



# Reimagining Partnerships in Higher Education

TO ADVANCE INNOVATIVE EDUCATIONAL PRACTICES

**Keely Baronak, EdD**  
Chair, Education Dept.,  
Carlow University

**William Baronak, EdD**  
Associate Professor,  
West Liberty University

**Jim Denova, PhD**  
Consultant for Special  
Projects, Intermediate Unit 1



**INTRODUCTION:**

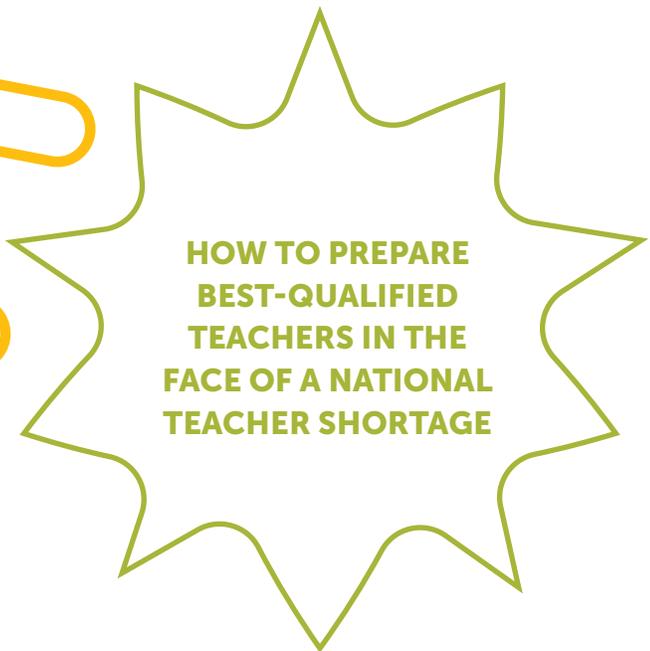
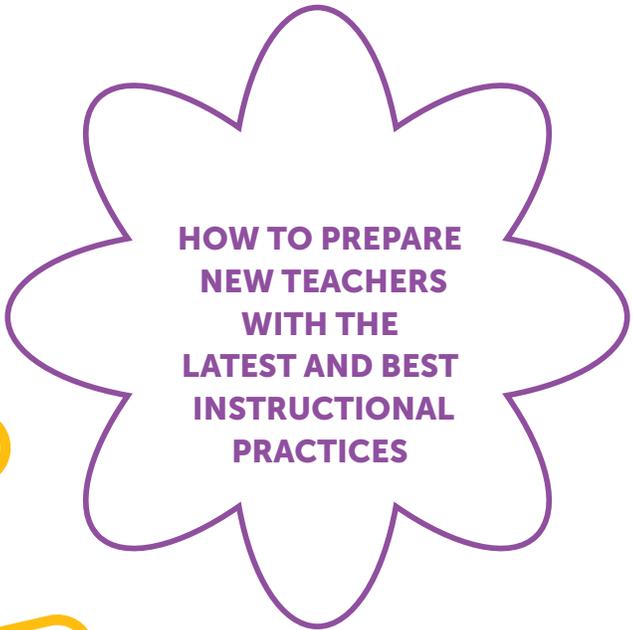
# The Challenges



There is abundant research focusing on what makes a difference in student achievement; it is clear, that the single most important determinant of student learning is what teachers know and how they effectively convey materials to their students. Teacher qualifications, knowledge, and skills make more difference in student learning than any other single factor (Darling-Hammond, 2001).



**MAKING SURE PUBLIC EDUCATION IS STAFFED BY HIGHLY QUALIFIED TEACHERS IS A DAUNTING TASK, AND TEACHER PREPARATION PROGRAMS FACE SIGNIFICANT CHALLENGES:**



As Remake Learning has revealed in the past several years, innovations in practice have emerged from experimentation and peer learning among in-service educators (e.g., *Forging the Future of Learning and Learning Forerunners Across America* – publications, among others, available on [remakelearning.org](http://remakelearning.org)).

Too often, these practices were adopted after teachers enter the classroom. Their pre-service preparation incorporated evolving practices at a different pace than discoveries in the field. Traditional curricula, academic policies or procedures, and regulatory constraints from accrediting bodies have often delayed changes in teacher preparation – in effect, contributing to obsolescence that is corrected through in-service professional development. In addition, so much teacher preparation happens in academia and not in the hallways of schools with children.

One way to close the gap between preparation and practice is to advance innovative models which bring the best practitioners into a college classroom and bring pre-service candidates into real school environments earlier and longer in preparation for the challenges of their chosen careers. Much like the medical school model that introduces future doctors to clinical practices through observation, clinical rounds, internships, and residencies, teacher preparation can follow this same guided path to honing and perfecting the craft of teaching – a profession that calls for increasing skills in applying the science of learning, appropriately scaffolded instruction, a deep understanding of learning differences, patterns of learning loss and gains in different subjects, how to use assessment data effectively, and the interplay between emotional social development and learning.

Several models have been developed, tested, and implemented to close the gap in classroom preparation and practice for future teachers. The following sections will highlight some of the most promising models for integrating teacher preparation with the advances being tested and evaluated in the field: professional development schools (PDSs), laboratory schools, and apprenticeships/residencies. These are comprehensive models with several complementary elements. However, a few key components, often implemented independently,

will be discussed in additional detail: teachers/professors-in-residence, professional learning communities, and the inclusion of teaching artists.

The selected teacher preparation models are all heavily grounded in clinical experience, and, much like medical school training, “clinical” are extensive and involve a diversity of instructors and learning experiences. That said, the current national teacher shortage can be a counterforce calling for less rigorous, expedited pathways to putting teachers in the classroom. These challenges will be discussed throughout the document.

