 pandemic only exacerbated personnel issues (Nestor, 2020). State and federal efforts to address tuition subsidies create a greater need for more qualified educators. The career lattice in childcare requires advanced education and a bachelor's degree in education. Without opportunities for advancement, many stay trapped in poverty wages or leave the field after a few years. As a result, there is a direct connection between high turnover and low-quality centers. Some highly rated centers use a system called *Continuity of Care*. Early childhood educators stay with

their assigned children despite changes in the age of children. This "looping" style means educators move with their children as they advance in age/grade, thus providing consistency in the adult-child relationships over several years in care (McMullen, 2018).

There is a direct connection between quality of care and health benefits, the latter of which directly impacts communities and families. According to Gibbs and Malik (2022), high quality childcare creates opportunities for early health screens, behavioral assessments, and sharing of nutritional information with parents.

In place-based apprenticeship programming, these needs are highlighted, and programmatic or curricular implications discussed with real-life application. Childcare remains a largely privatized venture, and in many states, an unregulated one. Even in states like Pennsylvania with regulatory protections and quality standards, operating high-quality childcare with appropriate teacher/child ratios is not a sustainable business model. This is especially true when equitable compensation for teachers is considered. The cost of care is then passed on to families and cannot be sustained.

According to Malik (2021), on average, childcare costs for a family with two incomes and two young children is 11% of take-home pay. Single parents pay upwards of 40% of their take-home pay for childcare for two children. Proposed federal legislation in the *Build Back Better Act*, had it passed, would have provided universal preschool for children ages 3-4 and a "…a sliding scale limit on childcare costs for families" (Malik, 2021, Potential Weekly Childcare Savings Section). "In 32 states, a typical family would save more than $100 per week on childcare" (Malik, 2021, Potential Weekly Childcare Savings Section). Greater federal or state investment in childcare subsidies will create a greater demand but with continued limited childcare options.

Most childcare centers and home-based service providers are tuition dependent entities that operate under a complicated funding formula for state aid. Tuition subsidies are income dependent. In Pennsylvania, the quality system provides One (lowest) to Four (highest) STAR ratings. Centers must have a STAR Three or Four rating to qualify for competitive slots with *Head Start* (funded by the PA Department of Human Services) or *PreK Counts* (funded by the PA Department of Education). Qualified educators with bachelor's degrees in education are one critical piece to the STAR rating system. *Head Start* and *PreK Counts* serve preschool age children. However, funding for *Head Start* and *PreK Counts* only covers 180 school days and requires at least five hours of instruction using specific instructional techniques. The reimbursement rate, per child, is $9,200 for *Head Start* (100% below poverty rate) and $8,500 (300% below poverty rate) for *Head Start* (Moran et al., 2017). Centers with greater stability tend to offer the highest quality care through a blended model of Head Start/PreK Counts and private pay options.

The care of infants and toddlers is two and a half times the expense of PreK aged children (three and four years old) as outlined in the Moran et al. (2017) report, *Childcare Funding and Finance in Pennsylvania*. "Current revenue streams and reimbursement rates are inadequate to support the care of infants and toddlers. In Pennsylvania, reimbursement rates for *Child Care Works* (CCW), the only revenue stream that funds care for low-income infants and toddlers, are often inadequate to cover the actual cost of care. Even with tiered reimbursement rates, all providers in our sample brought in less daily revenue per infant than they spent daily on the average infant's care. For every infant served, centers in our sample face a shortfall of more than one-third – 38%" (Moran et al., 2017, Findings Section). These braided revenue streams (private pay, public subsidies, private contributions) and tuition dependent models fall to Center Directors to coordinate and manage, most of whom have backgrounds in education and not business.

