



DOVER SCHOOL DISTRICT

EMPOWERING ALL LEARNERS!

AN EVIDENCE BASED APPROACH TO SCHOOL FINANCE

By Allen Odden Picus

The High-Performance School Model Embedded in the Evidence-Based Approach to School Finance Adequacy

The EB Model used to estimate a cost-based spending level for schools has been designed to allow districts and schools to provide every child with an equal opportunity to learn to state performance standards. The EB Model is unique in that it is derived from research and best practices that identify programs and strategies that boost student learning. Further, the formulas and ratios for school resources developed from that research have been reviewed by dozens of educator panels in multiple states over the past decade. The EB Model relies on two major types of research:

1. Reviews of research on the student achievement effects of each of the EB Model's individual major elements, with a focus on randomized controlled trials, the "gold standard" of evidence on "what works."
2. Studies of schools and districts that have dramatically improved student performance over a four to six-year period – what is sometimes labeled "a doubling of student performance" on state assessments.

As a result of our research and work in other states, the EB approach today is more explicitly in identifying the components of a school improvement model, and it does a better job of articulating how all the elements of the EB Model are linked at the school level to strategies that, when fully implemented, produce notable improvements in student achievement (see Odden & Picus, 2014; Chapter 5).

High performing and improving schools have clear and specific student achievement goals, including goals to reduce achievement gaps linked to poverty and minority status. The goals are nearly always specified in terms of performance on state assessments.

Compared to traditional schools where teachers work in isolated classrooms, improving schools organize instruction differently. Regardless of the context – urban, suburban, or rural, rich or poor, large or small – improving and high performing schools organize teachers into collaborative teams: grade level teams in elementary schools and subject or course teams in secondary schools. With the guidance and support of instructional coaches, the teacher teams work with student data – usually short-cycle or formative assessment data – to:

- Plan standards-based curriculum units;
- Teach those units simultaneously;
- Debrief on how successful the units were; and

- Make changes when student performance does not meet expectations.

This collaborative teamwork makes instruction “public” over time by identifying a set of instructional strategies that work in the teachers’ school. Over time all teachers are expected to use the instructional strategies that have been demonstrated to improve student learning and achievement.

High performing and improving schools also provide an array of “extra help” programs for students struggling to achieve standards. This is critical because the number of struggling students is likely to increase as more rigorous programs are implemented to prepare all students for college and careers. Individual tutoring, small group tutoring, after-school academic help and summer school focused on reading and mathematics for younger students, and courses needed for high school graduation for older students, represent the array of “extra help” strategies these improving schools deploy. Their approach is to “hold standards” constant and vary instructional time.

These schools exhibit multiple forms of leadership. Teachers lead by coordinating collaborative teams and through instructional coaching. Principals lead by structuring the school to foster instructional improvement. The district leads by ensuring that schools have the resources to deploy the strategies outlined above with a focus on aggressive student performance goals, improving instructional practice and taking responsibility for student achievement results.

High performing and improving schools seek out top talent. They know that the challenge to prepare students for the competitive and knowledge-based global economy is difficult and requires smart and capable teachers and administrators to effectively get the educational job done.

The study team continues to enhance the details of the strategy of school improvement embedded in the EB Model. The most recent summary of the research undergirding the EB model can be found in Odden and Picus (2014) school finance textbook, and in several books that profile schools and districts that move the student achievement needle (Odden & Archibald, 2009; Odden, 2009, Odden, 2012). The study team recently studied dramatically improving schools in Maryland, Vermont, and Maine as part of school finance studies in those states and found the theory of improvement embodied in the EB Model is reflected in nearly all the successful schools studied (Picus, Odden et al., 2011; Picus, Odden, et al., 2013; Odden & Picus, 2015b). In addition, other researchers and analysts have found similar features of schools that significantly improve student performance and reduce achievement gaps (e.g., Blankstein, 2010, 2011; Chenoweth, 2007, 2009, 2017).

After a comprehensive set of studies and analyses, Greg Duncan and Richard Murnane (2014) reached conclusions similar to those embedded in the EB Model. They note that if all students in a school are to have a chance at success in the emerging global economy, they will need high-quality preschool programs, followed by effective elementary and secondary schools. The key features needed in each school include: 1) leadership focused on improving instructional practice, 2) within-school organization of teachers into teams that over time create a set of effective instructional practices and deploy them systematically in all classrooms, 3) a culture of assistance (e.g., instructional coaches and ongoing professional development) and accountability (e.g., adults taking responsibility for the impact of their school actions on student performance), and 4) an array of extra help strategies to extend learning time for any student who needs more time to achieve standards.