This playbook was designed as a resource for school district leaders, specifically superintendents and directors of human resources, and directors and Deans of teacher education programs across the region who might be considering more robust or innovative ways of conceptualizing educator preparation.

Yet, the playbook is accessible to anyone interested in teacher preparation and clinical practice. Some of the models have been used in institutions for years. Some of the models have evolved into a new form. The hope is to inspire new partnerships and ways of imagining across Remake Learning’s network.



# Professional Development Schools

The professional development school (PDS) is a learning community intended to close the conceptual and practical separations that tend to exist between teacher education and P-12 schools. The model calls for two core components: a close partnership between a P-12 school and a university teacher preparation program and clinical practice as the centerpiece of the teacher preparation curriculum (NAPDS, 2021).

Some teacher preparation programs have no clinical components or are clinically accompanied, meaning clinical practice is usually positioned as a capstone experience and detached from the rest of the educator preparation curriculum. The PDS model inverts this relationship of clinical practice to classroom learning (Yendol-Hoppey, 2018). The “clinically centered” core of the PDS model means that the P-12 setting is the laboratory for action research and training conducted by in-service educators in partnership with university faculty and pre-service teachers. This environment creates a rich learning laboratory for future and in-service teachers alike. Being practice-centered, the best PDSs have extensive and scaffolded clinical experiences. University faculty are present in the P-12 school and P-12 educators serve as master teachers with faculty status within the university (**SEE BOX 1 ON THE FOLLOWING PAGE:** teachers/professors-in-residence). Therefore, PDSs have often been referred to as the “teaching hospitals of professional education” (Levine, 2022).

To ensure and sustain the integration of university and P-12 systems, PDSs are guided by a shared governance structure that involves joint decision-making and leadership. Successful PDS governing structures call for participants to share responsibility, authority, and accountability in all aspects of program development and implementation (NCATE, 2010). This approach to shared responsibility also contributes to professional learning for all – not just preparing future teachers, but continuous improvement of P-12 teachers and faculty development for the

university partners. Everyone learning in a collegial, reflective environment avoids the divide between what is taught on campus and the innovations being tested in the field by practicing teachers.

In fact, PDSs are inherently innovative because the participants continuously look for ways to refine practice by examining the current context and needs of students, and examining how the design, implementation, and refinement of innovations influence teacher candidates and learners

(del Prado Hill, 2020).



## BOX 1

# Teachers-in-Residence/ Professors-in-Residence

The PDS model incorporates, as one element, shared instruction by classroom teachers and teacher preparation faculty. The Teacher-in-Residence (TIR) and Professor-in-Residence (PIR) component, however, has been instituted by some teacher preparation departments as a stand-alone program, yet one that remains focused on early and consistent clinical experience shared by higher education and P-12.

As stated above, many traditional teacher preparation programs are based on a theory to practice sequence. College students, teacher candidates, begin with coursework (the theory) taken at an institution of higher education, then are allowed to practice ideas learned in courses as part of structured field experiences. In these field experiences, teacher candidates are assigned to a specific teacher and school setting for brief periods of time. In TIR programs, P-12 teachers from the public education system join university faculty as full-time instructors, usually for at least a year, and are considered full partners in normal activities of university faculty, including the supervision of interns. The PIR approach mirrors this partnership: university faculty are released from higher education responsibilities to teach and mentor in a partnering P-12 school for a specified period (Simpson, 1997).

In both cases, the faculty exchange is introduced early in the college student experience to make clinical time a continuous process of honing the craft of teaching. This exchange also closes the gap between best practices in the field and the latest university research.



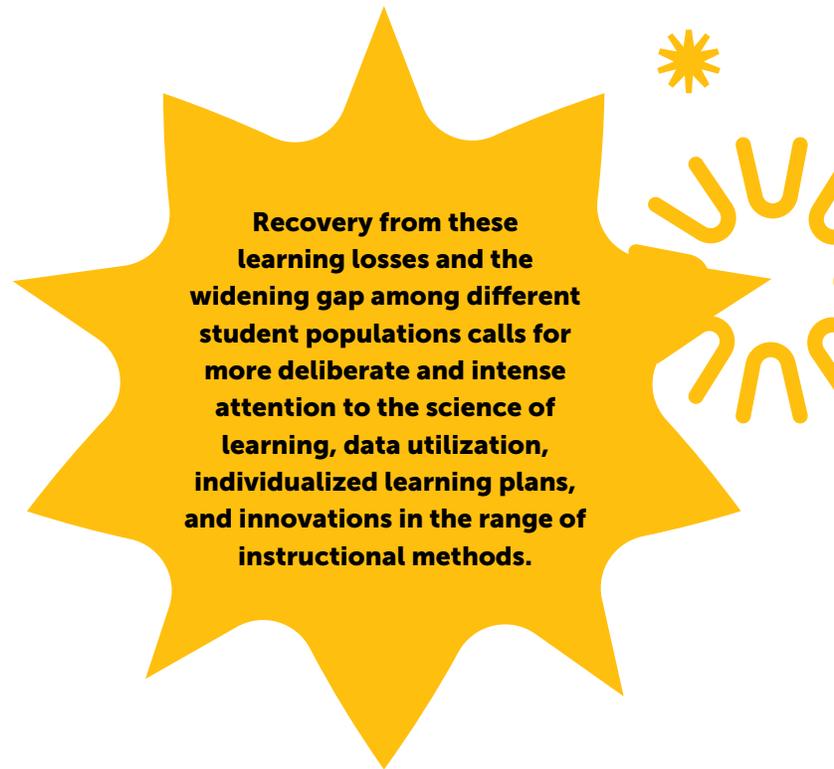
## **THE BENEFITS:** **Impact on Teacher Quality & Student Achievement**