One of Pennsylvania's early childhood University apprenticeship models, as described below, directly addresses three of the dynamics impacting the childcare system, and by extension, this model has the potential to positively impact a fourth factor—the number of childcare centers/childcare options for families. In most childcare centers, minimum qualifications for employment as an assistant teacher or paraprofessional are a high school diploma and nine education credits which comprise the Child Development Associate (CDA) credential. Being a lead teacher usually require a bachelor's degree, especially in PreK Counts and Head Start Programs. Early childhood and elementary educators are required to have a four-year degree with teacher certification. Educational requirements for teacher assistants or paraprofessionals vary slightly among districts and States. At a minimum, a high school diploma is typically required. In some instances, employment contracts include additional coursework or professional development training. Teaching assistants working in special education may need additional specialized training or certifications, particularly when working with children with autism or emotional/behavioral disorders.

Teacher Recruitment and Teacher Shortages

The difficulties of teacher recruitment and retention in rural communities is well documented; recruitment is made difficult with isolated locations or less educator pay, and rural schools have higher rates of teacher turnover (Azano et al., 2020). Recruitment has been further exacerbated with the overall decline in the number of State-issued teacher certifications, and the significant decline in those interested in pursuing teaching as a career since 2010. Teacher shortages are especially marked in special education, STEM disciplines, and foreign languages (AACTE, 2022). Teacher education programs are faced with enrollment gaps and resulting financial constraints while districts are faced with shortages and critical unfilled positions taxed with a lack of qualified substitute teachers. In response, many States have adopted measures meant to reduce barriers to program completion including eliminating the standardized exams for program admission or certification (Will, 2022). Other States have provided other measures of achieving passing scores by using sliding GPA scales or portfolio-based review when teacher candidates initially fail content certification exams within certain parameters (Will, 2022).

One critical reason for the decline in those pursuing education as a career or remaining in the teaching profession is stagnant educator wages and the lack of professional respect for teaching as a profession, both of which result in high teacher turnover. The latter was exacerbated by the pandemic and political divineness that defines many State and local Boards of Education (Knox, 2022). Known as the "pay penalty," teachers earn significantly less than their college-educated peers, on average 23% less, with the weekly wage gap flat for 25 years (Allegretto, 2022). As college and University tuition has risen, wages remain stagnant and make debt repayment more difficult.

However, using an apprenticeship model, existing childcare workers and educator paraprofessionals are not recruited from outside rural districts but engaged in areas where they are already part of the fabric of rural communities. This provides a unique opportunity to use place-based pedagogy in an apprenticeship model of professional educator development. This model honors the experiences of those already working with children and supports on-the-job learning connected to college credit. In doing so, educational services are brought into the community, not offered separately from it, and barriers to degree completion are tailored to support individual students. In addition, combining best practices in online platforms, and using existing Wifi and

technology supports within childcare centers and schools, University classes and coursework can be delivered in the environments where aspiring teachers work.

Strengths-Based Rural Education

Despite the challenges in rural educational models, rural schools and childcare centers have discernable strengths in their "centrality to community life and their ability to engage families" (Redding & Walberg, 2012, p. 4). Apprenticeship models of teacher certification build upon these strengths and ground theoretical coursework in local understanding. From here, a broad national and theoretical understanding can be extrapolated. An apprenticeship model provides prospective teachers authentic experiences grounded in "place-conscious instruction," which serves to honor how students learn (Azano et al., 2020) and "to prepare citizens who understand their local lives and are thus prepared to participate in the democratic processes of its creation and sustainability" (Eppley, 2011, p. 2).

This honoring of professional experiences through an assets lens builds confidence and self-efficacy in adults pursuing undergraduate or graduate teaching degrees. For some, they are first in their family to do so. These individuals who are already deeply committed to the Education profession usually stay in their communities and experience greater career mobility and earning potential once they graduate. Part of the design of an apprenticeship program, apart from the constructs of paid employment while completing degree or certification requirements, must address and support the self-efficacy of those participating in the program, particularly as many apprentices have long-standing support roles rather than lead teacher positions and have been in a deferential position under the authority of lead or veteran licensed teachers (Lazarides & Warner, 2020).

Undergraduate teacher education programs are designed for traditional full-time (on-campus) students with courses and practicum work scheduled during the day. Most state licensing protocols require a minimum of 12 weeks of student teaching under the direction of a licensed teacher. Leaving employment for even one month is not a financial reality for most individuals employed in a childcare center or working as a paraprofessional or teacher assistant. The apprenticeship model addresses these barriers and uses a personalized system of mentorship, coaching, and on-the-job classes.

