Summary and Reflections on 14 Years of CPRE School Finance Redesign Research

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As many of you know, we at CPRE generally and UW-CPRE specifically have been working on school finance redesign for the past 14 years. The issue that has driven this effort has been the goal of state standards-based education reform and, more recently, of the federal No Child Left Behind Act to teach all students to high standards. This goal has shifted the orientation of the education system from inputs to outcomes, specifically student achievement to rigorous performance standards, with an attendant accountability focus at the school site. In the broader school finance community, this focus has induced a shift from “equity” to “adequacy,” for both litigation and policy. Though adequacy narrowly seeks to identify the level of dollars needed to produce a desired level of student achievement, its more general objective is to redesign the finance system to link resources more directly to student performance. We’d like to take this opportunity to sketch out how CPRE has approached this agenda over the past decade and a half, what we have produced thus far, and to describe where our current research on the costs of instructional improvement fit into this overall redesign agenda.

Since we knew that accomplishing the student achievement goals of state and federal reforms required using the education dollar more effectively, we developed several efforts beginning in 1990 to understand how the education dollar was spent, generally and in urban schools. This work led to several publications (Goertz & Stiefel, 1998; Odden, Monk, Nakib & Picus, 1995; Odden & Picus, 1992, 2000, 2004; Odden & Busch, 1998; Picus & Wattenbarger, 1996) and several conclusions:

a. Over the past century, there has been a steady increase in education dollars per pupil, after adjusting for inflation, rising about 2.5% annually in real terms.
b. But over the past fifty years, the percent of expenditures spent on the classroom – or instruction – has remained remarkably the same at about 60-61%.

c. However, over this same time period, there has been tremendous change in the composition of instructional expenditures; whereas fifty years ago, the vast bulk of such expenditures were for classroom teachers, today significant portions of such expenditures are spent on specialist teachers (art, music, physical education, etc.) and for extra services for struggling students – those from lower income backgrounds, those learning English and those with disabilities. There also has been an increase in using funds to employ instructional aides.

d. There is no indication that administration consumes large sums of money. Administrative expenditures have remained pretty constant – about 5-6 % for site administration and about 4-5 % for central office administration. Interestingly, the latter figures are lower in the largest districts in the country.

A helpful way to understand how the educational dollar is spent is to think of it as divided into three pots:

   a. One pot for core instructional services (grade-level teachers in elementary schools and core subject teachers – mathematics, science, language arts/reading, social studies, foreign language – in secondary schools) and site administration.

   b. Another pot for instructional and pupil support services – such things as art, music, physical education, library, professional development, compensatory, special and bilingual education services, and guidance counselors, social workers, psychologists, and family outreach.
c. A third pot for necessary “overhead” including, operation and maintenance of schools (heating, cooling, cleaning, fixing, etc.), transportation, food services, and central office administration.

The policy and practice issues, then, are whether expenditures in any of the three “pots” of resources can be made more productive.

Since traditional fiscal reporting systems tracked expenditures by function and object at the district level, but not by the above categories nor at the school level where teaching and learning take place, such reporting systems did not provide useful information on how the education dollar was used. Therefore, we tackled the issue of how to collect school-based fiscal data and how better to report educational expenditures at the site level. The former led to a special issue of the *Journal of Education Finance* (Odden & Busch, 1997) on the state of the art of school-based reporting at that time, which was not that good. We followed up that effort by developing a new fiscal reporting system for education. Our proposal suggests reporting educational expenditures at the school and district level by their educational strategy – core instruction, non-core instruction, strategies for struggling students, professional development, etc. (Odden, Archibald, Fermanich & Gross, 2003). We showed that such a fiscal reporting system provided more insight into both effective and ineffective uses of the education dollar, and could be used to illuminate spending in each of the above three “pots” of dollars. [Simultaneously, Leanna Stiefel and Amy Schwartz at New York University have conducted a series of analyses on the equity of the distribution of resources (dollars, teachers, etc.) across schools in several large urban districts, as well as analyses of costs and performance at the school level (see, Iatarola & Stiefel, 2003; Goertz & Stiefel, 1998; Rubenstein, Schwartz & Stiefel, 2003; Schwartz, Stiefel, & Amor,
Because the stark reality of the goal of teaching all students to high standards requires doubling or tripling student academic achievement, we knew most schools would need to restructure themselves to more powerful educational strategies, and that implementing those more effective strategies would require reallocating extant dollars. Thus, we initiated a series of studies of school-based resource reallocation that used teachers, time, dollars and resources differently and more productively. Contrary to the predictions of others, we found numerous examples of resource reallocation. These research efforts led to a book on resource reallocation (Odden & Archibald, 2001a), a series of empirical publications (e.g., Miles & Darling-Hammond, 1998; Odden, Archibald & Tychsen, 2000; Odden & Archibald, 2000, 2001b), and cases of school-based resource reallocation on our web site (http://www.wcer.wisc.edu/cpre/finance/research/reallocation.asp). At that time, we found that resource reallocation was focused largely on the second “pot” of dollars (see also Goertz & Hess, 1998; Goertz & Duffy, 1999).

