



Where Have All the Teachers Gone? A Systemic Problem Requiring a Systemic Solution

Submitted to the House Education Committee by Amy C. Morton, System Design Specialist for the National Center on Education and the Economy (NCEE), on behalf of Denny Civic Solutions and the Heinz Endowments.

When I began teaching high school students in Carlisle Area School District in 1983, there was no PSSA and there were no Keystone Exams. We were evaluated annually, and I recall one of the four assessment criteria was “personal hygiene.” There was no induction program for new teachers, and as the newest hire, I was assigned to instruct 150 9th and 10th graders, most of whom had personal and academic challenges. I believe my colleagues had a betting pool on how long I would last. At an annual salary of \$13,300, I wasn’t in it for the money. And money isn’t the solution to our current problem.

Much has changed in the 39 years I have been a Pennsylvania educator at the district, intermediate unit, and state levels, and much has stayed the same. A combination of our failure to adapt our system of recruiting, preparing, inducting, and retaining teachers, combined with the perverse consequences of several well-intentioned reforms over the past 30 years have yielded the systemic problem we face today - a rapid and steady decline in the number of professional, qualified educators we need to meet current demand.

My daughter and son-in-law, 32 and 33 years old now, are Pennsylvania certificated teachers in mathematics and physics, respectively. Neither one had any interest in being a teacher after experiencing current school culture during their student teaching experiences. Nor do they make more money in their current positions than the average (salary) teacher in Chester County where they live. Sarah is the manager of an independent bookstore in Colledgeville and Ben is a data scientist with a financial services firm. Here’s what attracts them and their Millennial and Gen Z friends to certain employers over others:

1. They have opportunities for advancement based on demonstrated competency.
2. They work in a team environment with shared responsibility for their organization's success.
3. Their expert knowledge is sought and valued by both their employers and their clients.
4. Their work is not publicly disparaged by those who know very little about the reality of the demands of their jobs.

Contrast those working conditions with the ones we have created and sustained for teachers:

1. Teachers advance on a salary schedule that rewards years of service and the accumulation of higher education coursework. Highly competent young teachers have

- limited avenues to increased status or pay unless they leave the classroom for specialist or administrator roles or abandon the profession completely as many do.
2. Teaching in the U.S. is an isolated role. Teachers spend most of their working hours in the classroom, by themselves with children and young adults, and are evaluated primarily for their individual performance, not working collaboratively in support of one another to improve the outcomes for all of the children within the school.
 3. Teachers' expertise is too often untapped in the traditional and hierarchical structures of education, where seniority typically trumps ability when making assignments that have significant consequences. Consider who picks up extra pay duties such as department head, student teacher assignments, and mentor roles - typically those with the highest seniority have the right of first refusal. Likewise, the least senior teachers are often given the toughest student rosters, which is hardly conducive to retaining those teachers or meeting the needs of the learners.
 4. Teaching is a noble profession, and effective teachers are well-versed in a highly technical field - the science of learning - but that field isn't broadly understood or necessarily valued. Constituents often believe that having gone to school is experience enough to pass judgment on professional educators, regardless of how ignorant their opinions sound to those who have spent years refining their subject area knowledge and the strategies employed to create conditions and lessons conducive to learning. Being regularly subjected to disparaging and demoralizing commentary in newspaper columns, at board meetings, and on social media is not something most professionals have to endure.

So we have both created the conditions that drive people away from teaching, and we are capable of changing those conditions to compel people to return to teaching. The solutions are grounded in research and are being put into practice across the Commonwealth by school leaders who recognize the consequences of maintaining the status quo.

NOTE: While this testimony does not provide any obvious and immediate legislative solutions to the teacher shortage, it attempts to establish the context in which the teacher shortage has been exacerbated. The *2030 Commission on Education and Economic Competitiveness* should take a deeper dive into the systemic roots of our current challenge and recommend long-term policy solutions that can transform teaching as a highly valued profession that attracts outstanding high school graduates.

What follows is what we know from studying the highest-performing organizations and education jurisdictions around the world, and what we have learned from superintendents and charter school CEOs who are putting these design principles in place in several school systems throughout Pennsylvania. Note that the examples provided are a small sample of work going on throughout the Commonwealth. More redesign efforts are underway in many additional districts and details on these projects are available upon request.