Although the details of studies of improving and high performing schools vary, and different authors highlight somewhat different elements of the process, the overall findings are more similar than

different. This suggests all schools can improve if they have adequate resources AND deploy those adequate resources in the most effective ways.

The EB Model offers a framework for the use of resources by districts and schools to help them focus those resources on programs and strategies that would allow them to produce substantial gains in student academic performance. In addition to the above more global description of the EB effective schools, the study team organized the key elements of the school improvement model embedded in the EB Model into ten areas. In general, schools and districts that produce large gains in student performance follow ten similar strategies (see Chapter four and five of Odden & Picus, 2014; Odden, 2009), resources for each of which are included in the EB Model:

1. Analyze student data to become deeply knowledgeable about performance issues and to understand the nature of the achievement gap. The test score analysis usually first includes review of state test results and then, over time, analysis of formative/shore cycle as well as benchmark assessments to help tailor instruction to precise student needs, to progress monitor students with an Individual Education Plan to determine whether interventions are working, and to follow the performance of students, classroom, and the school over the course of the academic year. Improving schools are “performance data hungry.”
2. Set high goals such as aiming to educate at least 95% of the students in the school to proficiency or higher on state reading and math tests; seeing that a significant portion of the school’s students reach advanced achievement levels; having more high school students take and pass AP classes; and making significant progress in closing the achievement gap. The goals tend to be explicit and are far beyond just producing “improvement’ or making AYP.” Further, because the goals are ambitious, even when not fully attained they help the school produce large gains in student performance.
3. Review evidence on good instruction and effective curriculum. Successful schools throw out the old curriculum, replace it with a different and more rigorous curriculum, and over time create their specific view of what good instructional practice is to deliver that curriculum. Changing curriculum is a must for schools implementing more rigorous college and career ready standards. And such new curriculum requires changes in instructional practice. Successful schools also want all teachers to learn and deploy new content-based, instructional strategies in their classrooms and seek to make good instructional practice systemic to the school and not idiosyncratic to teachers’ individual classrooms.
4. Invest heavily in teacher training that includes intensive summer institutes and longer teacher work years, provide resources for trainers, and, most importantly, fund instructional coaches in all schools. Time is provided during the regular school day for teacher collaboration focused in improving instruction. Nearly all improving schools have found resources to provide instructional coaches to work with school-based teacher data teams, to model effective instructional practices, to observe teachers and to give helpful but direct feedback. This focus has intensified now that schools are delivering a more rigorous curriculum focused on educating all students to college and career proficiency levels. Further, professional development is viewed as an ongoing and not a “once and done activity.”

5. Provide extra help for struggling students and, with a combination of state funds and federal Title 1 funds, provide some combination of tutoring in a 1:1, 1:3, or 1:5 teacher to student format. In some cases, this also includes extended days, summer school, and English language development for all ELL students. These Tier 2 interventions in the Response to Intervention (RTI) approach to helping struggling students achieve standards are absolutely critical. For many students, one dose of even high-quality instruction is not enough; many students need multiple extra help services in order to achieve to their potential. No school producing large gains in student learning ignored extra help strategies altogether or argued that small classes or preschool were substitutes.
6. Restructure the school day to provide more effective ways to deliver instruction. This includes multi-age classrooms in elementary schools, block schedules and double periods of mathematics and reading in secondary schools, and “intervention” periods at all school levels. Schools also “protect” instructional time for core subjects, especially reading and mathematics. Further, most improving schools today organize teachers into collaborative teams – grade level teams in elementary schools and subject/course teams in secondary schools. These teams meet during the regular school day, often daily, and collaboratively develop curriculum units, lesson plans to teach them, and common assessments to measure student learning results. Further, teams debrief on the impact of each curriculum unit, reviewing student learning overall and across individual classrooms.
7. Provide strong leadership and support for data-based decision making and improving the instructional program, usually through the superintendent, the principal and teacher leaders. Instructional leadership is “dense” and “distributed” in successful schools; leadership derives from the teachers coordinating collaborative teacher teams, from instructional coaches, the principal and even district leaders. Both teachers and administrators provided an array of complementary instructional leadership.
8. Create professional school cultures characterized by ongoing discussion of good instruction with teachers and administrators taking responsibility for the student performance results of their actions. Over time, the collaborative teams that deliver instruction produce a school culture characterized by: 1) high expectations of performance on the part of both students and teachers, 2) a systemic and school-wide approach to effective instruction, 3) a belief that instruction is public and that good instructional practices are expected to be deployed by every individual teacher, and 4) an expectation that the adults in the school are responsible for the achievement gains made or not made by students. Professionals in these schools accept responsibility for student achievement results.
9. Bring external professional knowledge into the school, e.g., hiring experts to provide training, adopting new research-based curricula, discussing research on good instruction, and working with regional education service agencies as well as the state department of education. Successful schools do not attain their goals by “pulling themselves up by their own boot straps.” Faculty in successful schools aggressively seek outside knowledge, find similar schools that produce results and benchmark their practices, and operate in ways that typify professionals.

