

Inside the Black Box of School District Spending on Professional Development: Lessons from Comparing Five Urban Districts

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September 2003

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This paper was prepared for the Consortium for Policy Research in Education, Wisconsin Center for Education Research, University of Wisconsin-Madison. The research reported in this paper was supported by a grant from the U.S. Department of Education, Office of Educational Research and Improvement, National Institute on Educational Governance, Finance, Policy-Making and Management, to the Consortium for Policy Research in Education (CPRE) and the Wisconsin Center for Education Research, School of Education, University of Wisconsin-Madison (Grant No. OERI-R308A60003). New American Schools and the MacArthur Foundation also provided financial support for district level data collection. The opinions expressed are those of the authors and do not necessarily reflect the view of the National Institute on Educational Governance, Finance, Policy-Making and Management, Office of Educational Research and Improvement, U.S. Department of Education, the institutional partners of CPRE, New American Schools, MacArthur or the Wisconsin Center for Education Research.

Standards-based reform has entered a new phase that puts professional development of teachers at the center of the discussion. Even as many schools improve instruction to meet higher standards, concern is rising over how to respond when school performance does not get better. One reform response focuses on changing the system so that parents can leave poorly performing schools. But, unless there are large numbers of high-performing schools near these students, unsatisfied parents will have nowhere to go. So, the next step becomes finding ways to increase the number of high-quality schools, by creating new schools or improving existing schools – and quickly. Research tells us that intensive, high-quality professional development likely will be part of any effective strategy to improve schools. But, because professional development is labor intensive, it can be costly. And it can be politically difficult to justify investments outside the classroom especially for districts that are not delivering inspiring student performance results. This is especially true when there is so little evidence that current professional development investments predictably lead to improved results (Knapp, Neufeld, Berends & Kirby).

In order to find and justify the resources they will need to improve school performance dramatically, school leaders and policy makers will need to do three things. First, they must be able to describe their professional development and improvement activities and investments and show that they are organized strategically. Second, they must quantify the cost of each of these. Third, they must measure the effects of their investment in terms of changed classroom practice and ultimately student performance. Just as it is difficult to prove a clear link between overall school spending levels and student performance (Hanushek and others), researchers will likely discover that that is not *how much* spending on professional development that matters first, but *how the dollars are used*. This need to detail the use of

district professional development resources in a consistent, replicable way motivates this effort.

The research reported in this paper, led by Karen Hawley Miles, comes out of a collaboration between researchers working with leaders of five large urban districts to quantify and make sense of existing professional development spending and researchers from the Consortium for Policy Research in Education (CPRE) who were working to develop and promote a replicable way to measure and describe this spending (Odden, Archibald, Fermanich, & Gallagher, 2002). Together, we sought to create a standard way of:

- Defining the components of professional development
- Describing their purpose and organization, and
- Tracking and describing their cost

We then applied this standard methodology in five urban school districts to see what could be learned about district spending and the challenges of collecting and comparing these data.

The following four sections describe the importance, methods and findings of this joint effort. The first reviews the literature available on professional development expenditures. Section two describes the methodology, including the definition of professional development, the cost structure, coding scheme, sample, and data collection process. The third section highlights key findings from the analysis of the five districts included in this research. We conclude with implications of this analysis for policy makers and school leaders and suggest areas for further research.

1. Literature Review

A review of the current literature pertaining to professional development expenditures suggests a wide range of district spending levels—from about 1% of operating budgets to over

8%. But, each study has defined professional development spending differently and many have used district or state reports of spending making definitive comparisons across districts impossible. None of the existing studies systematically capture the targets, purpose and organization of professional development activities. Without this understanding, districts and researchers cannot evaluate the effectiveness of their investment or create a strategy that directs resources toward their most important priorities. Finally, no comparative studies examine the reform context of the districts studied. Policy makers and school leaders need to be able to distinguish between the investment needs of districts needing to dramatically improve or “turnaround” their teaching practice and others that may be in a more gradual improvement mode.

Studies by several different researchers have shown that spending for professional development typically exceeds common expectations (Corcoran, 1995; Killeen et al., 2000; Little et al., 1987; Miles & Hornbeck, 2000). Most estimates of school district spending for professional development range from two to four percent of a district’s total budget. However, these estimates depend on how professional development is defined and the source of the data used. Table 1 below shows estimates from seven recent studies. Though the estimates of spending seem roughly similar, there is no way to confidently isolate whether the differences are driven by analytic method or district practice. And, in practical terms, the difference between 2% and 3% three percent of a district budget means millions of dollars to a district budget and thousands per teacher.