Apprenticeship Models

Apprenticeship programs are historically aligned to skilled trades, but some States are experimenting with apprenticeship models of teacher preparation codified by State governor offices and legislatures. Tennessee is notable for their full-scale approach to K-12 models of apprenticeship teacher training (White & Garcia, 2022). Austin Peay State University in Clarksville, Tennessee in partnership with Clarksville-Montgomery County school district, have been operating their "Grow Your Own" program since 2018 (Will, 2022). It was formally registered as an apprenticeship program in 2022 with Tennessee's adoption of a Registered Apprenticeship Program. Prospective teachers without a bachelor's degree attend classes at a local community college (free in TN), and then complete coursework for certification at Austin Peay. Apprentices remain employed throughout completion of the three-year program at Clarksville-Montgomery County as a teacher assistant and commit to three years of employment with the school district upon completion of the program. Wrap-around supports include in-school mentorship, provided textbooks, and funding

for certification exams (Will, 2022). This model maintains robustness of teacher education program expectations intact while offering opportunities for employment and support for degree completion.

Additional States have followed suit to formalize Registered Apprenticeship Programs: Arkansas, Colorado, Iowa, Kansas, New Hampshire, Texas, and West Virginia (Will, 2022). The West Virginia model targets recruitment of high school students. Titled, The Pathway to Teaching Initiative, this model is being piloted in several counties. While in high school, students complete a sequence of Advanced Placement (AP) or dual-enrolled college courses provided free of charge by the State of WV. Once in college, students enrolled in the program complete paid internships or practicum experiences while taking coursework. Student teaching is replaced with a year-long employment contract in a participating school district where collegiate seniors serve as teachers of record.

According to the World Population Review (2021), WV ranks number three of most rural States in the United States. With historically low teacher wages, and highly competitive teacher markets in surrounding States, it is expected this new model will offer incentive to high school students to take an interest in education, accumulate little to no debt, and remain in West Virginia in teacher positions.

The WV model also addresses the very real issue of declining interest in teaching as a profession among adolescents. With fewer high school students interested in teaching as a profession, citing pay as their number one reason (Croft et al., 2018), this model seeks to engage high schoolers in the profession early and connect payment to field experiences. These models of extensive work practicum support and extended teaching experiences mirror the push for year-long teacher residences. While most teacher residency models were built as no-pay for participating students (interns are not teachers of record), apprenticeship models marry employment with on-the-job student teaching (Alliance & Teach, 2022).

When states adopt an apprenticeship model, additional funding sources become available via the Department of Labor. Like childcare funding, braided funding support from Title II of ESSA funds can be combined with Individual with Disabilities Act funding, available ESSER funding, or private philanthropic dollars to support the design and implementation of these innovative models (Will, 2022). In their joint memo, the US Secretary of Labor and the US Secretary of Education advocate for aggressive use of federal monies, particularly Workforce Innovation and Opportunity Act (WIOA) Title I funds (Walsh & Cardona, 2022). In their book, *In Search of Deeper Learning: The Quest to Remake the American High School*, authors Jal Mehta and Sarah Fine (2019), define successful programs as those which elevate and honor student voice and choice, develop a sense of community, and engage students in apprenticeship. While typical US apprenticeship programs target adults (age 30), high school programs, like European models, provide a connected career pathway in teaching (Seleznow & Ford, 2016). Using the College-in-High School model, high school students can earn nine college credits in Education courses. These nine credits in Education fulfill the child development associate certificate (CDA) required to work in a childcare center. Rising Stars Tuition Assistance Program supports individuals in fulfillment of their CDA while employed in licensed child-care centers.

