Chapter 11: Estimated Costs of 21st Century School Library Programs

In its first two phases, this study identifies several components of school library infrastructure—both quantitative matters, such as how much staff and “stuff” (i.e., digital resources, traditional collections) a library program has, and qualitative matters, such as what school librarians teach, how they teach it, and how they are perceived by and interact with other educators while teaching it. The impact of these infrastructure components is measured both qualitatively and quantitatively.

First, for infrastructure components for which data are available (i.e., staffing, resources spending, digital resources, collections, and library access), their impact on Reading and Writing results from the Pennsylvania System of School Assessment (PSSA) is measured statistically.

Second, for more qualitative elements on which this study collected data (i.e., what administrators value, activities reported by teachers and librarians, perceptions of librarian roles), their impact on the teaching of academic standards is evaluated based on educators’ assessments of the excellence of library program teaching of academic standards. The standards in question include both Standards for the 21st Century Learner promulgated by the American Association of School Librarians (AASL) and Common Core standards developed by the Common Core State Standards Initiative and adopted by the Pennsylvania Department of Education. Then, to validate the perceptions of administrators, teachers, and librarians about the impact of library programs on teaching standards, their assessments of library program teaching are compared with PSSA Reading and Writing scores.

Now, input from administrators, teachers, and librarians provides the basis for determining school library infrastructure components for which to estimate statewide costs.

In this chapter, high-priority infrastructure components are identified along with their estimated statewide costs and the evidence of their efficacy. The remaining infrastructure components and their relationships to the high-priority components are also discussed.

School Library Infrastructure Components

In this study’s surveys, administrators, teachers, and librarians were asked to assess the following infrastructure components as essential, highly desirable, desirable, or not desirable based on their beliefs about the component’s positive impact on student learning and academic achievement. (They also had the option don’t know/need more information.)

- Full-time certified librarian (with school librarian certification) in every school
- Library coordinator (with school librarian certification) in every district
- Library coordinator (with school librarian certification) in every intermediate unit
- School Library Advisor (with school librarian certification) at Commonwealth Libraries, the State Library Agency in the Department of Education
- State-mandated and assessed 21st century skills curriculum for which librarians are responsible
- State-negotiated and acquired collection of electronic/digital resources to support a 21st century skills curriculum (e.g., databases, e-books)
- Pre-service, induction, and continuing education about librarian’s role in teaching 21st century skills for prospective librarians
Pre-service, induction, and continuing education about librarian’s role in teaching 21st century skills for prospective teachers

Pre-service, induction, and continuing education about librarian’s role in teaching 21st century skills for prospective administrators

Professional development supporting collaborative teaching of 21st century skills for librarians and teachers

This list of potential components of a statewide infrastructure for 21st century school library programs was generated by a focus group of school library leaders from throughout the state in January 2012.

High-Priority Infrastructure Components and Their Estimated Statewide Costs

Of the 10 statewide school library infrastructure components about which educators were asked, three are assessed as essential or highly desirable by overwhelming majorities of the three educator groups.

- Nine out of 10 administrators and virtually all teachers and librarians support strongly having a full-time certified librarian in every school.
- Four out of five administrators and nine out of 10 teachers and librarians support strongly having a state-negotiated and acquired collection of electronic/digital resources to support a 21st Century Skills curriculum (e.g., databases, e-books).
- Four out of five administrators, almost nine out of 10 teachers, and almost all librarians support strongly having professional development programs that support collaborative teaching of 21st century skills for librarians and teachers.
Full-Time Certified Librarian in Every School

According to the Pennsylvania Department of Education (PDE), this 2011-12 school year, the state has 2,929 public schools (in 500 school districts), 161 charter schools, and 12 Comprehensive Career and Technical (CCT) schools.¹ According to the Pennsylvania State Education Association (PSEA), the average starting salary for a teacher (librarians are on the same pay scale) is $40,738.² Thus, if there was a full-time, certified librarian in every Pennsylvania school, their total salaries can be estimated—conservatively—at $126,369,276. For the 2012-13 school year (about to begin at this writing), the average starting salary for a teacher will be $41,569. At that rate—and assuming the number of schools remains static—the conservative estimate of the cost of a librarian in every school for the upcoming school year is $128,947,038.