Table 1
Findings from Studies of Professional Development Spending

Author	Year	Data Source	# of Districts	Average % Budget	Range % Budget	Range or Average \$ Per Teacher¹	Include Salary
Little	1987	District Budgets	30	1.8		\$1,400	No
				4.8		\$7,000	Yes
Hertert	1997	State and District Reports	16	3.6	1.7-7.6	\$3,400	Yes
Killeen, Monk &Plecki	2001	National ??	?	2.8	1.3-8.1	NA	No
Miller, Lord & Dorney	1994	Interviews with District Reports	5	2.2	1.8-2.8	\$,1800-\$3,500	No
Moore & Hyde	1981	Interviews with District Reports	3	NA	3.3-5.7	\$1,900-\$3,350	Yes
Elmore & Burney	1999	Interviews with District Reports	1	NA	3.0	NA	No
Miles& Hornbeck	2001	Interviews with District Reports	4	3%	2 .0-4%	NA	No

The inclusion or exclusion of spending on teacher salary increases for teacher course credits accounts for the largest differences between estimates. Little et al.'s (1987) study of 30 California school districts found average spending of 1.8 percent of total budget when salaries are not included. Including the estimated present value of future salary earnings, the percentage more than doubled to 4.8 percent.² A 1981 study of three urban school districts by Moore and Hyde (1981) found professional development spending ranged from 3.3 percent

¹ Dollars adjusted to year 2000

² Current dollars were calculated using the Consumer Price Index.

to 5.7 percent of total budget including the cost of salary increments. Miles and Guiney (1999) reported that including payments for extra salary in Boston, nearly doubled the estimate of professional development investment from 4% to 7% of the operating budget. These findings show that district investments that go toward increased salary for teacher course credits are the single largest “professional development” investment a district makes. Any district or state wanting to optimize its investments aimed at improving teacher capacity must address the structure and level of teacher salaries. We have chosen not to include this investment here because salary structure and level warrant studies by themselves and decisions to alter them play out in a different arena.

Existing studies show that districts rely heavily on non-local sources of funding to pay for professional development. Districts often use different budget formats for these sources reinforcing the need to go beyond district budget summaries to capture spending detail. Both Miles et al. (1999) and Elmore and Burney (1999) found that federal sources played a large role in Boston and New York’s District 2. In Boston, federal sources comprised 32 percent of professional development spending while local sources provided 45 percent. The remaining 23 percent came from state and private sources (Miles et al., 1999). In New York’s District 2, federal funding, primarily Title I, provided fully 68 percent of the resources dedicated to professional development (Elmore & Burney, 1999). Alternatively, Hertert’s (1997) study found that revenues for professional development activities were nearly evenly split between state and local sources, 46 percent and 48 percent respectively. Federal sources comprised the remaining 6 percent.

Hertert’s (1997) finding that federal sources contributed a much smaller percent of professional development funds may reflect differences in definition and data collection.

Both Miles et al. (1999) and Elmore and Burney (1999) used interviews with various departments that allowed a full exploration of the activities that might be considered professional development. The Hertert (1997) study used district reported data that may have lacked the specificity required to isolate professional development dollars out of federally funded programs. For example, most districts and schools rely on Title I as a source of professional development dollars. In fact, federal guidelines suggest that at least 10 percent be devoted to professional development activities. But, without probing through interview or survey, this spending could be hidden in various reports and line items.

In addition to complications arising from the use of multiple funding streams, the source of the data used also drives important differences in the precision of the findings and its comparability. Hertert's 1997 study reports the widest range of results, but her comparisons of 16 districts relied upon district budget reports and so could not insure standard definitions of professional development. Similarly, a study by Killeen, Monk and Plecki (2001), using a national database, found district spending for professional development ranging from 1.3 percent to more than eight percent of total expenditures, with an overall average of 2.8 percent. However, due to the way these data were reported, certain non-professional development costs, such as media services, were also included in the expenditure totals. This study provides an example of the difficulty in tracking spending for professional development using the existing, weak state and district financial reporting systems (Chambers, 1999; Corcoran, 1995; Hertert, 1997). State education agencies and local school districts almost universally use a cost accounting model for reporting revenues and expenditures (Chambers, 1999). This model is generally mandated by state and/or federal administrators to support program reporting and compliance functions. However, the broad

categories generally used for classifying expenditures do not provide the detail required to isolate spending on professional development or to distinguish between vastly different forms of professional development delivery (Chambers, 1999; Hertert, 1997).