10. Finally, talent matters. Many improving schools today consciously seek to recruit and retain the best talent, from effective principal leaders to knowledgeable, committed, and effective teachers. They seek individuals who are mission-driven to boost student learning, willing to work in a collaborative environment where all teachers are expected to acquire and deliver the school's view of effective instructional practice, and who are accountability focused.

Such successful schools also create a learning atmosphere inside the schools, have a school-wide approach to discipline and classroom management, and require that every student be accountable to any adult for his/her behavior and that all adults take interest in all students and hold them accountable for behavioral practices in the school. In addition, these effective schools reach out to parents, insure that parents know the expectations of the school and help their children with homework, and welcome all parents into the school.

In sum, the schools studied that have boosted student performance, deployed strategies strongly aligned with those embedded in the EB Model. These practices bolster POA's claim that if funds are provided and used to implement these effective, research based, strategies, significant student performance gains should follow.

When teachers work in collaborative teams, they review student data to design standards-based lesson plans and curriculum units, identify interventions for struggling students and monitor all student progress toward meeting performance standards. Research supports the importance of teacher collaborative work. As noted previously in the section on the high-performance school embedded in the EB model, collaborative teacher teams are key ingredients in schools producing large gains in student performance and significant reductions in achievement gaps for at-risk students. Ronfeldt et al. (2015) found that teachers working in collaborative groups boosted student learning over a two-year period in the Miami-Dade school district. Using a data base similar to the Miami-Dade data base, Sun, Loeb and Grissom (2017) found that when a more effective teacher becomes part of a teaching team, the performance of other teachers improves, and the performance of the more effective teacher does not drop. This finding suggests that teacher collaboration can be enhanced when the system strategically ensures that each teacher team has a highly effective teacher as a member. Economists Jackson, and Bruegmann (2009), calling teacher collaboration peer learning," also found that such activities were related to student learning gains. Jensen (2014) shows how integrating "professional learning" into the lives of teachers is a core element of high performing schools in Australia. Johnson, Reinhorn & Simon (2016) found that six high-poverty schools in one urban district that had achieved the highest state rating, made teacher teams the central component of their schoolwide improvement strategies and that a key condition was ensuring that the school schedule provided regular, reliable meeting times for teams. Berry (2015-16) synthesizes several studies of how teacher collaborative work is linked to student learning in many U.S. schools and Boudett and Steele (2007) provide several examples of how data-based decision making can be organized in schools.

Instructional Facilitators/Coaches

Instructional coaches, or instructional facilitators, coordinate the instructional program but most importantly provide the critical ongoing instructional coaching and mentoring the professional development literature shows is necessary for teachers to improve their instructional practice (Cornett & Knight, 2008; Crow, 2011; Garet, Porter, Desimone, Birman, & Yoon, 2001; Joyce & Calhoun, 1996; Joyce & Showers, 2002). This means that instructional coaches spend the bulk of their time with teachers, modeling lessons, giving feedback to teachers, helping teachers analyze student data for its

instructional implications, working with teacher collaborative teams, and generally helping to improve the instructional program. The few instructional coaches who also function as school technology coordinators provide the technological expertise to fix small problems with the computer system, install software, connect computer equipment so it can be used for both instructional and management purposes, and provide professional development to embed computer technologies into a school's curriculum. This report expands on the rationale for these individuals in the section on professional development (Element 14) but includes them here as they represent teacher positions.