TOPIC #1: RETAINING EFFECTIVE TEACHERS

Problem (1 of 2): Teachers advance on a salary schedule that rewards years of service and the accumulation of higher education coursework. Highly competent young teachers have limited avenues to increased status or substantial pay increases unless they leave the classroom for specialist or administrator roles or abandon the profession completely as many do.

Solution: Modify processes, incentives and supports for a system of advancement for teachers based on demonstrated competency.

Research: The highest performing organization in the United States, arguably the world, might be identified as the U.S. military. It's an institution, like health care and education, that determines our quality of life here in the U.S. And while soldiers may receive a cost of living increase, they cannot rise in the ranks without excelling at their current level. Not everyone makes the cut.

In Pennsylvania, one moves forward in seniority and pay based on what they *don't* do. According to Section 1122 of the Public School Code of 1949, professional educators may be dismissed for "immorality, incompetency, intemperance, unsatisfactory teaching performance, cruelty, persistent negligence in the performance of duties, willful neglect of duties, persistent and willful violation of school laws, physical or mental disability and conviction or plea to a felony."

The typical salary schedule for teachers was built with an obvious logic model - that experience (years of service) and additional coursework (credit accumulation) makes you a better teacher. Experience has some impact but only up to about the twelfth year. Higher education credits in mathematics have been the only area in which studies show an improvement in teacher performance and student outcomes. Districts are spending millions of dollars annually on tuition reimbursement, per their collective bargaining agreements, for teachers to engage in coursework that is unlikely to improve their practice and will require the district to increase the teachers' salaries as a result of having earned the credits for which the district just paid.

There's a better way, and it doesn't require eliminating salary schedule structures or shunning higher education institutions. What *can* be done is to change the processes, incentives and supports for movement on that schedule.

Example: Governor Mifflin School District in Berks County

A superintendent in a mid-size, suburban school district was frustrated with the salary schedule that increased teacher pay based on years of service and accumulated post-baccalaureate credits. He found that many of the courses taken by teachers were not aligned with the district's priorities, yet the collective bargaining agreement did not permit denial of the tuition reimbursement requests he received. The system design was inefficient in terms of 1) the use of teachers' time taking coursework that did not improve their practice and impact

student learning, 2) the depletion of district funds to pay for this coursework, and 3) the increase in teacher salary based solely on the credit earned and not on a demonstrated change in pedagogy or deepening of content knowledge.

He attempted to work with higher education institutions, but found limited success in securing their cooperation in offering customized courses that aligned with the district's vision and goals. Even when there was a joint effort, the district did not achieve any financial savings because of the tuition reimbursement requirement in the teachers' contract. And the university professors who taught the courses, even those who were K–12 educator adjuncts, did not exercise the means to hold teachers enrolled in their courses accountable for implementing in their classrooms what they were learning in their courses.

Through his participation in NCEE's PA Superintendent Academy, the superintendent had learned about the significance of valuing expertise and distributing leadership in the context of a career ladder for teachers. He decided to keep the salary schedule *structure* (to modify that would be a bridge too far in his estimation), but change the process, incentives, and supports. After two cycles of teacher negotiations (4 years) with intermittent successes each time, his best teachers now teach the bulk of "credit-bearing coursework" associated with the salary schedule.

He worked with them to redefine what "credits" could be—rather than limiting credits to those provided by higher education institutions, the teachers were given the opportunity to develop a series of professional learning opportunities that afforded their peers "credit" once the new learning was demonstrated in the classroom. These professional learning experiences were deliberately designed to support the district's vision and goals for students.

He repurposed some of the budget line reserved for tuition reimbursement to pay the teacher leaders who design and facilitate the new version of district-specific "coursework," investing in his own educators rather than sending the money outside of the district.

While teachers are still permitted to take coursework from higher education institutions, many more are now engaged in in-house, credit-bearing professional learning that 1) meets their continuing education requirements to retain their certification, 2) moves them on the salary schedule, 3) advances the district's vision and goals, 4) generates a culture in which competence and expertise are valued and growing, 5) compels more teachers to improve as they aspire to course facilitator status, and 6) saves money.