Existing studies provide some detail on what districts purchase with their professional development dollars, but little as to target or purpose of the activities. Little et. al (1987) found that districts spent 35 percent of professional development dollars to deliver training and about the same amount to buy teacher time. Hertert (1997) and Miles et al. (1997) found similar expenditure patterns in their studies.

Only one of the studies reviewed looked at district spending changes over time thus shedding light on how spending might change given the stage of the reform context. Spending evolved considerably in New York's District 2 during the three years examined by Elmore and Burney (1999). In 1994, the first year of their study, Elmore and Burney found that 65 percent of the district's professional development spending was used to provide teacher time to participate in professional development activities, while only 15 percent was used to pay for staff development activities. By 1996, the final year of the study, these proportions were reversed. The need to invest up front to create teacher time has important implications for policy makers and school leaders seeking to jump-start professional development efforts. Further comparisons across districts at different stages could provide similar insight.

2. Methods and Sample

The difficulties discussed in his section have led to several efforts to develop a more consistent, comprehensive system for tracking professional development expenditures (Chambers, 1999;Killeen et al.2000, Odden et al., 2002, Miles and Hornbeck, 2002, Rice,

2001) This study builds on earlier efforts to address these issues by testing and refining a jointly developed framework and coding scheme in five urban districts. The approach involved:

- Creating a cost framework for what to include in professional development spending, (Odden et al., 2002)
- Creating a coding scheme to describe the target, purpose, organization and funding of the professional development activities, and
- Collecting data directly from the district using a multi-step interview and data analysis process.

Cost Framework

To develop a cost framework that defined which costs to include and how to calculate them, CPRE researchers (Odden et al., 2002) collaborated with Jennifer King Rice of the Finance Project. Figure 1, originally published in Volume 28, Number 1 of the Journal of Education Finance, describes six core and two optional elements of professional development spending:

Figure 1A Cost Structure for Professional Development

Cost Element	Ingredient	How Cost is Calculated
Teacher Time Used for Professional Development	<p><i>Time within the regular contract:</i></p> <ul style="list-style-type: none"> -when students are not present before or after school or on scheduled in-service days, half days or early release days -planning time used for professional development <p><i>Time Outside the regular day/year:</i></p> <ul style="list-style-type: none"> -time after school, on weekends or for summer institutes -release time provided by substitutes 	<p>teachers’ hourly salary times the number of student free hours used for pd</p> <p>the cost of the portion of the salary of the person used to cover the teachers’ class during planning time used for pd</p> <ul style="list-style-type: none"> - the stipends or additional pay based on the hourly rate that teachers receive to compensate them for their time - substitute wages
Training and	<p><i>Training</i></p> <ul style="list-style-type: none"> -salaries for district trainers -outside consultants who provide training; may be part of CSRD 	<p>sum of trainer salaries consultant fees or comprehensive school design contract fees</p>

Coaching	<i>Coaching</i> -salaries for district coaches including on-site facilitators -outside consultants who provide coaching; may be part of CSRD	sum of coach and facilitator salaries consultant fees or comprehensive school design contract fees
Administration of Professional Development	Salaries for district or school level <i>administrators</i> of professional development programs	salary for administrators times the proportion of their time spent administering pd programs
Materials, Equipment and Facilities Used for Professional Development	<i>Materials</i> <i>Equipment</i> <i>Facilities</i>	materials for pd, including the cost of classroom materials required for CSRDs equipment needed for pd activities rental or other costs for facilities used for professional development
Travel and Transportation for Professional Development	<i>Travel</i> <i>Transportation</i>	Costs of travel to off-site pd activities Costs of transportation within the district for professional development
Tuition and Conference Fees	<i>Tuition</i> <i>Conference Fees</i>	Tuition payments or reimbursement for university-based pd Fees for conferences related to pd

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These include 1) teacher time; 2) training and coaching; 3) administration; 4) materials, equipment and facilities; 5) travel and transportation; and 6) tuition and conference fees.³