Spotlight on Carlow's Apprenticeship Program

Pennsylvania has been recognized for its pioneering apprenticeship work in early childhood education (Tesfia, 2019). Carlow University's early childhood education program was the

first Pennsylvania four-year apprenticeship program licensed by the Department of Labor in 2019. Carlow University is in the Oakland neighborhood of Pittsburgh, Pennsylvania in Allegheny County. The Apprenticeship Program has grown to include work with 63 childcare centers across a six-county region, much of it rural. In PA, grade band certification for early childhood education spans PreK-4th grade. In 2018, a grant from Office of Child Development and Early Learning (OCDEL) to the Education Department at Carlow allowed for engagement with childcare centers to better understand barriers to degree completion impacting employees deeply committed to the education profession. Many of these individuals had completed some college coursework (12-24 hours) but could not afford to return to school while continuing to work full-time. Most were parents with significant family obligations. Identified barriers were limited financial resources, traditional college schedules conflicting with work, access to technology and high-speed internet, navigating systems in higher education, childcare, and beliefs of their own aptitude. For those wishing to complete teacher certification, taking a semester off from employment for student teaching was an improbable situation.

There are multiple points of entry to the apprenticeship program at Carlow University. Apprentices may begin as traditional freshmen who completed a pre-apprenticeship/college-in-high school program or as transfer students, with or without an associate degree. Beginning with students ages 16-19, Carlow University's model includes the College-in-High School program where high school students remain in their home school and complete college coursework as part of their high school day with an approved instructor. Some high schools utilize the Career and Technical Education (CTE) model and engage high school students in on-site childcare centers. CTE courses then transfer to Carlow University via articulation agreements at program completion. A third model allows high school students to intern at the Carlow University's Child Care Center or PreK Program one day a week and complete coursework in Education on the University's campus with Education faculty. In these instances, the partnering high schools have established internship programs and provide transportation for students to and from campus.

Carlow University's apprenticeship program provides a pathway for individuals employed at least 25 hours a week in a licensed childcare center to complete a bachelor's degree in Education. Undergraduate apprentice students at Carlow pursuing Education choose one of three majors:

- Early Childhood Education leading to PreK-4th grade certification
- Early Childhood Education leading to PreK-4th grade certification with Special Education PreK-12th grade
- Early Development and Learning

The Early Development and Learning (EDLE) major was designed for aspiring educational professionals who wish to work with children or adolescents in childcare centers or out-of-school learning/nonformal environments. Graduates go on to serve as Center Directors, After-School Directors, employees in non-profit educational organizations, or in community-based professional organizations. The EDLE major focuses on child and adolescent development and psychology, fostering parent and community engagement, and effective instructional practices and program design.

Carlow Apprenticeship students are provided specially discounted tuition aligned to the state Professional Development System (PDO) and community college rate; apprentice students tuition rate is $322.00 per credit. A designated financial aid officer works directly with apprenticeship students to complete the FAFSA and secure federal financial aid via Pell and PHEA grants.

Remaining tuition costs are then applied to PDO funding resulting in little to no cost for students. Multiple entities across campus advocated and secured this discounted rate for apprentice students. Drawing upon the University's mission and social justice philosophy, the adjusted tuition rate was formally adopted in spring of 2020 and serves as a model for other private institutions across the State. Funding for other components of the apprenticeship model, including the dedicated personnel and Apprenticeship Program Director are split among grants and endowments provided by private Foundations committed to supporting high quality early childhood education and the professionalism of those employed in the field.

Additionally, the apprenticeship model provides a yearly lending library of books and financial support for certification exams. It is expected that students will graduate with little to no debt. All apprenticeship students receive a Carlow mentor, a support person who meets frequently with students, monitors progress, coordinates support services, provides feedback on coursework, and offers encouragement throughout the year. The mentor connects students with tutoring services, mental health services, or library support as needed. At the beginning of the program, weekly check-ins and more intrusive advising allows mentors to address concerns before they become larger issues. The connection with mentors fosters professional and personal growth, and these relationships, coupled with relationships in the cohort of apprentices working in the same childcare Centers or elementary school programs, builds professional learning communities. Apprentices, in turn, uplift and support one another just as highly effective teacher networks do in schools as part of their involvement in professional organizations and professional learning communities (Higgins, 2016). This builds beliefs in the ability of apprentices to complete degree requirements and maintain or gain employment as teachers. Mentors also connect apprentice students with technology access, offering a personalized option of support. For some students without an iPad or laptop, Carlow's apprentice program provides portable keyboards attached to an iPhone. Other students are connected to resources for high-speed internet access or hot spots. Center Directors encourage apprentice students to utilize their childcare, enter wi-fi to complete assignments and access the University's learning management system.

