

Classrooms for the Future Executive Summary

Under the leadership of Governor Edward G. Rendell, Pennsylvania is moving swiftly forward to prepare our students for postsecondary and higher education and to ensure we have a workforce with the skills and knowledge to succeed in a globally competitive world. We have strategically built a foundation that establishes an understanding of the importance of student-centered, data informed, and differentiated teaching and learning across the Commonwealth.

Our high schools students are poised to enter the global marketplace or to continue their education beyond preK-12, and we must ensure we prepare them for a “flat” world in which opportunities for jobs and higher education are highly competitive. In addition to increasing the rigor and relevance in core academic subjects and expanding learning opportunities by creating inquiry-based environments that stress collaboration, critical thinking and problem-solving, we must educate and support a diversity of learners with different learning styles and ensure every student has the opportunity to succeed.

Governor Rendell has rightfully recognized the crucial interplay of education, economic development and workforce preparation and the need to invest our valuable time, resources and attention in *Classrooms for the Future*. *Classrooms for the Future* is a \$200 million, three-year groundbreaking, comprehensive high school reform project that leverages all of our efforts to date.

To support this reform, *Classrooms for the Future* has been designed to ensure there is a laptop on every high school core subject classroom desk in “smart” classrooms with high tech teacher stations in all public high schools and career and technical centers in Pennsylvania. What each high school classroom receives is one laptop per student desk, teacher laptop, printer, scanner, imaging software, web cam, electronic whiteboard, projector, digital still and video cameras, productivity software, infrastructure and tech support. A robust companion program of online and onsite professional development guarantees that high school teachers and administrators are prepared to integrate these and other technologies into their instructional practices.

The benefits realized through this program transcend the education, economic and workforce development components already discussed above. By providing high-speed broadband connectivity to all schools in the Commonwealth, we are building an infrastructure that will be utilized by businesses and communities as well as local governments and municipals services. By changing how high schools work, we are elevating the level of technology awareness and skill of not only the educators and students in schools, but also of their parents and community members, particularly through libraries and after school programs. We are building stronger links between education and business, with student internships and student –developed websites and other technology driven products available as products and services to local businesses. And we are ensuring a skilled workforce in the future so Pennsylvania is able to attract information-based businesses looking to locate in a state with a large 21st Century workforce.

Classrooms for the Future

By

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Under the leadership of Governor Edward G. Rendell, Pennsylvania is moving swiftly forward to prepare our students for postsecondary and higher education and to ensure we have a workforce with the skills and knowledge to succeed in a globally competitive world. We have strategically built a foundation that establishes an understanding of the importance of student-centered, data informed, and differentiated teaching and learning across the Commonwealth.

A: The Challenge

Like all states, Pennsylvania must adapt to new economic challenges by preparing our students to enter the workforce ready to meet the demands of a globally competitive economy. As in past ages, when there was a major economic shift, the educational system became the first line of change to prepare a future generation for the workforce. From agriculture to industrial, from industrial to technological and now from local technology to global information, Pennsylvania must rise to the challenge of preparing the students for the workforce they will enter.

Currently:

- Too many of our high schools are outmoded and outdated. We must successfully help our schools to establish professional learning communities that provide innovative learning environments.
- Too many of our administrators are not adequately prepared as leaders in organizational, instructional and strategic thinking. We must ensure leadership skills are enhanced at both the entry and veteran levels to guide the schools into 21st Century models of success.
- Too many of our school environments do not encourage or support our teachers to remain current in their subject matter expertise and evolving pedagogical and classroom management approaches, stratifying teachers and reinforcing the notion of teaching as private practice, with too many new teachers entering the profession unprepared for the requirements of today's teaching and learning.
- Most students are more technology-savvy, comfortable with multi-tasking, and able to utilize technology as an essential part of their lives than their parents and

teachers, but far too many of our classrooms still operate on the old model of simple lecture and testing as the preferred teaching style.

Our high schools students are poised to enter the global marketplace or to continue their education beyond preK-12, and we must ensure we prepare them for a “flat” world in which opportunities for jobs and higher education are highly competitive. In addition to increasing the rigor and relevance in core academic subjects and expanding learning opportunities by creating inquiry-based environments that stress collaboration, critical thinking and problem-solving, we must educate and support a diversity of learners with different learning styles and ensure every student has the opportunity to succeed.

B: The Foundation

Our work to date has involved developing adequate access to infrastructure, systems and applications to support and improve teaching and learning. We have also begun the hard work of streamlining our information management, planning and reporting to improve decision-making, operations and administrative productivity. This work included developing an education strategic planning system to integrate multiple strategic plans required of every district into a comprehensive one. It required passing legislation and securing funding to build a statewide broadband network to ensure all schools and classrooms have access to affordable high-speed connectivity. It also involved improving resource allocation, including re-thinking how funding, time, personnel and other scarce resources are most effectively utilized.