Model Element	2016 Evidence-Based Recommendation
Instructional Coaches/Facilitators	1.0 Instructional coach position for every 200 students

Analysis and Evidence

A few states (i.e., Arkansas, New Jersey, Wyoming and to a modest degree North Dakota) explicitly provide resources for school and classroom-based instructional coaches. Most comprehensive school designs (see Odden, 1997; Stringfield, Ross & Smith, 1996), and EB studies conducted in other states—Arizona, Arkansas, Kentucky, Maine, Maryland, North Dakota, Washington and Wisconsin—call for school-based instructional coaches.

Early research found strong effect sizes (1.25-2.71) for coaches as part of professional development (Joyce & Calhoun, 1996; Joyce & Showers, 2002). Several years later, Sailors and Price (2010) found that professional development combined with coaching increased the deployment of comprehensive instructional practices by between 0.64 and 0.78 SD, and Newmann and Cunningham (2009) found a similar impact on teachers' instructional impact as well as improved reading achievement by about 0.2 standard deviations. A 2010 evaluation of a Florida program that provided reading coaches for middle schools found positive impacts on student performance in reading (Lockwood, McCombs & Marsh, 2010). A related study found that coaches provided as part of a data-based decision-making initiative also improved both teachers' instructional practice and student achievement (March, McCombs & Martorell, 2010). A study published two years later came to the same conclusions about coaching as part of improving reading (Coburn & Woulfin, 2012).

Positive impacts of coaching are not limited to reading instruction and achievement. Campbell and Malkus (2011) found that the combination of professional development and two years of coaching also changed teachers' instructional practice and increased students' mathematics achievement by about 0.2 standard deviations.

More importantly, a randomized controlled trial of coaching (Pianta, Allen & King, 2011) found significant, positive impacts in the form of student achievement gains across four subject areas—mathematics, science, history, and language arts. This research provides further support for this element as an effective strategy to change teachers' instructional practice and boost student learning.

Domina et al. (2015) documented the increase in the number of instructional coaches in school districts around the country. They found that the number of instructional specialists per 1000 students doubled from 1998-2013 (from about 0.7 to 1.4) and that the percent of districts with no such staff declined from 20 percent to seven percent. In addition, Cobb and Jackson (2011) argue that instructional coaches are key to improving instructional practice at scale, particularly in mathematics.

In terms of numbers of coaches, several comprehensive school designs suggest that although one instructional coach might be sufficient for the first year of implementation of a new curriculum program, additional instructional coaches are needed in subsequent years as the curriculum in more subjects is modified – something that is happening in most other states to implement a more rigorous curriculum designed to have all students be college and career ready. Moreover, several technology-heavy school designs recommend a full-time instructional facilitator who spends at least half of their time as the site’s technology expert.

Drawing from all programs, the study team concludes that one FTE instructional coaches are needed for every 200 students in a school. This resourcing strategy works for elementary as well as middle and high schools. For the prototypical schools, this recommendation equates to 2.25 instructional coach positions for each prototypical elementary and middle schools (450 students) and three instructional coach positions for the prototypical high school (600 students).

Although instructional coaching positions are identified as FTE positions, schools could divide the responsibilities across several individual teachers. For example, the three positions in a 600-student high school could be structured with six half-time teachers and instructional coaches. In this example, each teacher/coach would work 50 percent time as a coach – perhaps in one curriculum area such as reading, math, science, social studies, and technology – and 50 percent time as a classroom teacher or tutor.

This level of staffing for instructional coaches, combined with the additional elements of professional development discussed below, focuses on making Tier 1 instruction (in the RTI framework) as effective as possible, providing a solid foundation of high-quality instruction for everyone, including students who struggle more to learn to proficiency, and students with disabilities.

Principals and Assistant Principals

Every school needs a principal. There is no research evidence on the performance of schools with or without a principal. All comprehensive school designs, and all prototypical school designs from all professional judgement studies around the country, include a principal for every school unit.

Analysis and Evidence

Much is written about the importance of school principals; few if any studies of schools that boost student learning find the absence of a principal and nearly all such schools, including those studied as part of other state adequacy projects, have strong principal leaders. Chenoweth and Theokas (2011) provide one of the most readable descriptions of the various roles principals play in creating and leading effective schools, from instructional leadership, to managing the building, creating a culture of respect and high expectations for students and teachers, and managing outside relationships. Principals who want to “get it done,” meaning produce large gains in student learning while also reducing achievement provides additional detail on the management and leadership tasks of principals that turn around schools, start effective schools from scratch or lead schools to even higher levels of performance.

