

Pennsylvania's Costing-out Study

November 19, 2007

Education Law Center

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Name of the Study

"Costing Out the Resources Needed to Meet Pennsylvania's Public Education Goals"

Date Released

November 14, 2007

Who performed the study?

The study was commissioned and funded by the General Assembly in June 2006. It was supervised and released by the State Board of Education. It was performed by a national consulting firm - Augenblick, Palaich and Associates of Denver, Colorado.

What is the purpose of the study?

The study was designed to understand what it costs for all students in Pennsylvania public schools – no matter where they live – to receive a quality education allowing them to meet state standards for academic achievement. By understanding these costs, the state can adjust its funding system to close the gap between high-spending and low-spending school districts. These gaps cause local tax pressures in many communities, especially on property taxes.

Summary of Findings

The major findings of the study include the following:

- The average annual total funding needed per student in Pennsylvania is \$12,057. The average per-student amount actually spent in 2005-06 was \$9,512. Thus, the study found that an average increase of \$2,545 per student per year is needed for all students to reach Pennsylvania's academic proficiency and performance expectations.
- 474 of Pennsylvania's 501 school districts are currently spending below the levels recommended by the costing out study. 1.68 million students attend these under-funded schools. Some districts are currently spending as much as \$5,000 per student below the level needed to provide a quality education under state standards.
- In total, Pennsylvania must increase education spending by \$4.61 billion per year over current levels – a 26.8 percent increase – in order to meet established performance standards. This number was calculated by adding up the per-student spending gaps in districts across the state.

Pennsylvania's current state funding system is inequitable. Districts with higher wealth and lower student needs spend more per student than lower wealth districts with higher student needs. On average, the higher wealth districts can do this while still making a lower tax effort than other districts.

Methods of Analysis Used in the Study

Analysis for the costing-out study was done using several methods, with most results cross-checked by multiple methods. Methods included -

- Successful school district analysis. This method looked at average spending in districts with high academic performance. All schools may need similar resources to succeed.
- Efficiency analysis. This method further evaluated the most successful districts to identify those with both strong academic performance and efficient use of resources.
- Professional judgment analysis. This method involved panels of experienced Pennsylvania educators that identified the programs and resources all schools need to meet state performance expectations for all students. The panels performed this analysis for schools and districts of different sizes and with different mixes of disadvantaged students. A total of 66 educators participated in the panels.
- Evidence-based analysis. This method used the best educational research to identify strategies that are likely to produce student achievement meeting Pennsylvania's academic standards. The research was evaluated by panels comprised of 45 Pennsylvania educators, school board members, and business representatives.
- Cost function analysis. This method evaluated the statistical relationships between school spending and student performance. Factors affecting both spending and achievement included district enrollment, teacher salaries, learning challenges such as student disabilities, and other district environmental factors.
- Geographic cost of living analysis. This method evaluated geographic cost of living differences across Pennsylvania that affect funding needs of public schools. Factors included labor costs, housing costs, non-housing costs, and educational costs related to administration and enrollment.
- Transportation cost analysis. This method evaluated the systems and costs associated with student transportation.

Assumptions Underlying the Study

The following assumptions formed the framework for the costing-out study. These assumptions were initially established by the General Assembly and the State Board Of Education.

- There is increasing pressure on public education systems to ensure that all students leave school with the tools and skills needed to succeed in life.
- Over the last decade, Pennsylvania has established standards and timetables for achieving high academic performance by students and schools.
- State education finance systems should address what it really costs to meet these student performance expectations.
- Pennsylvania's policymakers and education leaders must have accurate information about what it will cost each school district in Pennsylvania to achieve the established performance goals.
- In Pennsylvania, the performance goals include helping all students (100 percent) to achieve proficiency in reading and math by the year 2014. Proficiency is measured by state standardized tests – the Pennsylvania System of School Assessment (PSSA). In

addition, all students must master wide-ranging state standards in 12 academic areas, as measured by local assessments.

- There are three elements to costing out the resources needed to meet Pennsylvania's public education goals. All three elements are needed to consider the unique circumstances and educational challenges faced by each of Pennsylvania's 501 school districts. All three elements are also needed to accurately cover the costs of providing a quality education to all students in all communities.
 - The base cost of educating the “average” student in the “average” school district in Pennsylvania. For purposes of this study, the base cost did not include costs for food services, transportation, community services, capital costs (such as facilities construction), debt service, adult education, and higher education.
 - Student-driven educational cost factors above the base cost, which vary between districts, including the extra costs associated with educating students who are gifted, in poverty, with disabilities, or learning English.
 - Other cost factors above the base cost associated with differences between school districts based on their size, enrollment trends, and regional cost of living.

Findings of the Costing-out Study

The following findings are based on the combined analysis using all of the methods listed above. In sum, the findings identify the costs associated with meeting Pennsylvania's academic performance standards for all students and schools. The findings use the most recent data available for all variables - from the 2005-06 school year - and the academic performance standards from the same year. For future years, these costs must be adjusted for inflation, changes in student demographics, and other factors. **The most important findings are listed in bold font.**

1. **TOTAL SPENDING NEEDED.** The total annual amount of statewide spending needed for all students to meet state academic standards is \$21.86 billion.
2. **AREAS OF NEED.**
 - a. About two-thirds of the total annual spending is needed to provide the "average" student in the "average" district with a quality education. This is the Base Cost and equals \$8,003 per student.
 - b. About one third of total annual spending is needed for the Added Costs required to meet the following essential cost factors:
 - i. Enrollment changes over time. Districts with shrinking enrollment have higher per student costs than more stable districts, because they are unable to reduce resources – such as school buildings, classrooms, teachers, and libraries – as rapidly as enrollment changes.
 - ii. Overall district size. Smaller districts have higher per student costs than larger districts, because they must provide many basic programs and resources regardless of student enrollment.
 - iii. Regional cost differences. The market price of resources is different from place to place in Pennsylvania, varying by as much as 23 percent.