The latest fiscal data available from PDE is for 2010-11.³ According to PDE’s data, that year, public schools spent $26,583,618,533—almost $26.6 billion dollars. Conveniently, this is the same year as the legislature-mandated survey of school libraries in Pennsylvania.⁴ According to the study report, that year, there were 2,970 schools (in 500 districts), 141 charter schools, and 14 CCT schools. According to PSEA, the average starting salary for a teacher that year was $40,043.⁵ Multiplying that salary by the total number of schools—3,125—the conservatively estimated cost of a librarian in every school for 2010-11 would have been $125,134,375.

| Hypothetical Base Cost of a Full-Time Certified Librarian in Every Pennsylvania School, 2010-11 to 2012-13 |
|-------------------------------------------------|-----------------|-----------------|
| Average starting teacher salary                | 2010-11         | 2011-12         | 2012-13         |
| Number of public schools                        | 3,125           | 3,102           | 3,102           |
| Hypothetical base cost of a full-time certified librarian in every school | $125,135,375   | $126,369,276   | $128,947,038   |

1 Mary Kay Biagini, Professor, University of Pittsburgh, “Figures on Number of Schools”, email to Keith Curry Lance, August 31, 2012. Referencing talk with Deb Rodrigues, Educational Statistics Director, Pennsylvania Department of Education.
5 Crossey e-mail.
That figure and PDE’s general fiscal data lend perspective to the surprising modesty of the estimated cost of having a full-time certified librarian in every school. $125,134,375 (starting teacher salary in every school) divided by $23,824,044,561 (current expenditures for all local education agencies, or LEAs) equals 0.47%. In other words, it would cost only about one half of one percent to have a librarian in every school in Pennsylvania.

For the “payoffs” itemized in this report—overall differences in test results, demonstrable potential for closing achievement gaps for specific student cohorts, differences in educator assessments of the role of librarians in teaching academic standards (confirmed by test scores)—it seems a modest price. About 5 cents out of every $10 spent to operate public schools annually.

Education decision makers at state, district, and building levels are encouraged to consider the viability of this investment and the variety of legal and fiscal mechanisms available to them to create mandates and/or incentives for its realization. Any viable path to achieving the goal of a librarian in every school will need to be one created and supported by a critical mass of the state’s education decision makers.

**Hypothetical Base Cost of a Full-Time Certified Librarian in Every School as a Percentage of Current Expenditures for All Local Education Agencies, 2010-11**

For the “payoffs” itemized in this report—overall differences in test results, demonstrable potential for closing achievement gaps for specific student cohorts, differences in educator assessments of the role of librarians in teaching academic standards (confirmed by test scores)—it seems a modest price. About 5 cents out of every $10 spent to operate public schools annually.

Education decision makers at state, district, and building levels are encouraged to consider the viability of this investment and the variety of legal and fiscal mechanisms available to them to create mandates and/or incentives for its realization. Any viable path to achieving the goal of a librarian in every school will need to be one created and supported by a critical mass of the state’s education decision makers.

**State-Negotiated and Acquired Collection of Electronic/Digital Resources to Support 21st Century Skills Curriculum**

Since 1998, electronic/digital resources shared by all libraries in Pennsylvania, including school libraries, have been funded, organized, and referenced collectively as the POWER (Pennsylvania Online World of Electronic Resources) Library program. Because electronic/digital rights to these instructional resources are purchased on behalf of school and other libraries by the state, there are substantial savings over what individual schools would have paid for rights to the same database products.
In 2005, Access Pennsylvania peaked at 37 database products, on which Commonwealth Libraries and the Pennsylvania Department of Education spent a total of $1,772,001. In October 2005, PDE reported total public school enrollment of 1,830,684. This means that, for the 2005-06 school year, spending on database resources available to the state’s public schools and their students amounted to 97 cents per student.