Postscript: Alvernia University in Reading now partners with Governor Mifflin SD and provides university credit for this coursework at a substantially reduced tuition rate.

Problem (2 of 2): Teaching in the U.S. is an isolated role. Teachers spend most of their working hours in the classroom, by themselves with children and young adults, and are evaluated

primarily for their individual performance, not working collaboratively in support of one another to improve the outcomes for all of the children within the school.

Solution: Establish collaborative professional structures, processes, incentives and supports that build and refine teachers' capacity to serve their students more equitably and efficiently. In a system of high expectations and high levels of support for teachers, improved instructional practices can be incentivized by 1) allowing the teachers with the greatest expertise to lead professional learning, 2) providing in-classroom peer support to move from theory to application, and 3) withholding continuing professional learning credits from teachers until they demonstrate the research-based practices in their classroom. A culture in which teaching excellence is achieved collaboratively and serves as the basis for advancement compels continuous improvement.

Research:

In the best education jurisdictions in the world, identified by the National Center on Education and the Economy for having the highest scores AND the smallest gap between their highest- and lowest-performing students on the Programme of International Student Assessment (PISA), teachers are primary instructors of students for far less time than in Pennsylvania and the U.S. - and not because they work fewer hours per day or days per year. When not directly responsible for classroom teaching, they are: 1) observing other teachers to learn from and provide feedback to them, 2) designing lessons with other teachers, 3) mentoring and coaching colleagues, and 4) engaging in and publishing action research focused on improving student outcomes - in addition to marking papers and meeting with students who need additional support.

Efforts to promote action research, depending on one's interpretation, could be found in the Student Learning Outcome (SLO) element of the teacher evaluation under Act 82. That provision has been modified to an improved version in Act 13, but is understandably perceived to be a compliance requirement in response to a mandate. Many districts and charter schools have supported instructional coaching and introduced Professional Learning Communities (PLCs), but the opportunity to meet regularly and focus on a sustained area for study and improvement is hindered by a lack of time scheduled for such activities. Consequently, our teachers independently design their lessons, often outside of the contractual work day. Not only is this inefficient, it also generates inequities since some teachers are more experienced and have greater expertise in certain areas of the curriculum than others. Independent lesson design fails to take advantage of the skills across an entire faculty and contributes to the burnout that is driving teachers out of the profession.

While no one can manufacture additional time in the day, we can redistribute how it is used. By rethinking our school schedules, we can increase opportunities for collaboration, which experience tells us will improve student outcomes by increasing teacher effectiveness. Teachers who learn with and from one another contribute to a school culture that supports the retention of both new and veteran teachers.

Example: Greenwood School District in Perry County

The superintendent of a small, rural district determined that he could implement the concepts and design principles from NCEE's PA Superintendent Academy relating to collaborative professional learning without waiting for the next school year to roll around. Not without some difficulty he got Board approval mid-year to modify the bus schedules in order to consolidate the fifteen minutes of teacher time that preceded student arrival at the beginning of the contractual school day and followed student dismissal at the end of the teachers' contractual day. He created a duty-free 30-minute opportunity for teacher collaboration that was to be uninterrupted while principals and other personnel managed student arrival and dismissal.

He met with his principals and teachers and explained that they would determine how this time would be used, but that by the end of the semester he expected every teacher to have worked toward achieving these district-wide goals:

- 1) Become proficient in using Schoology, the district's learning management system;
- 2) Design and implement a problem-based unit of study;
- 3) Develop a performance-based assessment with scoring rubric and samples of student work.

Other than providing them with the time, he did not prescribe their methodology, bring in outside experts, or require burdensome daily reports. Instead he told them he planned to meet with each teacher and their principal at the end of the year to review their progress and to learn how they had failed. Yes, how they had failed; he was giving them permission to take risks without expecting perfection, just progress.

The teachers, in conjunction with their principals, worked out a schedule and strategy to figure out how to best meet the expectations set out for them. They engaged in book studies; they figured out who had the greatest expertise in each of the three goal areas; they found articles and examples from outside sources that aligned with their goals. They worked collaboratively and arduously with a level of commitment to one another and to the students they served.