PDSs grew out of efforts in the 1980s and 1990s to reform teacher education and to restructure schools. The Holmes Group, an organization of the deans of schools of education in research universities committed to the reform of teacher education, recommended in 1990 the creation of PDSs. By 2001, approximately 30% of the institutions accredited by the National Council for Accreditation of Teacher Education (NCATE) reported PDS partnerships. In the late 1990s, research on PDS effectiveness began appearing in the literature. Studies conducted in various partnerships using observational data, teacher competency test scores, and teacher attrition data suggest that teacher learning and retention are enhanced in PDSs. Similarly, studies began to show that student achievement, using a variety of measures, goes up in PDSs over a period of time (Levine, 2022).

In our own region, West Virginia University (WVU) launched a robust five-year PDS program in the early 1990s. The PDSs formed a network of 21 elementary, middle, and high schools designed to be: sites of best practice; centers of inquiry and applied research; and empowered communities in which PDS teachers, candidates, faculty, and parents actively collaborate on decision-making. Candidates progressed through 3 years of tiered clinical experiences (1,000 hours) and graduated with a bachelor's in a chosen discipline and a master's in education. In 2000, RAND conducted an evaluation that found that PDS completers had higher qualifications than non-PDS teachers and were highly rated by practicing educators and administrators. Graduates from WVU's five-year PDS program were actively sought for first jobs by Virginia, Pennsylvania, and West Virginia school districts. More noteworthy, students taught in PDS settings had higher standardized test scores, especially in math, than their peers in non-PDS environments (Gill & Hove, 2000).

This kind of progress in student achievement comes into sharp focus in the wake of learning loss due to COVID school closings. Eighth grade NAEP tests saw unprecedented declines in math (34% to 26% proficient) and reading (34% to 31% proficient). The performance gap widened for

lowest-performing students, low-income families, and families of color (Barnum, 2022). The recovery from these learning losses and the widening gap among different student populations calls for more deliberate and intense attention to the science of learning, data utilization, individualized learning plans, and innovations in the range of instructional methods. These are the same skill sets emphasized in the clinically-based PDS model.



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## **THE COSTS:** **Time & Resources**

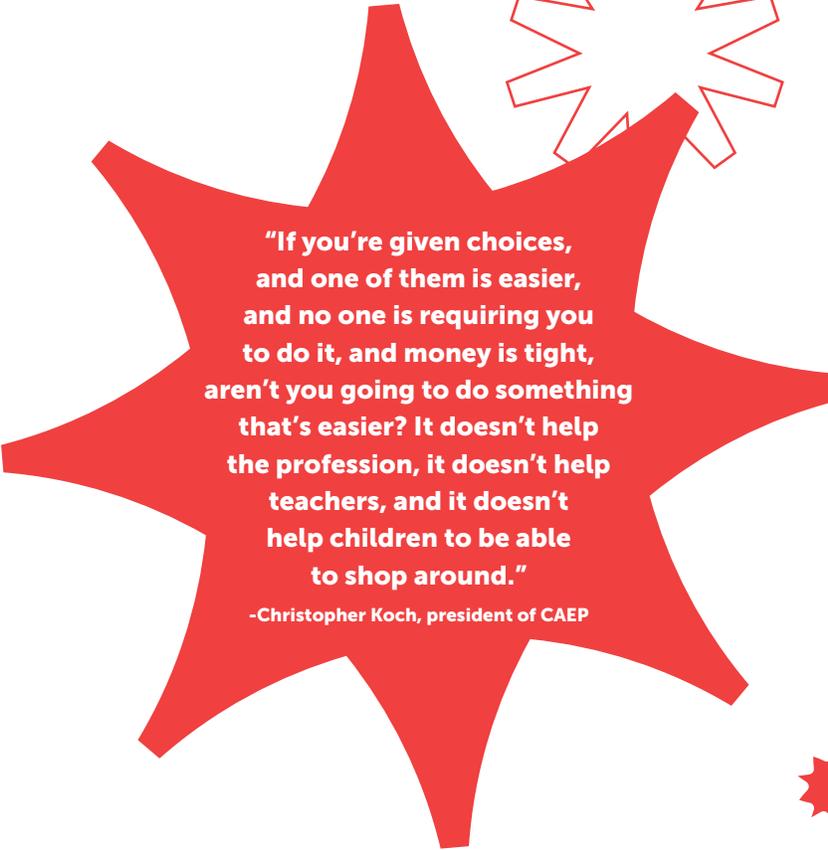
As noted, PDS partnerships, by design, call for changes in roles and responsibilities for classroom teachers and university faculty, and more extensive clinical time for teacher candidates. Both factors call for greater resources for teacher/faculty release time and a longer and more rigorous pathway to completion.

It is obvious that the shortage of qualified teachers tempts higher education institutions to forgo longer, more rigorous courses of teacher preparation, even to reduce the time to completion, to accelerate the placement of teachers in the classroom. Pennsylvania, like much of the country, is experiencing extreme teacher shortages. Since 2010, the number of teachers certified annually in PA has plummeted from 20,000/year to fewer than 7,000/per year. While teacher preparation program enrollment has

declined nationally, PA's decline of over two-thirds in 10 years is twice as steep as the national average (Boyce & Morton, 2023). The pipeline is shrinking, and many teacher preparation programs are exploring shorter, accelerated programs to increase enrollment and fill vacancies more quickly. These alternative programs have been criticized for not being selective and not looking for exceptional academic performance. In some cases, emergency certification is granted to people with no formal preparation and sometimes no college degree (NYU Steinhardt, 2018). In 2019, the West Virginia University PDS program cited above was dissolved for a more accelerated program in the face of teacher shortages.