In a February 2012 Office of Commonwealth Libraries letter to superintendents, Alice Lubrecht, Interim Deputy Secretary of Education and Commissioner for Libraries, reports that the far more meager POWER Library database collection available this year (down from 37 database products in 2005-067 to 17 in 2011-128) “would cost approximately $40,000 per school library if schools had to pay the vendor subscription fees.”9 At that rate, to match those database offerings in 2011-12, the state’s 3,102 schools would have had to spend $124.08 million in database fees. That is the equivalent of $70.29 per student. (That figure is confirmed—actually, exceeded—by an independent estimate of $72.54 per student provided by a major library database vendor six months later.10) The same year, the total costs of the statewide POWER Library contracts were $630,000—or half of one percent of the costs that would have been incurred by individual schools.11

### POWER Library Database Contracts, 2005-06 to 2011-12 Gap

<table>
<thead>
<tr>
<th></th>
<th>2005-06</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER Library contracts, 2005-06</td>
<td>$1,772,001</td>
<td>$630,000</td>
</tr>
<tr>
<td>Number of databases, 2005-06</td>
<td>37</td>
<td>13</td>
</tr>
<tr>
<td>Enrollment, October 2005</td>
<td>1,830,684</td>
<td>1,765,327</td>
</tr>
<tr>
<td>Cost per student, 2005-06</td>
<td>$0.97</td>
<td>$0.36</td>
</tr>
<tr>
<td>POWER Library contracts, 2011-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of databases, 2011-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrollment, October 2011</td>
<td>1,765,327</td>
<td></td>
</tr>
<tr>
<td>Cost per student, 2011-12</td>
<td>$0.36</td>
<td></td>
</tr>
<tr>
<td>POWER Library difference, 2005-2011</td>
<td>$1,142,001</td>
<td></td>
</tr>
<tr>
<td>Enrollment, October 2011</td>
<td>1,765,327</td>
<td></td>
</tr>
<tr>
<td>Hypothetical additional cost per student, 2011-12</td>
<td>$0.65</td>
<td></td>
</tr>
</tbody>
</table>

Clearly, these figures indicate that purchasing the rights to databases on a statewide basis versus an individual school basis is an open-and-shut case of economy of scale as well as a guarantee of equal access.

---

to these instructional resources for all Pennsylvania students, regardless of how rich or poor their community or their school may be.

For 2011-12, POWER Library database contracts covered only 13 databases—fewer than half the number available in 2005-06—and totaled $630,000—35.6%, little more than a third, of the 2005-06 funding level.\textsuperscript{12} Certainly, the number and variety of databases available today are greater than in 2005-06. EBooks alone are a new area of electronic/digital content that will soon rival full-text databases of periodical literature and reference works. In any event, whatever specific products such funding might be spent on in the future, just to match the state’s 2005-06 spending on electronic/digital resources for school libraries would require an increase over 2011-12 funding of $1.142 million.

\textbf{Professional Development Supporting Collaborative Teaching of 21st Century Skills for Librarians and Teachers}

Most opportunities for librarians and teachers to experience professional development opportunities that support their collaborative teaching of 21st century skills will be in the context of regular in-service days. Most often, these in-service days do not involve any extraordinary costs for schools, because schools usually are not in session on such days. In order to take advantage of in-service days shared by librarians and teachers, it will be necessary for librarians to be excused for two additional days per school year (one per semester) to plan and prepare for librarian-teacher collaboration sessions on those days. Because schools will be in session on those days, substitutes for school librarians will be required to keep school libraries open. According to the Pennsylvania School Board Association, for 2011-12, the average daily rate for substitute teachers statewide was $86.\textsuperscript{13} At that 2011-12 rate, the annual cost of two days of substitute coverage for one librarian from each of the state’s 3,102 schools can be estimated at $533,544.

<table>
<thead>
<tr>
<th>Estimated Annual Cost of 21st Century Professional Development for Librarians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average statewide daily cost of a substitute teacher, 2011-12</td>
</tr>
<tr>
<td>Recommended number of annual days of professional development for librarians</td>
</tr>
<tr>
<td>Number of schools, 2011-12</td>
</tr>
<tr>
<td>Estimated annual cost of 21st century professional development for librarians</td>
</tr>
</tbody>
</table>

\textbf{Other Infrastructure Components}

Impressive majorities of the three educator groups also support strongly the remaining seven statewide infrastructure components for school library programs. These seven components fall in three major groups:

\textsuperscript{12} Scorza e-mail.
Library Coordination

Coordination of library services at district, intermediate unit, and state levels has considerable support from educators:

- Over half of administrators, seven out of 10 teachers, and almost seven out of 10 librarians support strongly having a library coordinator (with school librarian certification) in every district.

- Almost half of administrators, more than three out of five teachers, and two out of three librarians support strongly having a library coordinator (with school librarian certification) in every intermediate unit.