All of this work began in earnest in January 2018. In March 2018, twenty of the superintendent's peers from the Central PA Academy cohort visited Greenwood School District and visited virtually every classroom to see what had transpired in less than three months. Here's just two examples of what we saw:

- 1) The three second grade teachers in the elementary school opened the walls between their classrooms and instructed students in flexible groups according to a) the needs of the students, and b) the individual strengths of the teachers. *Schoology* tools allowed them to regularly regroup the students and to access the jointly-designed lessons that would best address that week's learning goals.
- 2) The fourth grade teachers worked collaboratively to design an interdisciplinary problem-based unit of study in which students were asked to form and defend an opinion about zoos. We saw students accessing primary resources, writing notes, engaging in thoughtful debate about both the credibility of the sources found on the internet and the manner in which they influenced their thinking.

At the end of the day, a panel of teachers shared their reflections with us about what they were experiencing as collaborative learners working on common challenges. Each could speak to both their initial trepidation as well as the joy they found in learning from one another and accomplishing more than they thought possible in such a short period of time. They were reinvigorated and more committed than ever to their profession. And all this accommodated by simply redistributing and repurposing 30 minutes a day.

TOPIC #2: PREPARING AND INDUCTING TEACHER CANDIDATES

Problem: Teachers' expertise is too often untapped in the traditional and hierarchical structures of education, where seniority typically trumps ability when making assignments that have significant consequences. Consider who picks up extra pay duties such as department head, student teacher assignments, and mentor roles - typically those with the highest seniority have the right of first refusal. Likewise, the least senior teachers are often given the toughest student rosters, which is hardly conducive to retaining those teachers or meeting the needs of the learners.

Solution: Leverage expert knowledge of effective teachers by 1) having them lead professional learning; 2) assigning teacher candidates in preparation programs to expert teachers for their field experiences and student teaching assignment(s); 3) selecting instructional coaches on the basis of their skills in listening, questioning, observing, giving and receiving specific feedback, and reflecting; 4) matching teachers in roles such as department chairs and grade level heads to their demonstrated capacity to lead.

Research: Workplace conditions valued by those in their twenties and thirties include 1) working with people who are similarly motivated, 2) being assigned increasingly challenging responsibilities, and 3) having opportunities to advance professionally. Career ladders that advance those willing to serve in leadership roles such as those mentioned above are typically based on three key design principles:

- Demonstrated competency leads to higher status and increased responsibility;
- Developing the capacity of others is required for career progression, including success with students often characterized as the most challenging to teach; and
- Selection of candidates for leadership roles is contingent on the assessment of those who currently serve in them.

In Pennsylvania, collective bargaining agreements typically privilege seniority for leadership roles and teaching assignments. Consequently, while experience can contribute to increased effectiveness, competence is usually not the determining factor in making critical assignments related to preparing, inducting, and supporting teacher candidates, new teachers, and teacher colleagues. In fact, our newest teachers with the least experience in classroom management and well-practiced instructional strategies, begin their first teaching assignment with a full load of classes, many of which more senior teachers avoid in favor of higher-performing student

rosters enrolled in more advanced coursework and who may not present the same challenges that drive new teachers out of education.

Example: Kutztown University/Berks County Teacher Pipeline Project

Several district superintendents from Berks County (Wyomissing, Twin Valley, Kutztown, Brandywine Heights) partnered with Kutztown University to create both a teacher pipeline and a means of defining and recognizing the K-12 “master teachers” who would develop teacher preparation candidates over a four-year cohort experience of field experiences and student teaching. Here’s what these school leaders set out to do:

Vision

We will reinvigorate and transform teacher preparation quality through the development of a cohort model grounded in a partnership between Kutztown University and four Berks County School Districts so that a pipeline of lasting support will be provided to pre-service teachers through the district and university collaborative. Ultimately, we will have better prepared high-quality teacher candidates with the necessary skill set who will significantly impact student growth and achievement in school districts.

Theory of Action (Strategic Intent)

Highly qualified teachers are thoughtful, reflective, innovative risk-takers who embody the disposition and drive to improve academic and emotional growth of all students. Without teachers who consistently utilize twenty-first-century skills in their daily habits of instructional practice, our students will be less successful and prepared for the future. Therefore, it is imperative that teacher preparation programs are current, research-based, and focused on twenty-first-century teaching skills.