## QUALITY VS. QUANTITY

The tension between quality and quantity also surfaced in teacher accreditation. Since 2010, the country has had a single accrediting body, the Council for the Accreditation of Educator Preparation (CAEP), formed by the merger of NCATE and the Teacher Education Accreditation Council. CAEP certification is grounded on high standards for entering and completing teacher preparation programs. Five years ago, a second organization, the Association for Advancing Quality in Educator Preparation (AAQEP), arrived on the scene. Although CAEP dominates the field (238 accredited programs vs 9 accredited and 80 seeking accreditation through AAQEP), the growth of the new AAQEP represents a shift away from standards. AAQEP doesn't require institutions to provide many data points that CAEP asks for, including outcomes for the P-12 students taught by program graduates. AAQEP emphasizes local context and professional conversations. Several teacher preparation programs are looking at AAQEP because of low enrollments and teacher shortages. As Christopher Koch, president of CAEP, states: "If you're given choices, and one of them is easier, and no one is requiring you to do it, and money is tight, aren't you going to do something that's easier? It doesn't help the profession, it doesn't help teachers, and it doesn't help children to be able to shop around" (Will, 2019, para. 2). If PDS is the "teaching hospital" of the education field, one wonders if medical schools are compromising standards and level of clinical training in the face of physician shortages.



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**-Christopher Koch, president of CAEP**

Yet, CAEP is routinely criticized for its overly prescriptive assessment demands and formulaic model with little evidence that these expectations genuinely improve student learning (Romanowski & Alkhateeb, 2020). Prescriptive assessment demands can force professors to spend inordinate amounts of time on clerical expectations — rubric design and data collection at an objective level — and away from intellectual pursuits and research (Pinar, 2004). Some have claimed that forced standardization does not encourage innovative pedagogical practices or novel organizational structures (Romanowski & Alkhateeb, 2020).

The PDS model had its greatest growth in the 1990s, although many schools of education have had to forgo the formal model due to high admission requirements, cost, and duration. One notable exception is SUNY Buffalo State University which maintains a rigorous PDS program in over 100 school schools ([pds.buffalostate.edu](https://pds.buffalostate.edu)).

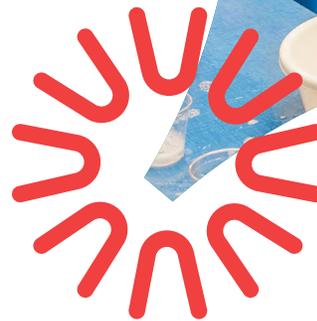
However, many of the core PDS elements of extensive clinical experience, applied research in a real-world setting, and integrated engagement by higher education faculty and practicing P-12 teachers, are evident in other models, such as the laboratory school and apprenticeship models.

# Laboratory School Model

Dr. John Dewey established the first lab school, the University of Chicago Laboratory School, in 1896; known as the enduring giant, many other university-associated laboratory schools have been established since then, but most utilize teachers in traditional roles rather than engaging teachers as researchers as was Dewey's original progressive educational design. "Researchers," when engaged in laboratory schools, are typically Education faculty at the presiding institution rather than classroom teachers (Jozwiak & Vera, 2022). Yet, laboratory teachers often serve as adjunct instructors in Education programs at the established university, like the relationship found in teacher-in-residence programs.

Laboratory schools are housed on university campuses across the nation and the world. Laboratory schools typically operate under the university governance structure and partner extensively with university teacher preparation programs. However, they have tremendous flexibility in curriculum and assessment selection and the freedom to experiment with innovative teaching practices. In this way, laboratory schools mirror independent schools but with unique supports and collaborations across universities.

The International Association of Laboratory Schools (IALS) identifies 100-member laboratory schools with diverse missions, visions, and student bodies. Some lab schools operate for a particular population of students. The Lab School in DC and the Baltimore Lab School serve children with dyslexia and other learning disabilities. Similarly, the Early Childhood Center (ECC) is a college laboratory school at Sarah Lawrence College in Bronxville, New York, founded in 1937 by developmental psychologist Lois Barclay Murphy. Calling itself "a living laboratory of child development," the ECC engages undergraduate and graduate Education and Psychology students as assistants and "participant observers" in the classrooms where they routinely work with small groups of children. The school also serves as a fieldwork site for graduate students in the Dance Movement Therapy master's programs (Sarah Lawrence



College, n.d.). Psychology faculty conduct research in child development, play, and art, and the school routinely hosts visitors to view their progressive educational model in action.

Several laboratory schools operate in the Pittsburgh region: The Children's School of Carnegie Mellon University, Falk Laboratory School at the University of Pittsburgh, and The Campus Laboratory School at Carlow University. The Campus Laboratory School at Carlow University operates in concert with the collegiate campus community, extending beyond teacher preparation to include interprofessional partnerships with graduate health science programs including occupational therapy, speech and language therapy, and nurse practitioner. These interprofessional collaborations provide essential supports for school-age students and invaluable learning experiences for graduate students (Kirkland, 2022).

Graduate students in speech pathology and occupational therapy conduct assessments of all children in preschool, and collaborate with teachers in supporting language development and literacy. Graduate students in the Nurse Practitioner program serve in the school clinic and

provide instruction to K-6 classrooms. Students studying Education benefit greatly from these collaborations as well; they experience these interdisciplinary supports and participate in teaching demonstrations, engage in professional learning communities, and are invited to many of the professional development activities of the school.