The framework provides a standard way to include district and school investments to provide teachers with time to participate in professional development. This is important because many districts pay teachers for extra work days or hours scheduled in the yearly calendar for professional development. As teacher compensation increases to cover their work during this time, it can represent considerable district wide investment. Also, if managed strategically districts might consider whether investing to buy more teacher days or hours through compensation makes more or less sense than paying stipends or substitutes in some cases. The framework includes the cost of teacher days or work hours that are contractually designated to be used for professional development. In addition, some districts offer teachers

³ The two optional elements are future salary obligations and research and development. We chose not to analyze them in this study.

sabbaticals, time-off to pursue career development, after they have served the district a certain number of years. The salaries of teachers on sabbatical would be included here as well.

The question of how to include the cost of teacher time during the regular teacher workday that may be used for professional development introduces analytic difficulties. In most schools, teachers have regularly scheduled blocks of time, or “planning periods”, which are free from instruction. Teachers use this time for a variety of activities including planning and preparing for lessons, working together with other teachers to improve or plan instruction, and sometimes for participating in professional development activities. The use of this time varies widely across and within schools. Many teacher contracts designate a portion of planning periods that principals may direct for teacher collaboration around improving instruction.⁴ When this time is consistently scheduled for professional development or collaborative school improvement work, the cost of covering teachers’ classes during this time should be considered a professional development expense. Determining how much of this teacher planning time to include requires school-level analysis, which is not included here.⁵

Most districts consider only the direct cost of training and coaching as professional development spending, ignoring the cost to design, administer and supervise these efforts. The framework also attempts to capture the district’s indirect cost. When staff members spend 20 percent or more of their time supporting or supervising professional development activities, we include the percent of these salaries that represents their estimate of the portion of time devoted to professional development. The total cost of materials, equipment, and facilities, including the cost of classroom materials required for comprehensive school

⁴ See Boston’s AFT contract p. 42 which allows the principal to direct one period a week in elementary schools

⁵ For an example of how the inclusion of this school level expenditure affects spending levels, please see Archibald & Gallagher (2001); Fermanich (2002); Gallagher (2001).

strategies, is also included, as is the cost of travel to off-site professional development activities and transportation to such activities within the district. Finally, the framework includes tuition reimbursed to teachers who obtain professional development on their own and any conferences fees. More detailed information on the cost structure is available in Odden et al. (2002).

Coding for Target, Purpose and Delivery Strategy

The cost structure framework ensures that the same kinds of expenditures are included in cross district comparisons, but researchers using the same cost components could still generate differing estimates of spending if they don't use the same definitions of professional development. Creating a common definition requires clarity around the "targets," "purposes" and "delivery strategies" of the professional development investments. Table 2 lists the categories used in each area. Coding expenditures in this way allows districts to describe where they are investing their dollars and to evaluate and compare their investment in certain target areas or delivery strategies with those of other districts. For example, a district might look to see how much they are investing to develop new teachers as compared to other districts with higher teacher retention. Or they could look to see how much they invest in literacy training as compared to districts that have higher scores in reading and writing.

Two main categories help describe how districts *target* professional development spending. Districts and schools balance professional development between developing individual skills and building instructional capacity school-wide or across certain content or program areas. The first category – individual professional development – refers to investments targeted at building individual teacher or principal professional skills. This professional development is often triggered by specific career stage or status of the individual,

such as a beginning teacher or a teacher with an unsatisfactory rating. The teacher’s or principal’s individual initiative or need to gain specific skills, such as adding a special education certification or enhancing classroom management skills, can also drive it. This professional development is not aimed at a school or school-based team of teachers but at meeting individual career needs.

Table 2
Coding Categories for Target and Purpose

<p><i>Target Individual (Teacher, Principal and other subcategories)</i></p> <ul style="list-style-type: none"> Pre-service Preparation Induction Continuing Education Remediation Teacher Leadership <p><i>Target School Instruction (Low performing, High Performing, elementary, middle high)</i></p> <ul style="list-style-type: none"> Restructuring/Transition Planning and Design Work School Improvement Planning Content and Instructional Support Program Support (specialized schools or programs within schools) Support of Special Populations (special ed, bilingual, Title I, gifted)
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Professional development aimed at the second target category – school instruction – builds individual capacity, but *in the context of a school level or instructional program effort*. These activities aim at teams of teachers, all teachers in schools, or at building knowledge district wide around a defined instructional program or strategy. For example, school-wide comprehensive school reform models would fit here as would any school-based coaching in content areas. District-wide initiatives to build capacity in certain subjects or skills such as required training in the district’s literacy program or use of district assessment data and reports. But, subject training available to teachers on a voluntary basis would not.