- Over half of administrators, almost two out of three teachers, and nine out of 10 librarians support strongly having the School Library Advisor (with school librarian certification) at Commonwealth Libraries.

What is especially notable in these findings about library coordination at district, intermediate unit, and state levels is the divergence of opinion between administrators, on the one hand, and, on the other, teachers and librarians. District and intermediate unit coordination of library services has substantially more support from both teachers and librarians than from administrators. This difference suggests a need for greater dialogue with administrators about these functions and their consequences for students—consequences that, apparently, are more immediately apparent to front-line educators than their supervisors.

The other noteworthy finding for this group of infrastructure components concerning coordination of library services is the gap between librarians and others. While majorities of administrators and teachers support strongly the School Library Advisor position at Commonwealth Libraries, nine out of 10 librarians do so. This difference suggests a need for greater communication with both administrators and teachers about the benefits of this position for school library programs at both district and building levels.
A majority of each educator group expresses support for a state-mandated and assessed 21st Century Skills curriculum for which librarians are responsible. Considering that this idea is just that—only an idea at this time—the levels of support are remarkable.

Such a curriculum is deemed essential or highly desirable by about two-thirds of administrators and teachers and four out of five librarians.

These levels of support are all the more remarkable given the qualifiers attached to the idea of such a curriculum:

- State-mandated
- Assessed
- For which librarians are responsible

State mandates generally and in education in particular are not usually very popular. In this case, however, substantial majorities of the three educator groups consider this largely undeveloped idea either essential or highly desirable. Most likely, the fact that so many agree about the value of such a state-mandated curriculum says something about the perceived value of 21st century skills.

What makes the levels of support for such a curriculum even more impressive is the qualifier that it be assessed. Assessment—especially as manifested by high-stakes state testing—is both time-consuming and controversial. Many feel that there is too much assessment already. If educators themselves feel that they ought to be assessed on something yet more for the sake of their students, that is noteworthy. Notably, however, it was not specified at what level (state, district, building) such assessment should take place.
Perhaps, administrators and teachers did not feel too “threatened” with more assessment thanks to the final qualification—that this curriculum is something for which librarians would be responsible. That being the case, it would be an instrument for evaluating librarians, not teachers or their schools more generally (i.e., making it a personal issue for administrators).

There is, however, an implicit issue with this component. Having a state-mandated and assessed 21st century skills curriculum for which librarians are responsible at least implies that it is something every school would be expected to address. And, if such a curriculum is something for which librarians are responsible, that presupposes one of this study’s high-priority infrastructure components—a full-time, certified librarian in every school.

For this reason, while it is impossible to put a price to this component in its present undeveloped state, the strength of educator sentiment for the idea provides an additional argument for the high-priority component, a full-time, certified librarian in every school.

Pre-Service, Induction, and Continuing Education on 21st Century Skills for Educators

The three remaining school library infrastructure components concern the place of 21st century skills in the ongoing professional education of administrators, teachers, and librarians. It is conventional wisdom that the roles of school library programs and school librarians are not understood widely in the education community, especially in public schools. Add the more specific concern of 21st century skills, and this dilemma becomes even more problematic.

- Two out of three administrators, three out of four teachers, and nine out of 10 librarians agree that such 21st century skills education is essential or highly desirable for prospective administrators.

- Similarly, two out of three administrators, seven out of 10 teachers, and nine out of 10 librarians agree that 21st century skills education is essential or highly desirable for prospective teachers.

- Unsurprisingly, the greatest enthusiasm for ongoing 21st century skills education is associated with librarians. Four out of five administrators and teachers and nine out of 10 librarians agree that it is essential or highly desirable that prospective librarians be exposed to these ideas during their professional education, as they are beginning their school careers, and on an ongoing basis thereafter.
Pre-service education on 21st century skills for the three educator groups is an issue for the higher education community to address. To some extent, the cost of developing new programs of study and new courses is a built-in cost for higher education institutions. Doubtless, however, if the state legislature determined that it had a compelling interest in encouraging the development of such programs of study and courses, it could speed the process dramatically by providing funding incentives for academic institutions to undertake such work.

The induction and continuing education aspects of this component dovetail—at least in terms of cost estimation—with one of the high-priority components, professional development supporting collaborative teaching of 21st century skills for librarians and teachers.