Laboratory school administrators at The Campus Lab School participate as members of the Education Department, teach undergraduate courses, host practicum students, and engage in scholarly work with Education faculty. Undergraduate and graduate Education students benefit from having their methods courses completed between a college classroom and classrooms in The Campus Laboratory School. While studying literacy development in early childhood and structured literacy, undergraduate and graduate students observe veteran teachers, work with a small group of students, conduct literacy assessments, and then debrief with instructors as part of their coursework. This allows prospective teachers to engage as meaningful members of a school community. In addition to completion of coursework, the lab school relationship extends to the greater Carlow University campus. With a shared vision and mission framed by the Sisters of Mercy, school-age students, and college students studying Education participate in Mercy service with the entire campus community, attend University-wide speakers and forums, and utilize college science labs for research.

Launched in 2019, the DayOne Project was developed to crowdsource ideas for innovation and technological expansion with the overarching goal of policy entrepreneurship. One of their proposed initiatives is the development of federally funded national laboratory schools with a focus on research and development around computational thinking. Unlike traditional laboratory schools connected with universities, their model advocates for federally funded independently-operated secondary schools or community colleges governed by the local communities where they reside but with significant funding allocated for research and development. This allows for more seamless vertical integration with research aligned to design and school operations (Resnick & Duffy, 2022).

**For years, research has told us individualized, competency- and project-based approaches can reverse academic declines while aligning with the demands of industry and academia for critical thinking, collaboration, and creative problem-solving skills. But schools lack the capacity to follow suit. We need prototypes, not publications. While studies evaluating and improving existing schools and approaches have their place, there is a real need now for ‘living laboratories’ that develop and demonstrate wholly transformative educational approaches (Resnick & Duffy, 2022, p. 2).**

Some newer laboratory schools operate with public tax dollars under a charter school agreement but align themselves with a university. One example is Design Tech High School in CA, which collaborates with Stanford University. While school consolidations have reduced the number of small-community elementary schools, and large comprehensive high schools serve thousands of students, laboratory schools, by design, have smaller enrollments and operate in a highly personalized way. They strive to build a sense of community and foster a spirit of innovation and creativity in teaching and learning. Much like PDSs, they benefit from shared university personnel and facility supports.

Teacher preparation programs can create similar relationships with public or charter schools outside the university community. With a shared vision of a laboratory school arrangement, public or charter schools can offer courses on-site, utilize teachers as co-instructors, and provide immersive experiences for prospective teachers. In these arrangements, laboratory school arrangements become an extension of professional learning communities. The “laboratory school” arrangements provide robust and immersive learning experiences and broaden classroom teachers’ role to include “University Instructor” status. In addition, with immersion in a school setting, pre-service teachers engage in building-level professional development with teachers and often participate in professional learning communities of shared practice (**SEE BOX 2 ON THE FOLLOWING PAGE:** professional learning communities).

## BOX 2

# Professional Learning Communities

The composition and workings of a professional learning community (PLC) vary greatly across districts and States. PLCs may be formed as book study, assessment teams, or inquiry groups of educators focused on action research. Some concentrate on standards alignment or curriculum mapping or operate with the same purpose and membership all year. Others adopt a more fluid membership, forming around one specific training to tackle a student learning issue and then disbanding when the issue is resolved. At the heart of professional learning communities are PLCs which function to improve teacher learning (Miller, 2020) and, ultimately, support high levels of student achievement (DuFour, 2004). Successful PLCs provide a collaborative environment where teachers can share ideas, focus on student learning, and consider needed student interventions. Most PLCs are teacher-led and prioritized by school administrators with allocated time and space for meeting. Tensions sometimes exist with PLC effectiveness when outcomes are not clear, or purposes are ill-defined.

One teacher describes professional learning communities as incubators of ideas (Fertazzo, 2021). This is a powerful testament to the work of teachers who hold students at the center of their work. Considered as a professional network, PLCs can extend beyond one school with grade level district PLC teams, state-level professional communities, and even international collaborations on technology or social media platforms.

Teacher candidates, those studying to become teachers, may not experience the power of PLCs prior to becoming a teacher given their lack of experience and a lack of opportunity to engage in the practice. Teacher candidates' professional knowledge, skills, and dispositions would be greatly accelerated if they were included in school PLC meetings, particularly in lab schools where significant relationships had been built. Here they would have an opportunity to study student assessment data, watch how instructional conversations evolve, determine appropriate interventions, and, importantly, reconvene for follow-up in closing the assessment/instruction loop.



# Apprenticeship and Residency Models

With a history from the Middle Ages and gilded craftsmen, apprenticeship programs have long been associated with specific trade and vocational programs. Apprentices mentor with master craftsmen for several years in highly-skilled trade occupations instead of formal educational training. Apprenticeship programs are highly celebrated models in many European countries and accepted practice for school-to-work pathways. With national financial support, European apprenticeship models are integral to the design of secondary and post-secondary programs. Perhaps most celebrated is the Swiss model known 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). In a recently published memo, United States Secretary of Labor, Martin Walsh, and United States Secretary of Education, Miguel Cardona (2022) take note of successful European models as a blueprint for greater collaboration between workforce development organizations and formal educational systems in the United States. They argue for State support of Registered Apprenticeship Programs (RAP) to serve as a degree pathway in teacher education. These programs address the escalating teacher and substitute teacher shortage and reduce the debt incurred in pursuing teacher licensure.