Through the partnership between Kutztown University and the four Berks County School Districts, it is our intent to reimagine and transform the teacher preparation experience.

If we collaborate with Kutztown University and its professors to determine the traits and characteristics of teachers of excellence, then we will have better quality teacher candidates.

If the partnership is successful in producing high-quality teachers with a high placement rate, then Kutztown University will attract more teacher candidates to its program making it the premier school for teacher development.

If we train teachers effectively, then our ability to recruit and retain teachers in school districts will increase and fewer will leave the teaching profession.

Although COVID interrupted this work to some extent, the concept of identifying, selecting and pairing expert teachers with potential teacher candidates in their first year of college

through their senior year, creates sustained, collaborative relationships that can improve the quality of incoming teachers and meets the design principles outlined above. In addition, forming partnerships with higher education teacher preparation faculty, who too often do not have teaching experience in the K-12 environment, improves their understanding of the context in which their students will be working.

TOPIC #3: RECRUITING TEACHER CANDIDATES

Problem: Teaching is a noble profession, and effective teachers are well-versed in a highly technical field - the science of learning - but that field isn't broadly understood or necessarily valued. Constituents often believe that having gone to school is experience enough to pass judgment on professional educators, regardless of how ignorant their opinions sound to those who have spent years refining their subject area knowledge and the strategies employed to create conditions and lessons conducive to learning. Being regularly subjected to disparaging and demoralizing commentary in newspaper columns, at board meetings, and on social media is not something most professionals have to endure, and worse, it has discouraged prospective teacher candidates from entering the profession.

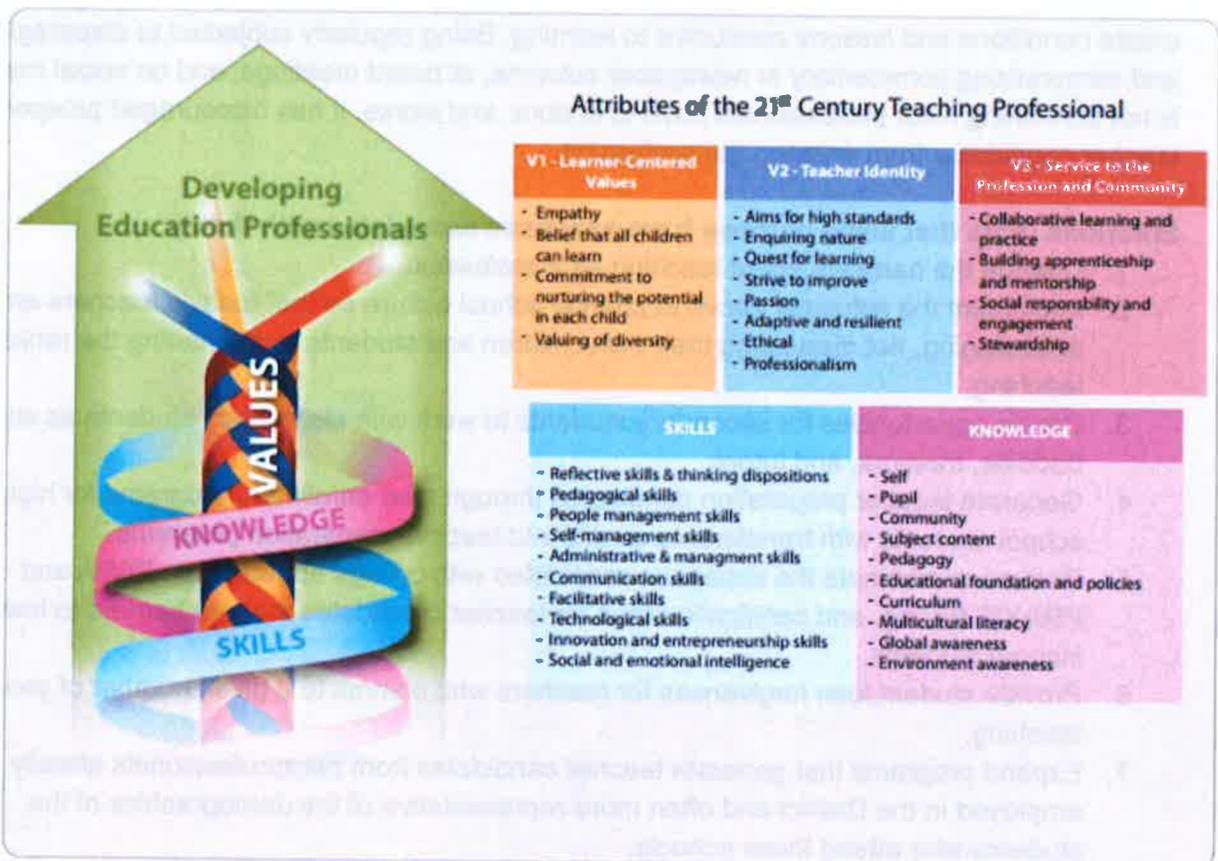
Solutions (note that some of these have expenses associated with them):