But to boost student performance to the levels intended in state and federal initiatives, what is needed at the school level is a series of “whole school designs” or some versions of “comprehensive school reforms” that are successful in teaching all students, or almost all students, to high state and district performance standards. When such strategies are identified, school finance analysts then need to identify their “costs.” This objective led us to analyze the costs of various whole school designs (see Odden, 1997), to think about how one would finance schools for higher performance (Odden & Busch, 1998), and to our current research focus on the costs of instructional improvement. In this research, we found that whole school designs
generally used resources differently than traditional schools, and subsequent research by others showed that many of these designs produced higher levels of student achievement (Borman, Hewes, Overman & Brown, 2003).

Ultimately, however, the costs of these and even more powerful whole school designs need to be aggregated into district and state costs, and then converted into a state school finance policy that provides each district and each school with an “adequate” amount of resources. Building on the previous research on the costs of more effective school-wide strategies, Allan Odden and Larry Picus developed the “evidence-based” approach to educational adequacy that has been used in Kentucky, Arkansas and Arizona (see Odden, Picus & Fermanich, 2003a, 2003b; Odden, Picus, Fermanich & Goetz, 2004, forthcoming). This approach summarizes research and best practices evidence on the major dimensions of schools that have cost implications – school size, class size, core instruction, specialist instruction, extra help for struggling students, professional development, administration, etc. – and identifies for each school in a state a level of “adequate” resources. These resources are then combined with district-level functions for operations and maintenance, transportation, food services and central administration to determine an “adequate” resource level for each district in the state.

The results from these analyses, which are similar to the results from the professional judgment approach to determining adequacy (see Odden, 2003b for a description of the four methods to determining school finance adequacy), can be used to identify adequate school and district revenues either building up from each school and its mix of students, as Wyoming does, or by translating the results into a new foundation, per-pupil expenditure level, which Arkansas decided to do in 2004. Odden and Picus are currently writing an article that describes these two approaches to redesigning a foundation formula in more detail; the article also will include a
synthesis of many adequacy studies and will show similarities and differences in the proposals that emerge from these studies. Indeed, we believe that the next step in adequacy analysis for most states is to assess the common findings, differences, and the reasons for differences that emerge across numerous adequacy studies that already have been conducted, rather than to conduct a new adequacy study, regardless of the method used. (We also sponsored several analyses that used the “cost function” approach to adequacy; see Reschovsky & Imazeki, 1998, 2000, 2001).

However determined, once a state identifies an adequate finance figure, it must redesign its school finance equalization formula to provide that level of funding, with a combination of state and local tax resources, to each school district. The district then needs to ensure that each school site receives an appropriate amount of funding. One strategy for accomplishing this task is to create a needs-based weighted pupil formula. We have produced several articles and two books on this topic (see for example, Goertz & Odden, 1999; Odden, 1999; Odden & Busch, 1998;). Further, the Odden and Picus article discussed above will also show how the results from the evidence-based or professional judgment approach to school finance adequacy, both of which identify the appropriate level of resources for prototypical elementary, secondary and high schools, can be directly used to provide adequate resources instead of a pupil-weighted formula.

To summarize so far, in 1990 our research began with efforts to understand how the education dollar is spent, ending a decade later with a proposal to track educational expenditures at the school level by the educational strategy for which the dollar is used. The research then moved to gather evidence on the most effective strategies for various aspects of each school, as a way to determine an “adequate” level of dollars for each school and its mix of students. We then proposed alternative ways for states to provide such resources to districts, and for districts to
provide adequate resources to schools. Once the dollars have been received, we would expect most schools to restructure themselves into more effective school-wide strategies, to fund these new strategies by resource reallocation and deployment of any new resources to these strategies, and to report final resource use by our proposed new, school-based, educational strategy reporting structure. Our research addressed all of these complex issues. For the aforementioned reasons, we would hope to see over time a substantially different use of resources than we see typically in schools today. We would expect to see more of the education dollar spent on instruction, and a different mix within the instructional function.

But to encourage this to happen, schools must be given the authority and develop the capacity to build school budgets that allocate resources in different ways. Increasing school-level control over budgeting, hiring and curriculum would enable schools to target resources to appropriate programs and services. But successful implementation of school-based management and budgeting requires the dissemination and use of financial and strategic planning information, and training in data analysis, budgeting and financial management (Odden & Busch, 1998). Our research has shown however, that while a school-based budgeting process appears to increase the involvement and satisfaction of different stakeholder groups in school resource allocation decisions, the authority for school-level decisions remains in the hands of the principal (Goertz & Stiefel, 1998; Goertz & Hess, 1998; Erlichson & Goertz, 2002).

