



The Pennsylvania 2030 Commission on Education and Economic Competitiveness: Context and Rationale

The Challenge: A Precarious Economic and Demographic Position

Pennsylvania's future depends on becoming a much stronger economic competitor to its neighboring states and, increasingly, a number of wealthy nations in a global economy. To meet the challenges of an interconnected, knowledge-driven global economic landscape, Pennsylvania must build the world-class education system necessary to produce a highly skilled workforce.

Even before the COVID-19 pandemic began to reshape the labor market, Pennsylvania faced an uncertain economic future. And COVID-19 has only accelerated these shifts. Job losses across the state are projected to be persistent and far-reaching. Automation is accelerating, businesses are cutting costs in operations, and remote working is here to stay in the immediate term.ⁱ More distressingly, an analysis of Philadelphia's unemployment crisis in the wake of COVID-19 suggests that long-term pandemic-related job losses are disproportionately affecting low-income workers.ⁱⁱ

Despite the cause for alarm, automation presents both a challenge and an opportunity. On the one hand, the latest forecasts suggest that up to 85 million jobs will be lost globally to automation by 2025. The bad news is that these are primarily in sectors such as office support and clerical, factory work, mechanics, and manufacturing – exactly the sectors on which Pennsylvania is most reliant.

On the other hand, automation will create more jobs than it destroys. The Pennsylvania Department of Labor and Industry estimates that the fastest growing sectors in Pennsylvania over the next 10 years will include healthcare, education, computing, and finance.ⁱⁱⁱ Nevertheless, the workers who are displaced will need to be reskilled in order to take these new jobs in fields such as data analytics, machine learning, and process automation.^{iv}

At the same time as the challenges become more difficult, the pressure to perform becomes even more urgent. Population trends are putting heightened pressure on



Pennsylvania's economy. Pennsylvania's working age population will decline for the foreseeable future at a rate of approximately 0.7 percent annually. At the same time, the retirement-age population will expand by 2-4 percent annually for the foreseeable future, straining public healthcare and social service budgets.^v

These trends present enormous challenges for policymakers and all of Pennsylvania's taxpayers. Mitigating them will require that the Commonwealth maximize the productivity of its workforce – and more than that, to make all its counties an attractive, vibrant place for people from all over the globe to want to live, work, build families, and grow old.

Failing to do these things will cause a slow slide toward economic and wage stagnation across the Commonwealth and increasing poverty for a steadily growing number of Pennsylvania citizens. Unfortunately, many Pennsylvania counties are already feeling the effects of these trends. And the inequitable economic impacts of the COVID-19 pandemic will accelerate them.

On the other hand, meeting this challenge will enable the Commonwealth to preserve the quality of life, economic security, and well-being of its residents. All Pennsylvania residents can enjoy these benefits for years to come.

The Cause: An Outdated, Inflexible Education System

Preparing our children for a prosperous future requires us to think very differently about how our education system is designed and take decisive and bold steps to support Pennsylvania schools in very different ways.

The data show that the average American high school students scores about average relative to high school students in other countries in reading, mathematics, and science, according to the Programme for International Student Assessment (PISA).^{vi}

The outcomes for young adults are more dispiriting. American millennials in the workforce score near the bottom of the industrialized world in assessments of literacy, numeracy, and technological problem solving, according to analysis from ETS.^{vii} And their scores have continually declined over time.

But these are statistics for Americans as a whole. How do Pennsylvanians fare? NAEP data show that Pennsylvania's students perform better than the average American student. But there are massive disparities throughout the Commonwealth, with large



concentrations of both rural and urban poverty and many chronically underperforming school districts.^{viii}

How can this be the case? Pennsylvania's schools enjoy hard-working, dedicated teachers, school leaders, and district personnel, bright and motivated students, and involved parents. All of them are doing the best they can with the tools that they have, but they are working in an antiquated system built over a century ago with goals that are no longer relevant in today's globally competitive, knowledge-based job market. It is not the teachers, leaders, students and parents who are failing to meet the challenges of the future. Rather they are *being failed* by a system that impedes their best efforts at every turn.