Few if any comprehensive school designs for 500 students include assistant principal positions. Very few school systems around the country provide assistant principals to schools with 500 or fewer students. The EB model recommends that instead of one school with a large number of students, school buildings with large numbers of students be subdivided into multiple school units within the building, with each

unit having a principal. This implies that one principal would be required for each school unit. The EB model provides one assistant principal for the prototypical high school, largely for discipline and athletics.

Neumerski (2012) reviews the knowledge about the principal's role in instructional leadership, and updates that knowledge base in relation to current findings on the merging roles to teachers and instructional coaches – individuals who also provide instructional leadership inside schools. Her review identifies ways all three roles can be integrated to ensure that a robust set of coordinated, direct and indirect instructional leadership functions exist in schools – all of which are compatible with the EB model's leadership resources.

Intensive professional Development

Professional development includes a number of important components. This section describes the specific dollar resource recommendations the EB Model provides for professional development. In addition to the resources listed here, PD includes the instructional coaches described in Element 7 and the collaborative planning time provided by the provisions for elective or specialist teachers. Those staff positions are critical to an adequate PD program along with the resources identified in this section.

Analysis and Evidence

Effective teachers are the most influential factor in student learning (Rowan, Correnti & Miller, 2002; Wright, Horn & Sanders, 1997) and more systemic deployment of effective instruction is key to improving student learning and reducing achievement gaps (Odden, 2011a; Raudenbusch, 2009). All school faculties need ongoing professional development. Improving teacher effectiveness through high quality professional development is arguably one of the most important strategies effective schools deploy, and thus providing resources to deploy those programs is important.

An ongoing, comprehensive, and systemic professional development strategy is the way in which all the resources recommended in this report are transformed into high-quality, Tier 1 instruction that increases student learning. Further, though the key focus of professional development is for better instruction in the core subjects of mathematics, reading/language arts, writing, history and science, the professional development resources in the EB Model are adequate to address the instructional needs for gifted and talented, special education, ELL students (including sheltered-English pedagogy), embedding technology in the curriculum and for elective teachers as well. Finally, all beginning teachers need intensive professional development, first in classroom management, organization, and student discipline, and then in instruction. The most effective way to “induct” and “mentor” new teachers is to have them working in functional collaborative teacher teams, discussed in Elements 4 and 5.

Fortunately, there is substantial research on effective professional development and its costs (e.g., Crow, 2011 Odden, 2011b). Effective professional development is defined as professional development that produces change in teachers' classroom-based instructional practice that can be linked to improvements in student learning. The practices and principles researchers and professional development organizations use to characterize “high-quality” or “effective” professional development draw upon a series of empirical research studies that linked program strategies to changes in teachers' instructional practice and subsequent increases in student achievement (see Kennedy (2016) for a review). Combined, these studies and reports from learning Forward, the national organization focused

on professional development (see Crow, 2011), identified six structural features of effective professional development:

1. The form of the activity – that is, whether the activity is organized as a study group, teacher network, mentoring collaborative, committee, or curriculum development group. The above research suggests effective professional development should be school-based job embedded and focused on the curriculum taught rather than a done-day workshop.
2. The *duration* of the activity, including the total number of contact hours participants are expected to spend in the activity, as well as the span of time over which the activity takes place. Research has shown the importance of continuous, ongoing, long-term professional development that totals a substantial number of hours each year, at least 100 hours and closer to 200 hours.
3. The degree to which the activity emphasizes the collective participation of teachers from the same school, department, or grade level. The research suggests effective professional development should be organized around groups of teachers from a school that over time includes the entire faculty.
4. The degree to which the activity has a content focus – that is, the degree to which the activity is focused on improving and deepening teachers’ content knowledge as well as how students learn that content. The research concludes teachers need to know the content they teach, need to know common student miscues or problems students typically have learning the content, and effective instructional strategies linking the two. The content focus today should emphasize content for college and career ready curriculum standards.
5. The extent to which the activity offers opportunities for active learning, such as opportunities for teachers to become engaged in the meaningful analysis of teaching and learning for example, by scoring student work or developing, refining and implementing a standards-based curriculum unit. The research has shown professional development is most effective when it includes opportunities for teachers to work directly on incorporating the new techniques into their instructional practice with the help of instructional coaches (see also Joyce & Showers, 2002).
6. The degree to which the activity promotes coherence in teachers’ professional development, by aligning professional development to other key parts of the education system such as student content and performance standards, teacher evaluation, school and district goals, and the development to a comprehensive, interrelated change process focused on improving student learning.