Twenty-four college credits in Education are completed on-the-job in the apprenticeship model. Apprentice students must earn 120 credits for the bachelor's degree in Education. On-site coaches oversee application of theory to practice in on-the-job courses. Also known as 'work integrated learning', immediately connecting theory to practice, in this case via employment in an educational setting, deepens an understanding of a teacher's multiple roles, particularly their own knowledge of self and culture, thus promoting self-efficacy and enhancing understanding of rural community strengths (McArdle 2010).

Other general studies coursework and Education coursework for apprenticeship students is tailored for working adults by online and evening course offerings. Coursework taken by apprenticeship students is identical to coursework and State competencies completed by any other student pursuing an education degree or teacher certification. Beyond the main campus, Carlow University operates two centers, one in a rural county, where in-person classes are scheduled, easing transportation concerns. Carlow's apprenticeship model operates in six counties. Half of apprentice students identify as living and working in rural communities.

Apprentice students enrolled in the Early Childhood major leading to teacher certification at Carlow University complete a month-long paid practicum in elementary grades outside of their Center as part of their methods coursework to ensure robustness of experiences in primary grades as a compliment to the extensive practicum experiences working with children ages two through six. Apprentices then complete student teaching in their childcare Centers under licensed teachers

while maintaining their employment status. As part of the apprenticeship models, all participating childcare centers or elementary schools are offered free and accessible professional development. This professional development is personalized and offered on-site when Carlow faculty or staff travel to childcare Centers, or it is offered online in an accessible platform. This addresses a critical difficulty in rural school districts, coordinating high-quality professional development (Lavalley, 2018). A grant-funded scholarship program provides tuition for eight Center Directors a year to complete their graduate-level Early Childhood Supervisory certification for PA.

Apprenticeship models can serve as catalysts for teacher diversification efforts. Twenty five percent of all enrolled apprentice students in early childhood education at Carlow University are members of a racial or ethnic minority. The apprenticeship model was applied to the Para2Teacher model with Pittsburgh Public Schools when Carlow University responded to a Request for Proposal (RFP) for university partners. As described on the Pittsburgh Public Schools (PPS) (2020) website, "This partnership will support our efforts to increase the diversity of our teacher workforce through growing our own – those paraprofessionals who already work to support our students every day" (para. 2). School district personnel, after a competitive application process, selected 22 paraprofessionals, 95% of whom represented racial minorities, with earned bachelor's degrees to complete their master's degree leading to State certification in early childhood education, special education, or secondary education. Participants were provided scholarship support throughout the two-year program, and the district kept all paraprofessionals under full-time employment (providing their salary and holding their position) during a semester-long student teaching. All graduating paraprofessionals agreed to a two-year employment commitment with the district, and the district gives preferential hiring. Most participating paraprofessionals selected special education for their discipline having worked for years in special education classrooms supporting children and adolescents with disabilities.

With an average age of 34, current undergraduate early childhood apprentices at Carlow University have a range of life and professional experiences from which to draw. Honoring these lived experiences provides an example for aspiring teachers so they may honor the same in the children with whom they work. Teacher preparation at Carlow emphasizes culturally responsive and developmentally appropriate teaching practices with an intentional focus on supporting and nurturing children from urban, suburban, and rural communities. Using a strengths-based lens, coursework is scaffolded with increasing application of community-based and family engagement strategies. Special program emphasis is placed on professionalism in the field of Education, especially the work of teachers in classrooms with young children, a profession often disparaged or disregarded as little more than babysitting (Harwood & Tukonic, 2016).