We expect our students to graduate ready to take on a constantly changing job market and participate actively in society. Yet we require them to take courses and tests on basic literacy and numeracy skills that are not even close to the standards necessary to prepare them for the next stage of their education and work.

We expect our teachers to constantly grow and improve, to learn the latest innovations in their field, and to remain well versed in the latest research on pedagogy and learning theory. But we give them almost no time to do any of those things, few incentives to grow or do better, and minimal opportunities to innovate. What's worse is we require them to spend what little available time they have in training sessions that rarely meet their needs.

We expect our education leaders to build resilient schools and school districts that perform at high levels on an increasingly complex array of metrics. Yet we offer them little professional support, few opportunities to secure additional staff, limited flexibility, and perverse incentives to invest the majority of their resources in a limited set of end-of-year tests.

We expect our parents to provide supportive home learning environments and hold their children accountable for remaining engaged and completing their work. But we do little to learn about their backgrounds, interests, cultures, and goals for their students and put scant effort into helping them understand why our goals for education are important and enlist them as partners in supporting the success of all our learners.

It doesn't have to be this way. Pennsylvania can create a new education system to meet the needs of the future today.



The Solution: A Statewide Commission to Create a New Education System

To build a future-ready education system, we must act quickly to:

- Create a shared, state-wide, bipartisan vision for 21st century education that will prepare all students to be lifelong learners and compete in a globalized economy reshaped by artificial intelligence
- Develop a shared, society-wide understanding of the needs of Pennsylvania's current and future economy and the context in which its education system currently operates
- Establish the policies and regulations necessary to give all school districts the support and flexibility they need to build world-class education systems
- Build the data infrastructure to allow Pennsylvania to track how far it has come in competing in the world economy

How do we get there?

In order to create a long-term vision for Pennsylvania's education system in 2030 and a legislative action plan for getting there, a bipartisan group of legislators are proposing the creation of a bicameral, 18-month-long **2030 Commission on Education and Economic Competitiveness** (the "2030 Commission"). The 2030 Commission will have the authority to study the challenges within the current system, learn from approaches to systemic redesign all over the world – from Europe to Asia to leading districts within the Commonwealth – and come up with innovative policy solutions that will enable educators and students to meet the future head on. In addition, the 2030 Commission will be supplemented by a **Subcommittee on Education Planning** (the "Subcommittee") consisting of representatives from key Pennsylvania stakeholder organizations, who will conduct more in-depth research and policy analysis to inform the work of the 2030 Commission.

The outputs of this work would include Pennsylvania's own "2030 Plan" that will:

- Analyze global educational and economic trends to forecast the skills and competencies Pennsylvania's workers and citizens will need to be competitive in 2030 and beyond;
- Set a vision for what Pennsylvania's education system can look like in 2030 to meet that need;
- Analyze Pennsylvania's current context and compare it to the future vision and identify policies that will be needed to bridge that gap;



- Offer concrete recommendations for the 2023 legislative session; and
- Present a preliminary implementation plan for getting from the 2023 legislation to the 2030 vision.

A Call to Action

Large areas of Pennsylvania are heavily dependent on economic sectors that are currently in danger of job losses due to automation and are poised to see job losses accelerate in the wake of COVID-19. And Pennsylvania is spending large amounts of money for an education system that is not preparing students well for today, let alone tomorrow. This problem is not caused by our teachers, our students, or our parents. It is the fault of a system that was designed for a bygone era. Fixing the problem will require a more resilient, adaptable, and future-ready education system.

All residents of the Commonwealth must come together to ensure that its current and future workforce can re-skill and learn for life to secure new, 21st century jobs in a changing economy. This will take a state-wide commitment to setting an ambitious vision of what is possible and a sweeping policy redesign to enable Pennsylvania's schools to achieve that vision.