For the policymaker and district leader, this distinction between professional development aimed at individuals versus investment in school level instruction is a critical one. Researchers point to an “emerging consensus” regarding the kind of professional development most likely to improve teacher practice and thus student performance. This consensus suggests that the highest impact professional development directly relates to the instructional content and material teachers must use and takes place in their own schools and classrooms with coaching and ongoing feedback (Elmore 2002, Corcoran, 2003, Knapp, 2003, Porter et. al, 2001). In addition, districts already invest significant resources to encourage individual teacher professional development through the salary structure. The prevailing district salary structure rewards teachers for gaining course credits or advanced degrees offering a career long financial incentive to seek more education. In order to align district strategies to the emerging research, districts need to look at their spending in each area. This consistent coding will also allow researchers to test whether a district focus on school level instruction pays off in terms of improved student performance.

The coding scheme includes eight general categories of “purpose” for professional development aimed at individuals and five for training aimed at school level instruction. This listing of purposes has proven comprehensive in five districts in that all of the activities they were involved in could be classified in one of these categories. Many of the “purpose” categories have additional coding tags that provide further detail. For example, professional development aimed at continuing education would also be coded as to topic such as literacy, technology or math. Similarly, those activities coded as “support to special student populations” would be coded by the type of student such as bilingual or disabled.

The final major coding step involved classifying activities into eight distinct delivery strategy categories. The term “delivery strategy” describes a particular way of organizing staff, consultants and professional development content to improve individual or school capacity. This coding step helps to ensure that all forms of professional development are included and later enables evaluation of various forms of providing professional development. For example, most districts would include spending organized as a “training academy,” but they might not include spending on “comprehensive school reform designs” as professional development. We define a comprehensive design as a prescribed process and set of materials that address improved instruction across all grades in a school. The bulk of spending on these programs pays for professional development and where possible, we excluded the cost of any instructional material from these totals. Comprehensive designs may include whole school models such as “Success for All” or “Co-Nect” developed by outside experts or locally developed models.

“Lead Teachers” are another category not always included as a professional development expense. This label refers to teachers who have a formal title of “Lead Teacher” and work within a school to lead improvement efforts, such as a “Literacy Lead” or “Team Leader” teacher. These teachers are paid an additional stipend and have defined responsibilities related to providing school level coaching or professional development. Stipends for lead teachers not providing professional development or coaching would not be included here. A complete description of each delivery strategy category can be found in Appendix A.

Data Collection Methodology

The data collection method for this five-district study helped ensure that all professional development investments would be considered and that sufficient detail on the target, purpose and organization of the investment could be collected. Unlike many studies that ask districts to provide them with their professional development spending, this analysis began with the entire district budget and whittled it down using consistent definitions. The budgets included general funds, as well as from all other public and private sources of funding for the district. Collecting private funding sources sometimes required an additional analytic step. Researchers identified all line items that could contain expenses for “instructional support” defined as all district strategies, including professional development, used to support high quality instruction in the district. Line items such as transportation costs, which were clearly unrelated to instructional improvement, were eliminated. Dollars allocated to school-level budgets were also excluded from this analysis.

District-level interviews clarified which expenditures were related to instructional and school support and allowed coding of department spending into seven categories: professional development, accountability, curriculum development and support, special program monitoring and compliance, information systems, district student services and community outreach. Interviews included department heads and fund managers in departments such as quality improvement, career in teaching, administration, curriculum & assessment, magnet, vocational education, accountability, professional development, Title I, Title II, and special education.

At this point, the focus narrowed to those expenditures within instructional and school support that had been defined as professional development using the framework and

definitions described above. Perhaps the most challenging effort involved identifying the district staff time involved in professional development. Many district staff members devote a significant portion of their time to supervising or providing professional development activities. Interviewers asked each staff person to estimate the time spent on professional development-related activities. Finally, we coded the narrowed list of activities according to the expenditure framework and coding scheme described above.