iv. Educating students with disabilities, children in poverty, English language learners, and gifted students. It costs more to educate these students. The study found the following extra costs:

- Students with disabilities – an extra cost of 1.3 times base cost.
- Students in poverty – an extra cost of 0.43 times the base cost. This cost does not include the cost of drop out prevention and re-entry programs.
- English language learners – an extra cost that is higher per student in smaller districts, ranging by district size between 1.48 to over 2.32 times the base cost.
- Gifted students – an extra cost that is higher per student in smaller districts, ranging by district size between 0.20 to over 0.674 times the base cost.

3. **DISTRICT COST ESTIMATES. When the various factors listed above are considered at the school district level, the study produces a cost estimate for each of the 501 districts in Pennsylvania.** These district estimates are different for each district, because the characteristics of each district and its students are different.
4. **RANGE OF COST ESTIMATES.** The lowest per student cost estimated by the study is \$9,655 for the Dallastown Area School District. The highest cost estimate is \$14,919 for the Philadelphia School District.
5. **INFLUENCES ON EDUCATIONAL COSTS. It costs far more – on average around \$3,000 more per student – to provide a quality education in the Pennsylvania school districts with the highest student needs.** For example, the regional cost of living is higher on average in the districts with greater student needs. The cost of educating disadvantaged students is also higher in these districts.
6. **NUMBER OF UNDER-FUNDED DISTRICTS. 474 of Pennsylvania’s 501 school districts are currently spending below the levels recommended by the costing out study. 1.68 million students attend these under-funded schools.** Some districts are currently spending as much as \$5,000 below the level needed to provide a quality education under state standards.
7. **PER STUDENT SPENDING NEEDED. The average annual total funding needed per student is \$12,057. The average per-student amount actually spent in 2005-06 was \$9,512. Thus, the study found that an average increase of \$2,545 per student per year is needed for all students to reach Pennsylvania’s academic proficiency and performance expectations.**
8. **VARIATION IN WEALTH.** There is a large variation in wealth from district to district throughout Pennsylvania. (District wealth is measured by a combined product of property wealth and personal income.) The wealthiest district has about 84 times the wealth of the least wealthy district. Wealth per weighted student ranges from \$2,835,521 in the wealthiest district to \$33,647 in the least wealthy district. The statewide average wealth per weighted student is \$155,806.
9. **WEALTH DIFFERENCES AND FUNDING NEEDS. Current spending levels in the state’s least wealthy districts are the furthest from the costing-out levels identified in the study. This means that spending is often lowest in the districts with the most need.** On average, the poorest 20 percent of districts need to raise spending by

34.9 percent. The wealthiest districts only have to raise spending by 6.6 percent to meet their costing-out levels.

10. **TOTAL FUNDING INCREASE NEEDED. In total, Pennsylvania must increase education spending by \$4.61 billion per year over current levels – a 26.8 percent increase – in order to meet established performance standards.** This number was calculated by adding up the per-student spending gaps in districts across the state. If the 27 districts currently spending above their costing-out estimates continue to do so, the total increase is \$4.81 billion.
11. **TRANSPORTATION.** The study also evaluated transportation spending in Pennsylvania. The study's analysis concluded that current transportation spending appears to reasonably address the costs faced by most school districts in Pennsylvania.
12. **LOCAL VERSUS STATE REVENUE. Public education in Pennsylvania relies primarily on local revenue, such as property taxes. State revenue for education currently amounts to about one-half of all local revenue for education.** [National data shows that state revenue in Pennsylvania amounts to about 36 percent of all education funding. Local revenue amounts to over 57 percent of all funding.] The heavy reliance on local revenue means that wealthy districts can afford to spend more per student than low wealth districts, even though the students in low wealth districts have greater needs on average.
13. **FUNDING INEQUITIES. The current state funding system is inequitable. Districts with higher wealth and lower student needs spend more per student than lower wealth districts with higher student needs. On average, the higher wealth districts can do this while still making a lower tax effort than other districts.** Given the current low state share of total education spending, state funding for districts with the greatest student need does relatively little to offset the educational inequities caused by extra local funds generated in districts with less student need.
14. **TOTAL TAXES COMPARED.** The total of all state and local taxes collected in Pennsylvania is close to the national average, but is 6 to 12 percent lower than total taxes collected in six nearby states – Delaware, Maryland, New Jersey, New York, Ohio, and West Virginia. If Pennsylvania taxes were set at the average of these six states, between \$3.17 and \$6.02 billion in more revenue could have been collected in 2004.
15. **SOURCES OF ADDITIONAL REVENUE. If additional revenues are provided to improve student achievement, as suggested by the study, such funds should be collected through state taxes and distributed based on the needs and wealth of school districts.**
16. **A NEW FUNDING SYSTEM. The costing out process developed for this study could be used by the state as the basis for a new education funding system.** The state could direct increased funding to districts spending below the cost levels identified in the study. Districts spending above the cost levels identified in the study could continue doing so using locally raised revenue. Cost factors such as inflation and student demographics could be updated each year, with a more comprehensive costing-out study being performed every five or six years. New funding could be used by school districts for a range of programs aimed at increasing student achievement, such as academic support programs for disadvantaged students, class size reduction, full day kindergarten, expanded preschool opportunities, improved professional development for teachers and administrators, drop out prevention programs, and improved technology.