Tennessee is notable for its full-scale approach to K-12 models of apprenticeship teacher training (White & Garcia, 2022). In partnership with Clarksville-Montgomery County School District, Austin Peay State University in Clarksville, Tennessee has been operating a “Grow Your Own” program since 2018 (Will, 2022). It was formalized 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 the three-year program at Clarksville-Montgomery County as teacher assistants and commit to three years of employment with the school district upon completion of the program. Wrap-around supports include in-school mentorship, textbooks, and funding for certification exams (Will, 2022).

Apprenticeship Programs can be skillfully used to support teacher diversification efforts. In 2019, Pittsburgh Public Schools (PPS) issued a Request for Proposals inviting teacher education programs across the Commonwealth to collaborate on a Para2Teacher Program. PPS selected twenty-two paraprofessionals with bachelor’s degrees for the program, and PPS selected two partnering teacher education programs in Pittsburgh to participate. More than 90% of the selected participants were men and women of color. Participants chose their teacher education programs of choice, and PPS provided some scholarship tuition support. As graduate students, participants completed their respective programs online and in the evening. Most importantly, PPS held their positions and continued their salaries throughout the required 12-week student teaching experience.

## THE TEACHER RESIDENCY MODEL USED BY THE NATIONAL CENTER FOR TEACHER RESIDENCIES

	SUMMER SEMESTER	FALL SEMESTER	SPRING SEMESTER	SUMMER SEMESTER
<b>Cohort Model</b>	Orientation	Learning to teach alongside a cohort of fellow residents		
<b>Coursework</b>	Coursework	Graduate Level Coursework with a weekly seminar		
<b>Apprenticeship</b>		Teaching & learning the school site, 4 days per week		
		Increasing teaching responsibilities		
	Matched with a Mentor Teacher		Lead teaching week(s)	Lead teaching week(s)
<b>Evaluation</b>		Ongoing formal and informal coaching and feedback		
		Ongoing performance-based assessments		
<b>Post-Residency</b>			School hiring & support	
				Induction & ongoing professional development

This on-the-job component of teacher apprenticeship addresses a significant barrier to degree or certification completion: the required in-school practicum and student teaching experience. While it is difficult or impossible for many adults to leave employment for a semester of unpaid student teaching, an apprenticeship provides on-the-job supports or secured employment throughout the student teaching semester. Most apprenticeship models provide on-the-job courses, up to 24 credits, as well as intrusive mentoring or advising support and financial support for texts and certification exam

expenses. Unlike many alternative certifications or “fast-track” programs, apprenticeship programs are more robust in clinical preparation. Prospective teachers complete the same rigorous coursework, meet the same required practicum hours, and take the same certification exams. Students in an apprenticeship model arguably complete more clinical field hours than students in traditional teacher preparation programs. In traditional programs, as noted earlier, field experiences are typically layered on top of coursework in the day and not always aligned well with the course’s competencies.

Apprenticeship programs are place-based and framed within the context of local schools, childcare centers, and communities, addressing needs in myriad types of districts: urban, suburban, and rural. This contextualization allows educator preparation to be situated in communities and directly responsive to community needs within a cultural context. Through coaching and mentoring supports, apprenticeship programs are intentionally scaffolded with wrap-around services. Many programs provide textbook support and address student transportation or technology needs.

Teacher residencies, similarly structured to apprenticeship programs, are gaining in popularity. They have traditionally been year-long immersive but unpaid, experiences in which teacher education programs are specifically partnered with a school district. In some States, student teachers spend an entire year in their placements while completing coursework one day a week or in evenings. In other States, post-baccalaureate models operate to place graduate students in partnered school districts for a year while completing their coursework and certification requirements.

Residency models in the medical profession provide annual salaries. While these salaries are significantly less than licensed physicians, pay is incremental based on the area of specialization. Many newly proposed teacher residency models, like apprenticeship-style programs, provide salaries for teacher residents as they spend a year working alongside veteran teachers. Unlike apprenticeship models with on-the-job credits, teacher residencies are often aligned with an alternative or fast-tracked teacher credentialing, particularly at the graduate level of preparation. Drexel University in Philadelphia utilizes this model of a paid year-long residence in their graduate secondary, middle-level, and special education preparation programs. "Drexel's Teacher Residency Program interviews and accepts exceptional and highly qualified candidates to enroll in Drexel's graduate-level teacher education courses while earning a salary and benefits as a School District of Philadelphia employee. The School District even picks up the bulk of the cost of coursework leading to teacher certification," (Drexel University School of Education, n.d., para. 2).

The National Center for Teacher Residencies advocates for an immersive post-baccalaureate model using an "apprenticeship year-long" residency for prospective teachers. Graduate students selected for their program complete coursework towards their graduate degree and teaching certification while working in an assigned school four days a week and co-teaching with their mentor teachers. Residents are provided a stipend and scholarship support for their degree. In return, residents commit to a three-year teacher contract with the school upon program completion. This tuition offset differs from medical residencies, but with the significant difference in earning potential between teachers and physicians, this provision provides significant student debt relief (National Center for Teacher Residencies, n.d.).

The above image describes how candidates in the residency model progress through the program. The apprenticeship component of the model includes a year of working in a school four days a week while completing graduate coursework and a weekly seminar.



As interest in the Education profession has waned among young people, greater efforts are underway to better market teaching as a viable profession. A “pre-apprenticeship” pathway or “Rising Educator” program can provide an on-ramp to the Education profession with “stackable credentials.” In PA, high school students can earn their Child Development Associate (CDA) credential before graduation, having earned nine college credits in Education courses with practicum requirement experiences in childcare centers. The CDA is an entry to an employment pathway in childcare centers. It positions individuals to work in childcare while completing their bachelor’s degree in education, leading to teacher certification models.