Carlow's Apprenticeship Program grew at a rapid pace between 2020 and 2022. Interestingly, an unexpected barrier was illuminated as more interested individuals made inquiries and applied for program admission. Collegiate applications require copies of transcripts from other higher education institutions where any coursework was completed. For some individuals, transcripts from other schools were inaccessible because of financial holds for outstanding balances regardless of circumstance or the number of years passed between attempts at collegiate coursework. As with so many others, challenges in work-life-school balance continues to be a barrier for apprenticeship students, and post-pandemic, there is an increase in self-reported mental health struggles and financial concerns against a backdrop of inflation and higher interest rates.

Rural Educational Considerations and the Power of Place

Across the United States, half of all school districts, one-third of schools, and one-fifth of students are rural (Lavalley, 2018). In PA, according to the Center for Rural PA (n.d.), A legislative agency of the PA General Assembly, "There are 48 rural counties and 19 urban counties in Pennsylvania. In 2020, nearly 3.4 million residents, or 26 percent of the state's 13.0 million residents, called these rural counties home. At the school district level, 238 of the state's 500 public school districts are rural. During the 2020-2021 school year, 374,732 public school students attended schools in rural districts, or 25 percent of the state's nearly 1.41 million public school students" (Center for Rural PA, n.d., Applying the Definition Section). Rural communities experience deep and generational poverty at a rate greater than urban counterparts (Lavalley, 2018). "This poverty contributes to lower educational attainment in rural schools. Only one in 10 people from low-income families attain a bachelor's degree by the age of 25" (Gutierrez, 2021, p. 1). Inequality in teacher salaries, particularly marked in unpopulated areas with little tax base, and transportation challenges make teacher recruitment and retention especially challenging.

Apprenticeship Education models provide unique support for rural community development. With the linkage between workforce and childcare and education (National Library of Medicine, 2011), apprenticeship models directly respond to local needs and rural community investment. School-based programming for students can serve as a catalyst for community growth. Schools serve multiple functions within rural communities, and apprenticeship models open possibilities for high school students and community members interested in participating in the education profession.

Vander Ark et al. (2020), authors of The Power of Place: Authentic Learning Through Place-Based Education, centers place-based learning at the heart of creating equitable learning environments responsive to individual student needs and experiences. Place-based instruction combined with workplace learning is a uniquely situated design which allows participating students/apprentices to strengthen their own networks and build social capital.

There is a collective rather than individualistic ethos found in place-based learning. Such an approach centers apprentices learning in the context of networked communities and deepens understanding of systems on how educational, political, legislative, non-profit, and financial systems operate in a collaborative but often competing way.

Apprentice students are engaged in the Education profession, but they develop a broader view and more intimate understanding of how educational decisions are made, policies determined, and funding allocated when theoretical understanding is connected to lived professional experiences grounded in the communities where they live and work. In this way, Carlow's Education Apprenticeship Program invites apprentice students to participate in State-level convenings, advocacy engagements, and professional development during their time in program and beyond. Being situated in a "place" can provide a grounding and security needed to engage in other spaces and places where educational decision-making happens.

The idea of what it means to be a student in the University is also adjusted in this new paradigm. Carlow's Apprenticeship Program brings the University to the student "place." Special care is made to connect the identity of apprentice students to one of membership in the Carlow University community. On-the-job coursework occurs in childcare centers. Assigned mentors visit Centers and conduct meetings electronically. Coursework tailored to working adults occurs online in the evenings, mostly synchronously. Apprentices are likely to attend a function at one of Carlow's campuses only one or two times throughout their tenure in the program. However, belonging

can happen in communities of learning without being physically present, and fostering belonging is essential in building cohorts of apprenticeship students and increasing their self-efficacy.

Conclusion

The aim of an educator apprenticeship program is the development of a high-quality educator, who, in turn, will positively impact the lives of hundreds of students in our rural communities. A skilled and highly qualified compassionate teacher can positively improve student achievement outcomes more than any other factor (Darling-Hammond, 2000). A high-quality apprenticeship program can positively impact the lives of educators by providing wrap-around supports and a financially accessible pathway for degree completion and teacher certification.

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