Investing in a world-class, intentionally redesigned education system is urgent and necessary. It will support all our educators with the incentives and structures they need to thrive in their careers. It will guarantee that our students go on to enjoy fulfilling work, stable incomes, and lifelong careers. And it will decrease our spending on prisons and healthcare and our reliance on social safety nets to support those trapped in intergenerational poverty.^{ix}

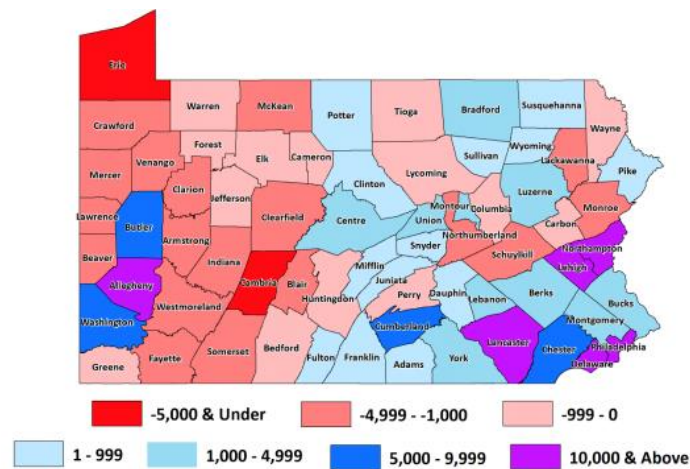
Ultimately, stronger education outcomes lead to economic prosperity, which can drive a broader vision of prosperity: a healthy, happy, informed, and engaged citizenry, able to lead prosperous, comfortable lives wherever in Pennsylvania they live.

Pennsylvania's civic, economic, and social prospects are precarious. We must act now to ensure prosperity for all of Pennsylvania's future citizens. That is why we are calling on the General Assembly to create a Commission with the authority to study the problem, learn from approaches to systemic redesign all over the world – from Europe to Asia to leading districts within the Commonwealth – and come up with innovative policy solutions that will enable our educators and students to meet a globalized, AI-driven future head on. The time is now.

The Economic Context

The good news for Pennsylvania is that GDP and personal income rank roughly in the middle of U.S. states.^x But unemployment was high prior to the pandemic, and will continue to be. The unemployment rate was 4.7 percent in January 2020 and is 7.4 percent as of October 2020, and below the national average of 3.3 percent and 6.9 percent in January and October, respectively.^{xi} And unemployment rates across regions vary. The regions with the largest unemployment rates include Philadelphia County, Luzerne-Schuylkill, and West Central.

Change in Total Employment by Region 2008-2018^{xii}



Pennsylvania is dependent on industry sectors that are at high risk for automation: agriculture, healthcare, banking, steel, industrial machinery, and publishing. Occupations where the most jobs are expected to decline include administrative work and office support (currently one of the biggest providers of jobs in Pennsylvania), sales, manufacturing, and production.^{xiii} More distressingly, Pennsylvania's persistent declines in the manufacturing industry are more acute than the nation as a whole. The Commonwealth employs 10 percent of its workers in manufacturing jobs, but has lost 34 percent of its manufacturing jobs since 1999. The U.S. employs 9 percent of its workers in manufacturing, but has lost 26 percent of those jobs since 1999.^{xiv}