Finally, following on the premise that a high quality, effective teacher is the key ingredient to boosting student academic achievement – supported by a wide variety of research – we also have been involved in research on designing a more strategic education human resources system (see Heneman & Milanowski, 2004, forthcoming), with Karen Miles identifying current investments in professional development (Fermanich, 2002; Miles, Odden, Archibald and
Fermanich, 2004) and restructuring professional development strategies (Odden, Archibald, Fermanich & Gallagher, 2002), revamping teacher evaluations into standards-based evaluations, the results of which are linked to teacher effectiveness (e.g., Milanowski, Kimball & White, 2004; Milanowski, Kimball & Odden, forthcoming), and creating new forms of teacher compensation (Odden & Kelley, 1997, 2002). For the latter, we have conducted research and made proposals for changing the base pay system for teachers (Odden & Kelley, 1997, 2002; Odden, Kelley, Heneman & Milanowski, 2001; Milanowski, 2002) including incentives for teachers in subject area shortages (Goldhaber & Player, 2003; Milanowski, 2003), and annual bonuses for all individuals in schools when the school as a whole meets a target for improved student performance (Kelley, Heneman & Milanowski, 2002). We also have linked new compensation structures to school-finance adequacy (Wallace, Odden & Picus, 2003). Further, we have placed on our web site many cases of various teacher compensation initiatives to show that there are different ways that these changes are being designed. We should note that the proposals for altering base pay structures for teachers are easily aligned with various state initiatives to implement a two-tiered approach to teacher licensure (see for example, Odden, 2003a).

In short, we believe we have identified many of the key aspects of the education and finance systems that need redesigning in order to align the finance structure more tightly with efforts to improve student learning. We have developed:

1. An evidence-based (and cost function) strategy to identify an adequate level of resources for prototypical elementary, middle and high schools and districts.

2. At least two different ways the results can be used in foundation-type school finance equalization formulas.
3. At least two different ways the same results can be used in district-to-school funding schemes.

4. A new fiscal accounting structure for schools to account for the use of the education dollar by showing expenditures by key educational strategies at the school and district levels.

5. Proposals for a more strategic human resources system.

6. With Karen Miles, a procedure for identifying how to capture all of a district’s and school’s investments in professional development together with ways to redeploy those dollars to more effective strategies.

7. New approaches to standards-based teacher evaluations that separate teachers into four groups based on their effectiveness with students, and which are good enough to use for consequences, such as teacher pay increases.

8. New forms of teacher compensation that link the level of pay more to the level of effectiveness in producing student learning, and which encourage teachers to learn and use the types of instructional strategies that are more effective in boosting student learning to higher standards, and

9. School-based performance incentives that can motivate teachers and all staff in schools to work cooperatively to implement practices that boost student achievement to the rigorous performance levels that states and districts have developed over the past decade.

Our research is now focused on the costs of instructional improvement. Through collaboration with other CPRE projects that are investigating various efforts to improve classroom practice, one strand of this research is focused on determining the costs of various school improvement strategies. A second strand has been to develop an educational framework
on the student-, classroom/teacher- (e.g., a measure of teacher quality, class size, SES of classroom) and school-level (e.g., size, professional development expenditures per teacher, expenditures per pupil for tutors, professional community) factors that impact student learning (Odden, Borman & Fermanich, 2004) and to use this framework to verify, via hierarchical linear modeling statistical techniques, whether specific variables at these three levels in specific contexts actually are linked to student learning gains, as well as the magnitude of those impacts (for examples, see Fermanich, 2003; Milanowski, Kimball & Odden, forthcoming). Over time, our goal would be not only to verify the positive impacts of the various cost elements in our school-level adequacy models, but also the positive impacts of various curriculum and instructional improvement efforts.

We believe that investigating these important issues inside schools, issues that all schools need to address however they are governed or managed, provides the keys to understanding both programmatically and fiscally how to dramatically improve student achievement, which is the goal of both state standards-based education reform and NCLB.

As we would readily admit, more research needs to be conducted. Considerable fine-tuning is needed for all of the above contributions to have the greatest possible effects, including tailoring and adapting each to the specific needs of a particular state, district or school. But the above summary shows that the country is not starting from scratch in its efforts to redesign the finance system in ways that align it with student learning. Tremendous progress already has been made. To move forward, we should be starting with what we have, and developing the second generation of these efforts. We are working on this agenda as is the new School Finance Redesign project at the University of Washington.
References


from the symposium on education finance and organization structure in NYS schools, Education finance research consortium.  www.albany.edu/fin/.