Instructional Materials

The need for up-to-date instructional materials is paramount. Newer materials contain more accurate information and incorporate the most contemporary pedagogical approaches. New curriculum materials are critical today as the school systems shifts to more rigorous college and career ready standards. To ensure that materials are current, nearly half the states have instituted adoption cycles in which they specify or recommend texts that are aligned to state learning standards (Ravitch, 2004). Up-to-date instructional materials are expensive, but affordable and vital to the learning process.

Researchers estimate that up to 90 percent of classroom activities are driven by textbooks and textbook content (Ravitch, 2004). Adoption cycles with state funding attached allow districts to upgrade their texts on an ongoing basis instead of allowing these expenditures to be postponed indefinitely.

Model Element	2016 Evidence-Based Recommendation
Instructional Materials	\$190 per student for instructional and library materials

Analysis and Evidence

This analysis addresses two issues: instructional materials and library materials.

Instructional Materials. Access to standards-aligned instructional resources is critical for teachers and students to successfully implement these standards. Adoption cycles backed by State funding for materials allow districts to upgrade their textbooks and instructional materials on an ongoing basis instead of postponing these purchases indefinitely.

In these years, the funds for instructional materials provide the opportunity for purchasing not only additional supplementary texts but also consumables/pedagogical aides (see below).

Year	2016	2017	2018	2019	2020	2021
Content Area	Language Arts	Mathematics	Social Studies	Science/Health	PE, Visual & Performing Arts	Supplements, Consumables, Manipulatives

With more rigorous curriculum standards as a backdrop, the current EB Model recommendation is to create one unified rate of instructional materials, regardless of whether the student attends an elementary or secondary school. The rate of \$170 per student will support the purchase of instructional materials that are best organized to take advantage of teaching strategies. This funding level would also allow the purchase of digital access to some textbooks if districts desire to adopt and experiment with digital access to textbook materials. If combined with a regular adoption cycle, this annual allocation will allow districts to focus on purchasing new curricular materials for one subject area a year, including textbooks and supplementary materials, all of which are needed to enable teachers to raise student achievement.

A comment on curriculum. It goes without saying that textbooks selection substantially determines the specific curriculum a school will teach. Additionally, some curriculum and instructional programs are more effective than others. Though a complete review of curriculum programs is beyond the scope of this report, which is focused on adequate resources, it is important that districts and schools use the funds for instructional materials to select textbooks, curriculum, and instructional programs that research finds effective. In the section on tutors, the analysis emphasized that structured reading programs, which specifically, systematically, and directly address phonemic awareness and phonics, have been shown by multiple researchers to be more effective, especially for children from lower income and ELL backgrounds.

Similar evidence suggests mathematics programs and instructional practices matter. Many effective schools have used some version of the *Everyday Math* or *Math Their Way* textbooks, which integrate problem solving with concept instruction and an emphasis on arithmetic basics. Further, a recent study concludes that early elementary children with mathematics difficulties are best served by teachers who

provide substantial direct mathematical instruction and routing practice and drill on math facts (Morgan, Farkas & Maczuga, 2015). Our conclusion is that some instructional materials are more effective with some or all students than others, and districts and schools should select specific programs only after careful analysis and review to ensure that funds for instructional materials are spent wisely.

Library Materials. The NCES reports the average national expenditure for library materials in the SY 2011-2012 was \$16 per student, excluding library salaries (NCES, 2015). Over 90 percent of the \$16 was spent on book titles and the remainder on other resources such as subscription databases. In the past, electronic databases were increasing in use, however use has declined in recent years as many instructional resources such as the Khan Academy and Wikipedia are offered free to the public.

Electronic database services vary in price and scope and are usually charged to school districts on an annual per student basis. Depending on the content of these databases, costs can range from one to five dollars per databases per year per student. Inflating these numbers to adequately meet the needs of school libraries, the EB Model provides \$20 per student to pay for library texts and electronic services. These figures modestly exceed the national average, allowing librarians to strengthen print collections. At the same time, it allows schools to provide, and experiment with the electronic database resources on which students rely (Tenopir, 2003).

Adding this \$20 per student figure to the \$170 per student figure for instructional materials, brings the 2015 EB Model recommendation to \$190 per student for instructional and library materials.