West Virginia recently adopted “The Pathway to Teaching Initiative,” and is currently in the pilot phase in a few districts across the State. Beginning in high school, students complete a combination of AP or College-in-High-School courses at no-cost. After matriculating to an in-State college, undergraduate students complete paid field experiences while enrolled in coursework. In their senior year, students can elect to interview for paid employment as teacher-of-record during a year-long student teaching experience. “With historically low teacher wages, and highly competitive teacher markets in surrounding States, it is expected this new model will incentivize high school students to take an interest in Education, accumulate little to no debt, and remain in West Virginia in teacher positions,” (Baronak & Baronak, 2023, p. 15).

High school pathways also provide an essential opportunity to cultivate teacher leaders among culturally and linguistically diverse youth. One such program exists in Boston Public Schools (BPS). High school juniors are paired with a mentor and complete college coursework. Upon completion of their teaching degree, participants are employed by BPS. In Philadelphia, PA, Sharif El Mekki established The Fellowship: Black Male Educators for Social Justice, “a nationally renowned Philadelphia-based non-profit organization dedicated to increasing the number of Black male educators. Part of their work includes a Purpose Career Fair and Protégé programs, aimed at recruiting both high school and college students into teaching” (Stohr et al., 2018, p. 7). Engaging young students and exposing



them to the richness and value of the teaching profession plants critically important seeds about Education as vocation. The familiarity, and often disdain towards traditional Education, works against teacher recruitment efforts. Sometimes we need to see with fresh eyes what we think we know about a particular field or occupation, and students need to see themselves not as students but as future educators with a mission to fulfill.

# Summary

While these highlighted models provide a construct to consider teacher education pathways and types of educator preparation, there are significant areas of overlap. Laboratory schools may use teaching artists (**SEE BOX 3 ON THE FOLLOWING PAGE**: teaching artists/team teaching) and teacher/professor-in-residence models. Year-long teacher residencies may be designed as a Professional Development School (PDS) or as an apprenticeship model with on-the-job credits for work.

These models share the core components of effective teacher preparation: full clinical experience, the instruction and mentorship of experienced master teachers, and the concurrent and embedded involvement of higher education faculty with practicing master teachers. This kind of integration can avert the disconnect between innovations and advances in the field and that which is taught in university classrooms.

All models attempt to answer the questions, “How do we best prepare individuals to be highly effective classroom educators?” and “How do we effectively address the teacher shortage, especially in certain disciplines, while promoting greater diversity across the teaching profession.”

We referenced the threat of teacher shortages to robust practice-centered teacher preparation, but this paper does not propose solutions to teacher shortages. Nor does it cover the variety of inspiring efforts to create educational environments that contribute to teacher retention. Examples of such efforts include Arizona State University’s Next Education Workforce initiative, which works with multiple school districts to bring teams of educators with distributed expertise to deepen and personalize learning for students. This model empowers educators by developing new opportunities for role-based specialization and advancement ([workforce.education.asu.edu](http://workforce.education.asu.edu)). Teach for America’s Reinvention Lab, launched in 2019, is an exploratory space for the future of learning through the co-created redesign of the learning environment, including the active engagement of students and alternative pathways into the teaching profession ([reinventionlab.org](http://reinventionlab.org)).



**Incentivize high-quality teacher preparation, characterized by rigorous coursework and intentionally designed clinical experiences, developed in partnership with local education agencies.**

These are great examples of the innovation taking place in the field, but reiterating this paper’s premise, How can advances in the field by practicing teachers be synchronized with university-based teacher preparation programs?

A recent report issued by National Center on Education & the Economy and TeachPlus, #PANeedsTeachers: Addressing Pennsylvania’s Teacher Shortage Crisis Through Systemic Solutions, offered several recommendations covering preparation, retention, career pathways, financial incentives, and data collection. However, it is worth noting, in support of the models presented in the paper, the first recommendation is:

*Incentivize high-quality teacher preparation, characterized by rigorous coursework and intentionally designed clinical experiences, developed in partnership with local education agencies. It further stressed the value of “clinical residency under the mentorship of an effective, trained mentor teacher...”*

The authors emphasized that quality cannot be sacrificed to quantity: to be specific, one of their core policy principles for solving the teacher shortage states: “Teacher shortages cannot be solved in the long term by lowering the bar to become a teacher” (Boyce & Morton, 2023, p. 5).

The models discussed above provide a jumping off point for how we might consider new ways of imagining more innovative and accessible teacher education pathways grounded in university-school partnerships and more, rather than less, mentored clinical experience.

## BOX 3

# Teaching Artists / Team Teaching

Teaching artists are uniquely situated in schools and classrooms working alongside educators. Together, they create and implement innovative curricular units and inspire students' imagination. Teaching artists elevate student voices and seek to empower students using art as a medium (Chen, 2017); their work promotes empathy and social-emotional learning (Farrington et al., 2019).

"As quasi-outsiders, with relative freedom from the constraints and norms of schools, TAs can introduce innovation and change that has been slow to come from the inside alone. They are often partners and catalysts for change with teachers and other school leaders" (Rabkin et al., 2011, p. 11).

While not contained to traditional classrooms, teaching artists also work in higher education, museums, and after-school programs. In all instances, their approach brings a multi-dimensional and multi-disciplinary lens from which young students can see themselves, and the world, in a different way. Some children and adolescents who struggle in other disciplines excel in the arts. In teacher preparation, teaching artists complement pedagogical approaches and integrate aesthetic elements imparting an important lesson to teacher education candidates: We aren't just teaching biology, or mathematics, or literature. We are teaching students and impacting their lives, shaping their impressions of the world, and helping them realize their greatest potential.