1. Change the narrative about teaching as a profession.
2. Implement the solutions above to change school culture so that today's teachers are encouraging, not dissuading their own children and students from entering the ranks of teaching.
3. Create opportunities for secondary students to work with elementary students as study buddies, mentors, and tutors.
4. Generate teacher preparation candidates through dual enrollment programs for high school students with transferable credits into teacher preparation programs.
5. Reduce or eliminate the expenses associated with college applications, PAPA and PRAXIS testing, and certification fees for teacher candidates that are barriers to low-income students.
6. Provide student loan forgiveness for teachers who commit to a given number of years of teaching.
7. Expand programs that generate teacher candidates from paraprofessionals already employed in the District and often more representative of the demographics of the students who attend those schools.

Research: Recruiting teachers into the profession begins in K-12 where students are highly influenced by their own teachers and draw conclusions about the profession based on their observations. In high-performing countries, teachers are held in high-esteem by the larger public, and consequently recruiting the top-performing students into teaching is not nearly as difficult as in the U.S. In fact, the best education systems enroll teacher candidates who graduate in at least the top half of their class.

Qualifications associated with teacher preparation candidates in these countries are not based solely on grade point average and basic skills testing as they are here in Pennsylvania. The illustration below reflects the attributes expected of both teacher candidates and in-service teachers in Singapore and are similar to other top-performing education jurisdictions around the world. Interestingly, many of these dispositions and competencies are evident in the “Profile of a Graduate” documents many Pennsylvania school districts are working on to describe what they want their students to aspire to.

In Pennsylvania, there are over 90 institutions of higher education that provide teacher preparation programs and compete for an ever-shrinking candidate pool. In those countries that outscore the U.S. on the PISA exam, there are only a handful. Finland shut down several programs during its reform efforts to ensure consistent high-quality pre-service experiences for teacher candidates. Singapore has just the National Institute for Education.



Example: Palisades School District in Bucks County

The superintendent, a graduate of the NCEE’s PA Superintendent Academy, was inspired to work on both reducing the cost of postsecondary education by developing career pathways in partnership with Bucks County and Northampton Community Colleges. Ultimately, she

succeeded in establishing the means for her high school students to complete college coursework that was transferable to the PASSHE four-year programs, including teacher preparation program prerequisites. By earning college credit in high school that met initial required coursework for becoming a teacher, the district has reduced student loan debt and contributed to the teacher pipeline.

Example: School District of Lancaster

The superintendent, a graduate of the NCEE's PA Superintendent Academy, wanted to increase the number of teachers who reflected the demographics of her student population, as research clearly indicates that students who have teachers who look like them are more likely to thrive, and are also more inclined to see teaching as viable career. The district supports tuition reimbursement for its paraprofessionals and pays them their paraprofessional wage and benefits while they undertake their student teaching semester so that they can afford to complete the program.

CONCLUSION

There is no one quick fix for our teacher shortage in Pennsylvania. The vast majority of our professional educators are dedicated, capable, and hard working. The past two years have severely strained their capacity to continually tackle the challenges of their virtual, hybrid and in-person classes, and they have done so despite a constant barrage of disrespectful and uninformed public commentary. But the decline in teacher numbers began well before the pandemic. Only by transforming the structures, processes, incentives and supports associated with recruiting, preparing, inducting, and retaining teachers, based on proven design principles, will we solve this problem. A systemic problem requires systemic solutions.

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