Sample

The five urban districts in the sample range in size from 47,000 to 85,000 students. They all have large populations of poor and minority students and each actively struggles with how best to improve low student achievement. The five districts were each at the early stages of implementing ambitious reform efforts centered around building teaching capacity. All five districts had superintendents hired within the last three years. Each district had received significant new funding to support their stated reform agendas, but had yet to implement these agendas in more than a few schools. No district had yet made significant reallocations of resources to address their strategies and each actively used this research as part of their efforts to integrate and focus their work. Table 3 provides a statistical overview, followed by a thumbnail sketch of each district.

Table 3: Sample School District Characteristics

	Southwest	Southeast	Midwest	Great Lakes	Northeast
Location	Southwest	Southeast	Midwest	Upper Midwest	Northeast
Enrollment	85,000	59,000	50,000	47,000	63,000
Teachers	5,200	3,900	3,100	4,600	4,600
Schools	120	103	75	94	130
Operating Budget (millions) ^a	\$485.5	\$626.1	\$396.4	\$525.6	\$526.3
Per Pupil Expenditures	\$5,700	\$10,600	\$7,900	\$11,000	\$8,400
Minority Enrollment	60.9%	93.6%	75.3%	74.0%	85.0%
Free or Reduced Price Lunch	43.3%	75.4%	65.6%	67.0%	74.0%

^aAll expenditure numbers adjusted for geographic differences in the costs of goods and services using the National Center for Education Statistics' Geographical Cost of Education Index (GCEI).⁶

3. Findings

Applying this standardized method across five urban districts yielded an improved understanding of how much districts invest in professional development, what these dollars buy and how resources are organized. The comparative analysis represents only a first step- a mapping of existing activities and investments. With all of the districts at the early stages of their efforts, we would not expect to glean major insights regarding the impact of their investments in terms of student performance. In each of the five districts, this effort represented the first time they had attempted to view the organization and cost of their entire professional development system. The lessons from the comparative work are both methodological and organizational. The following paragraphs describe six lessons from conducting this analysis in five districts.

1. Districts invested significant, but widely varying resources in professional development. Numerous departments managed these resources.

The five districts examined here spent, on average, nearly \$19 million each for professional development during the school year studied. This represents an average of 3.6 percent of the districts' total operating budgets and \$4,380 per teacher. But, as Table 4 shows, the levels of investment ranged significantly, from just over two percent of total operating expenditures in Southwest and Midwest to nearly seven percent in Great Lakes.

As other studies have shown, these total investment levels are far larger than any professional development expenditures the districts ever reported, analyzed or actively

⁶ (National Center for Education Statistics, 2002).

managed. For example, in Southwest, the district’s professional development department spent \$2 million, only one-fifth of the total professional development investments. The remaining \$9 million of expenditures was managed by others and was not part of an overall strategy for professional development. As district leaders reviewed the investment levels by department they realized they had numerous efforts that sometimes aimed at the same targets but were managed by different departments that didn’t coordinate or integrate their efforts. The most common departments allocating resources to professional development included curriculum development, Title I, special education, and instructional technology. In addition, Midwest, Great Lakes and Southeast had organized “intervention” support for low-performing schools that included significant professional development from staff and outside providers. In four of the sample districts, outside providers including non-profit organizations and a university, administered a significant portion of the professional development budget. In each case, these outside organizations operated independently of the district’s priorities and provided services that duplicated or conflicted with district offerings.

Table 4
Total Professional Development Expenditures with Contracted Professional Development Days: Five District Comparison

	Southwest	Southeast	Midwest	Great Lakes	Northeast	Average
Total Expenditures (millions)	\$11.2	\$19.5	\$8.6	\$36.3	\$19.5	\$19.0
Percent of Operating Budget	2.3	3.1	2.2	6.9	3.7	3.6
Per Teacher	\$2,100	\$5,000	\$2,700	\$7,900	\$4,200	\$4,380

2. Estimates of spending should explicitly account for the cost of contracted time for professional development.

Including the cost of professional development days in spending totals is necessary because providing this time reflects an important district investment. But it is so large that it

distorts comparisons. Northeast pays teachers for two full days designated for professional development plus an additional 18 hours scheduled over the year at each school. This adds nearly \$7 million to the total spending and represents 35 percent of Northeast’s total. The Great Lakes district provides up to 10 student-free days for professional development at a cost of nearly \$15 million. As Table 5 shows, when this spending is removed from the estimates, these two districts’ spending levels are significantly reduced and the variation between districts drops. Northeast’s spending level becomes 2.4 percent of total operating expenditures, which is more comparable to Southwest and Midwest. Great Lakes’ spending drops to 4.1 percent - still the highest among the five districts studied. Because excluding the cost of contracted time for professional development changes spending level estimates so significantly, and because districts and policymakers address this investment in teacher time separately, cross-district comparisons need to explicitly adjust for this investment by stating expenditure levels with and without this cost.