We have focused on changing the culture in schools/ districts through the development of strong, capable administrative and instructional leaders who promote strategic leadership. In addition, “Keystones: Technology Integrators” were chosen in schools as model practice teachers who integrate technology, continuous assessment and differentiated instruction seamlessly into their everyday classroom. We have rolled out a statewide grant initiative to provide hand-held computers for instruction in classrooms, funding for *Getting to One* integration mentors, and grant opportunities that promote proven practices across the state. We have established a statewide Pennsylvania Inspired Leadership program to prepare and support principals to become the chief architects of standards-aligned systems in their schools. Governor Rendell has created two new commissions – one to address teacher training and the other to focus on preparing high school students for post-graduate opportunities in higher education or the workforce. Finally, a statewide summit has been held with deans and leaders of Pennsylvania’s colleges and universities of education for the past two years to ensure teacher candidates enter the profession with both 21st Century skills and the ability to teach students those same skills in the classroom.

The Program

Governor Rendell has rightfully recognized the crucial interplay of education, economic development and workforce preparation and the need to invest our valuable time, resources and attention in *Classrooms for the Future*. *Classrooms for the Future* is a

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But these technology tools are only that. What is crucial is refocusing these schools on establishing an environment that will support student centered, inquiry based, data informed, personalized teaching and learning. To accelerate that transformation, we are providing stipends to Keystone teachers to act as mentors to their peers and *Classrooms for the Future* coaches to spend all their time guiding teachers and administrators in technical needs assessments and strategic recommendations, identifying appropriate instructional and administrative technologies, and delivering local hands-on relevant professional development. A robust companion program of online and onsite professional development guarantees that high school teachers and administrators are prepared to integrate these and other technologies into their instructional practices. By building partnerships with higher education institutions and local community and business groups, collaborating with regional education service agencies and utilizing students as mentors and assistants, the entire enterprise benefits.

Outcomes

Classrooms for the Future seeks to comparably equip every core curricular classroom in high schools across the Commonwealth; however, this initiative is not about what schools get – it’s about what they get out of it.

Our students live in a digital world and our schools must adapt instruction to complement learning in today’s environment. We have the opportunity and the responsibility to utilize research-based, technology-enabled practices to thrill, inspire, and capture the imagination of our students. *Classrooms for the Future* is about creating environments for deeper cognitive development through inquiry, real and relevant project-based learning, and differentiated instruction. In *Classroom for the Future*, teachers are facilitators, guides, and co-investigators; students are producers, apprentices, and co-explorers. *Classrooms for the Future* are 21st century instructional settings using 21st century techniques to enable 21st century children to succeed.

Classrooms for the Future is about recognizing and embracing the need for reform, understanding the role of technology as a change agent, and adopting practices that may be unfamiliar. It is about shifting pedagogy to differentiate instruction to each student based on his or her learning style, multiple intelligences, sociocultural background and needs and proficiencies. It requires that we think about our approaches to professional development differently as well. It is about utilizing time as a resource, not a constraint,

and moving beyond Carnegie units and the school day and year to establish cross-curricular, project-based units that become part of student portfolios and inquiry-based oral and written presentations in and out of school. For example, students might examine original artifacts of the anti-bellum South and then webcast discussions with anthropologists to better understand the cultural exigencies that lead to slavery. It is about encouraging and harnessing collaboration within the classrooms and beyond. For example, a social studies teacher might have students create a weblog to identify views on the most significant causes of World War II that can then be used as the thesis for collaborative multimedia presentations.

C: Benefits

The benefits realized through this program transcend the education, economic and workforce development components already discussed above. By providing high-speed broadband connectivity to all schools in the Commonwealth, we are building an infrastructure that will be utilized by businesses and communities as well as local governments and municipals services. By changing how high schools work, we are elevating the level of technology awareness and skill of not only the educators and students in schools, but also of their parents and community members, particularly through libraries and after school programs. We are building stronger links between education and business, with student internships and student –developed websites and other technology driven products available as products and services to local businesses. And we are ensuring a skilled workforce in the future so Pennsylvania is able to attract information-based businesses looking to locate in a state with a large 21st Century workforce.

We believe that collaboration among schools, universities, communities and businesses in our Classrooms for the Future program will provide models for regional public-private partnerships. We believe the school-based solutions will become models for high school reform for the nation. We believe the economic and workforce development opportunities for the state will be models for other states as we proceed in a flat world of global competition.

D: Return on Investment

Much like the Rand Study of early childhood education success that equates \$1.00 in spending on early childhood programs with \$7.00-8.00 in savings to society from carrying the burden of an uneducated citizen, we could assume a similar ratio in transforming our students from manufacturing based potential employee to an information age worker. In essence, the economic development opportunities with such a talented workforce are immeasurable. In specific terms, the statewide hardware and software purchase through a single RFP aggregates the purchasing power of the 501 locally controlled school districts for the first time in state history, saving approximately 30-40 percent in strategic sourcing. The efficiencies realized through the regional aggregation for telecommunication services and equipment reflects an overall 461% increase in educational network capacity for a 24% increase in cost, which reduces the

Phase I project costs by \$12 million over five years, with five more phases to go, and created a business model to serve poor, rural regions of the state previously ignored by service providers. The impact of streamlining education through our educational enterprise systems should provide an annual savings of at least \$10 million.

We know *Classrooms for the Future* will continue to be hard work, but these are the types of moral purpose and goals worthy of our commitment. We know it will require courageous action, inspired leadership and a strong professional learning community in every school. The good news in Pennsylvania is we have the right leadership at the right time with the right educators who are up to the challenge and ready to lead and serve the students as they prepare for their future.