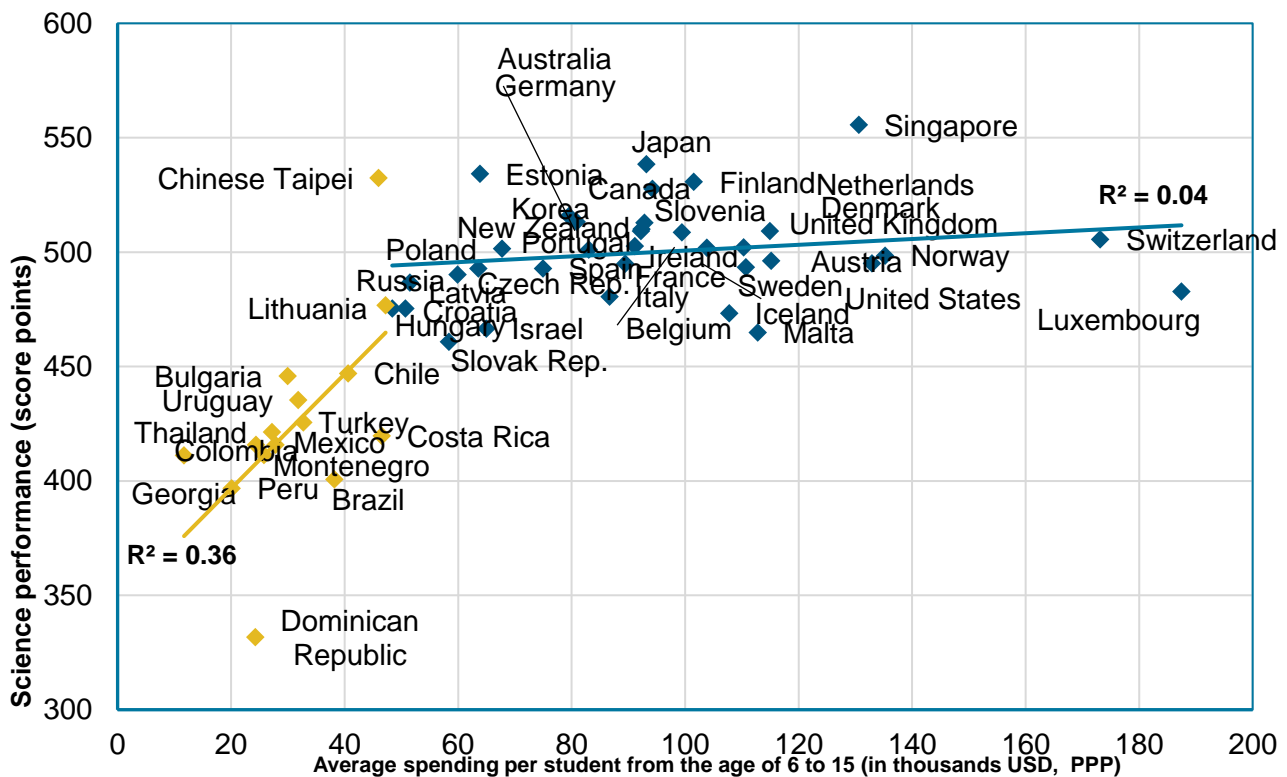
A Note About Education Spending

One might argue that the best way to improve these results is just to spend more money. But overall school spending in Pennsylvania is already relatively high. In total,

Pennsylvania spent \$28.3 billion on K-12 education in 2017. According to a 2017 analysis, Pennsylvania ranks 9th in the country for per pupil education spending when adjusted for cost of living: \$16,506, compared to the U.S. average of \$13,301.^{xv}

Research from the OECD shows that how education systems spend their money matters much more than how much they spend. After a certain level of adequate funding (approximately US\$50,000 over a student’s career, or US\$5,000 per student per year), how much a system spends has very little effect on how much students learn.

2018 Per-Student Spending Compared to PISA Science Performance



Spending more money alone will not fix the problem. Nor will punishing teachers or school leaders, or blaming students or parents, all of whom are doing admirable work under very difficult conditions. What is needed is a new system, aligned to the needs of the current moment, that provides all educators and students with the incentives, structures and supports to enable them to succeed every day.

Pennsylvanians must come together and agree on a transformative vision for a new form of education system that can meet the challenges of the future. This new system



will lead to very different ways of spending the money Pennsylvania has allocated to education. And in turn, it will produce students who are more adaptable to the challenges of the future and able to lead happy, healthy and fulfilling lives.