Table 5
Total Professional Development Expenditures without Contracted Professional Development Days: Five District Comparison

	Southwest	Southeast	Midwest	Great Lakes	Northeast	Average
Total Expenditures (millions)	\$11.2	\$19.5	\$8.6	\$21.4	\$12.6	\$14.7
Percent of Operating Budget	2.3	3.1	2.2	4.1	2.4	2.8
Per Teacher	\$2,100	\$5,000	\$2,700	\$4,700	\$2,800	\$3,460

3. District spending to provide teacher time for professional development is significant, but highly variable in size and composition.

The five districts studied here devoted from 21% to 51% of all of their professional development spending toward buying teacher time. Table 6 shows the investment in teacher

time in dollars per teacher. We expected to find that those districts that invested in providing professional development days would not invest as much to pay for teacher stipends and substitutes. But, these data do not support this hypothesis. Southwest, which has no contractual time for pd, invests as much in stipends and substitutes for professional development as Great Lakes, which has the highest investment in teacher professional development days and hours. Both districts were surprised by how much they paid teachers in stipends on average. This is because the stipends and substitutes were paid out of many separate district budgets that were never coordinated or planned.

Table 6
Dollars spent on Teacher Time Per Teacher

	Southwest	Southeast	Midwest	Great Lakes	Northeast
With Contracted PD Time	\$450	\$150	\$100	\$3,720	\$2,000
Without Contracted PD Time	\$450	\$150	\$100	\$500	\$520

The data above show that Southeast and Midwest spent only \$150 and \$100 per teacher respectively at the district level to pay teachers for time to participate in additional professional development and that . While these numbers may indicate a comparatively low level investment in teacher time, it would be dangerous to use these numbers alone to measure a district’s commitment to providing teacher professional development time. Three kinds of information help complete the diagnosis.

First, school level spending must be added. Especially in a decentralized district, like Midwest, schools may use discretionary funds to pay teacher stipends and find substitutes to create professional development time. Second, school districts and schools can restructure the use of existing teacher time to create instruction-free time in ways that do not add cost (Miles

& Hornbeck, 2000). Third, teacher compensation and job structure might create monetary incentives to devote additional time to professional development. For example, Midwest invests more than other districts to pay annual stipends to Lead Teachers who facilitate and prepare for teacher development. Midwest and Great Lakes provide salary increments for teachers who obtain certification from the National Board for Professional Teaching Standards. While this is not a direct payment for time, it provides incentive to devote time. These findings together suggest that districts might get more impact from their investments in teacher time by taking a district level view of it and strategically considering how best to combine the use of salary structure incentives, school and teacher calendars and daily schedules with stipends and substitutes to free the most productive time.

The cost structure framework also highlights spending differences in the area of administration. As Table 7 shows, while four of the districts spent 4 to 5 percent of their professional development dollars on administration, Northeast spent only 1 percent of total dollars to administer professional development. Northeast was also the single district studied that did not have a “professional development” department or a senior district leader with responsibility for district-wide professional development. In addition, Northeast received significant professional development services through two outside organizations. Since the administrative costs of these outside groups would not be captured here, the true cost of administration might be significantly higher.

Table 7
Professional Development Cost Structure: Percent of PD Spending
Five District Comparison without Contract Time

Cost Structure Element	South-west	South-east	Mid-west	Great Lakes with no Contract Time	Northeast with no Contract Time

Teacher Time: Stipends and Subs	21%	4%	4%	12%	19%
Teacher Time: Contracted Days or Hours	0%	0%	0%	0%	0%
Training and Coaching	70%	87%	84%	73%	69%
Administration	5%	5%	5%	7%	2%
Materials, Equipment and Facilities	3%	3%	3%	5%	8%
Travel & Transportation	1%	1%	3%	2%	1%
Tuition & Conference Fees	0%	0%	1%	1%	0%

4. Most districts targeted the majority of professional development toward school-level capacity building but none had formal strategies for coordinating or integrating these investments.