Teaching artist programs are traditionally underfunded but relatively inexpensive in their execution when implemented on a small scale. But small-scale projects place undue burdens on already taxed or undervalued artists. Teaching artist projects become limited in scope with their dependence on external funding. National arts organizations advocate for increased funding and legislative support to broaden the reach of teaching artist programs (Rabkin et al., 2011).





# Next Steps

The themes that wove through the models discussed in this paper emphasize the value of deeply embedded clinical experience; clinical experience that starts early, is extensive, and incorporates the mentorship of master teachers working alongside higher education faculty.

To draw suggestions for actions that could advance the preparation of new teachers, the authors convened a group of professionals from higher education and P-12 leadership. The task before them was to use the model descriptions contained in this paper to stimulate thinking on program elements that cross all three models: professional development schools, lab schools, apprenticeships/residencies. The charge was not to select one model over the other, or to interrogate pedagogical approaches, but rather to use the case descriptions as sources of promising practices that may contribute to the next iteration of teacher preparation.

The following suggestions reflect a synthesis of written comments forwarded by those unable to attend the convening combined with that which emerged from the in-person exchange. The objective was to arrive at actionable steps that close the gap between teacher preparation and advances in practice. **Please note: these recommendations are not ranked in order of priority.**

In considering these action steps, we must address the sustainability and replicability of more extensive clinical programs, especially in the face of teacher shortages and the temptation to dilute teacher preparation to fill positions. When we look back at the models highlighted in this paper, PDSs are in decline because they are expensive; lab schools are limited by the dependence on access to college campuses. The apprenticeship approach to clinical practice and teacher preparation, however, can accommodate many of the elements of traditional PDS and lab schools, yet they are the adaptable to urban, suburban, and rural communities. Teacher preparation apprenticeships are new and evolving. There is room in this arena to develop a variety of apprenticeship pathways that incorporate the best of all clinical models.

## PANEL OF EXPERTS:

### **Dr. Milsha Reid**

*Assistant Professor of Education,  
Carlow University*

### **Dr. Sean Freeland**

*Assistant Professor of Education,  
Carlow University*

### **Karian Wise**

*Head of School for Early Learning  
at Carlow University*

### **Dr. Kristin Harty**

*Associate Professor of Education,  
Chatham University*

### **Dr. Mary Esther Van Shura**

*Associate Adjunct Professor of Education,  
University of Pittsburgh*

### **Dr. Aimee Morewood**

*Professor of Literacy Education,  
West Virginia University*

### **Dr. Allison Swan Dagen**

*Assistant Provost for Graduate Academic  
Affairs and Professor,  
West Virginia University*

### **Jason Swanson**

*Senior Director for Strategic Foresight,  
Knowledge Works*

### **Sunanna Chand**

*Vice President of Systems Reinvention,  
Teach for America*

### **Julie Hopp**

*Director of Curriculum, Instruction,  
and Professional Development,  
Butler Area School District*

### **Dr. Bart Rocco**

*Grable Fellow*

### **Dr. Bille Rondinelli**

*Grable Fellow*

### **Tyler Samstag**

*Director, Remake Learning*

## ACTION STEPS

- ✱ **Teacher preparation programs should enroll students as early as possible and expose them to real-world school experiences so that they understand the culture and demands of the classroom.** One specific example: a school-led bootcamp prior to admission.
- ✱ **Pre-service candidates should be engaged in a tiered clinical experience of increasing responsibility, and they should receive stipends that are graduated in relation to increased autonomy and responsibility.**
- ✱ **The emphasis on clinical practice should not be viewed in opposition to academic research.** Pre-service candidates working in close partnerships with master teachers and higher education faculty in a real-world setting should be encouraged to take advantage of applied research opportunities.
- ✱ **Networking and peer learning are powerful tools for innovation and stabilization of P-12/higher education partnerships.** Cohorts that include master teachers, college faculty, and pre-service teachers should be organized and sustained as permanent networks.
- ✱ **In addition to vertical cohorts that include higher ed and P-12, it was suggested that formal peer exchange networks of regional teacher preparation programs be organized to share best practices and to craft advocacy positions that protect rigorous teacher preparation in the face of teacher shortages.**
- ✱ **The role of the P-12 master teacher needs to be elevated through job titles, extra compensation, and continuing education certification.** Master teachers also should have enhanced faculty status in teacher preparation programs, including participation in higher education program design and curriculum decisions.
- ✱ **Career & technical education (CTE) has often been overlooked for more intensive clinical placement of pre-service teachers and onsite engagement of college faculty.** Institutions of higher education should expand opportunities to engage faculty from STEM fields along with Education faculty in the preparation of future CTE teachers.
- ✱ **Contracts between Higher education and P-12 partnering schools need to be more robust, laying out: detailed responsibilities for master teachers, school district subsidies, and the scope of higher education presence in partnering schools.** These contracts should be reviewed periodically by a professional advisory body of faculty, master teachers, and pre-service teachers.
- ✱ **Wholesale adoption of Registered Apprenticeship Programs require legislative levers to fully implement.** With the model of TN mentioned in the paper, other States are following suit with various models: <https://www.ecs.org/wp-content/uploads/State-Policy-Levers-to-Address-Teacher-Shortages.pdf>. **Institutions of higher education and education advocacy agencies should pursue further research into other State policies and legislative funding mechanisms.**



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