Building on Promising Early Work

While the Commonwealth still has significant work to do to realize a world-class, future-ready education system, many districts have already begun. For example:

- Five districts in Berks County developed a partnership with Kutztown State University to establish a teacher pipeline. First-year university students who express an interest in teaching are matched with experienced teachers from participating districts who mentor the pre-service educators for four years. Several of the mentors and aspiring teachers have already engaged in "lesson study" with peers from Hong Kong as part of their job-embedded professional learning. Creating the role of mentors for this pre-service teaching experience contributed to the development in some districts of a career ladder for teachers.
- Three superintendents from Montgomery County collaborated with their Intermediate Unit to improve the preparation of aspiring principals. Experienced principals provided coaching for Level I certified principals who had not yet been hired as principals. By the end of the pilot of this Principal Pathway Program, nearly all aspiring principals interviewed for and were hired as principals/assistant principals. These aspiring leaders attribute their success to a newfound understanding of their role as building level system designers who could think strategically about improving student performance.
- Six superintendents have worked together to establish job-embedded, collaborative professional learning time for lesson design, analysis of student work, and other activities that leveraged teacher expertise to improve student performance. In each district the solution was different based on the context. In one, elementary schedules were redesigned to afford all grade-level teachers the equivalent of one half-day per seven-day cycle to focus on improving their practice collaboratively with their peers.
- Two superintendents collaborated on an opportunity for students to graduate from high school with an Associate's Degree from the local community



college or Lackawanna College. In three years, over sixty students graduated from Abington Heights School District with enough credits to enroll as juniors in a PASSHE school. The savings for families in college tuition costs has been significant, and the collaboration between higher education institutions and local school districts has grown tremendously.

These districts still have a long way to go. But as the state looks to create an education policy environment that enables all districts to meet the challenges of the future, it can build on these promising early successes.

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- ⁱ Pennsylvania Independent Budget Office (2021). Budget and Economic Update: March 11, 2021.
- ⁱⁱ "An estimated 77% of Philadelphia's Accommodation and Food Service workers have filed for state unemployment benefits, compared to fewer than 10% of workers in the Finance and Insurance, Management of Companies, and Public Administration industries." From Philadelphia Works (2020). Increasing Inequities: A Brief on the Unseen Economic Impacts of the COVID-19 Pandemic.
- ⁱⁱⁱ <https://paworkstats.geosolinc.com>
- ^{iv} <https://www.weforum.org/agenda/2020/10/dont-fear-ai-it-will-lead-to-long-term-job-growth/>
- ^v Independent Fiscal Office (2020). Pennsylvania Demographic Outlook: September 2020.
- ^{vi} <https://nces.ed.gov/surveys/pisa/>
- ^{vii} <https://www.ets.org/s/research/30079/millennials.html>
- ^{viii} <https://www.nationsreportcard.gov/profiles/stateprofile/overview/PA>
- ^{ix} A 2015 study from Pennsylvania State University showed that a high school dropout consumes \$2,700 in public health insurance versus just \$170 for a college graduate. Baker & Cummings. 2015. Pennsylvania's Best Investment: The Social and Economic Benefits of Education. Retrieved from <https://www.elc-pa.org/resource/pennsylvanias-best-investment-the-social-and-economic-benefits-of-public-education/>
- ^x <https://www.statista.com/statistics/248063/per-capita-us-real-gross-domestic-product-gdp-by-state/>
- ^{xi} <https://www.bls.gov/news.release/pdf/empsit.pdf>
- ^{xii} Penn State Center for Economic and Community Development. Retrieved from <https://news.psu.edu/photo/577781/2019/06/13/graphic-pennsylvania-employment-numbers>
- ^{xiii} <https://paworkstats.geosolinc.com>
- ^{xiv} <https://www.penncapital-star.com/working-the-economy/the-decades-long-decline-of-manufacturing-jobs-in-pa-the-numbers-racket/>
- ^{xv} <https://datacenter.kidscount.org/data/tables/5199-per-pupil-educational-expenditures-adjusted-for-regional-cost-differences#ranking/2/any/true/871/any/11678>