Four out of five districts aimed the majority of their district spending at improving school-level capacity in some way and invested a much smaller portion in developing individual capacity apart from school or district programs and initiatives. Table 8 shows that Midwest and Northeast both invested 1.8 percent of their operating budgets and about \$2,000 per teacher in school-targeted professional development. Southeast invested more heavily in professional development aimed at schools, spending \$4,000 per teacher and 2.5 percent of budget. Great Lakes also targeted a greater proportion of its resources, 2.2 percent of total operating budget, or nearly \$2,500 per teacher, toward school-wide professional development efforts. In contrast, Southwest spent the least on school-wide professional development strategies, totaling one percent of operating expenditures, or \$970 per teacher. Districts still invested significant dollars to develop individual capacity- an average of \$1,000 per teacher per year.

Just as with the findings regarding the overall levels of investment, districts found it surprising to learn how much they invested to improve school and individual instruction. None of the districts had previously totaled the investments aimed at particular schools or groups of teachers. In Midwest for example, school leaders used this coding scheme to tally

the resources going to each school. They found tremendous inequity in the resources across schools. Upon further investigation, they learned how difficult it was for school leaders that did receive resources from many places to effectively integrate them.

Table 8
Professional Development Spending by Target
Percent of Operating Budget

	Southwest	Southeast	Midwest	Great Lakes	Northeast	Average
School						
Percent of Operating Budget	1.1%	2.5%	1.8%	2.2%	1.8%	1.9%
Dollars Per Teacher	\$970	\$4,090	\$2,300	\$2,490	\$2,030	\$2,380
Individual						
Percent of Operating Budget	1.3%	.6%	.6%	1.3%	.6%	.9%
Dollars Per Teacher	\$1,220	\$925	\$770	\$1,520	\$710	\$1,030
Contracted PD Time						
Percent of Operating Budget	0%	0%	0%	2.8%	1.3%	N/A
Dollars Per Teacher	\$0	\$0	\$0	\$3,220	\$1,500	

5. Districts use common delivery strategies for professional development, but in very different mixes.

As the research gets clearer on which forms of professional development have the most impact in which situations, it makes sense for districts to test these different strategies more deliberately. Overall spending levels hide huge differences in the level of investment in certain kinds of professional development. The mix of strategies employed by a district reflect a blend of history politics and, to some degree, a deliberate strategy. To highlight the differences in the mix of strategies used, Table 9 shows professional development expenditures by district in terms of the percent of total expenditures by delivery strategy. Four of the delivery strategies were not used in all of the districts. These include the use of school-based lead teachers, school-based instructional facilitators and formal professional development schools. The “range” calculated for each of the strategies highlights those

strategies that represented very significant commitments in one or more of the districts studied. Comprehensive school reform designs, school-based instructional facilitators,

Table 9
District Delivery Strategies for Professional Development
Percent of Professional Development Spending (not including Contracted PD Days)

Target and Delivery Strategy	Southwest	Southeast	Midwest	Great Lakes	Northeast	Range
School	43%	82%	72%	54%	74%	
CSR and Other Models	2%	12%	13%	15%	25%	23%
Department-Based Training	23%	12%	13%	8%	28%	20%
School-Based Content Coaching	16%	13%	17%	11%	17%	6%
School-Based Lead Teachers	2%	0%	20%	8%	4%	20%
School-Based Instructional Facilitators	0%	25%	0%	5%	0%	25%
Training Academy Coursework	0%	3%	9%	6%	0%	9%
Individual	57%	18%	28%	46%	26%	
Department- Based Training	22%	12%	6%	26%	12%	20%
Professional Development Schools	0%	0%	2%	0%	0%	2%
Mentor	34%	3%	10%	19%	4%	31%
Training Academy, coursework	1%	3%	9%	2%	11%	10%

School based lead teachers, department-based training, and teacher mentors each represent more than one quarter of all professional development in at least one district and are not employed or used little in other districts. For example, in Southeast, if the dollars supporting “school-based instructional facilitators” were removed from spending estimates, Southeast would drop to the same per teacher level as Midwest and Northeast. In the same way, if the resources devoted to Southwest’s mentor program were removed, Southwest’s investment in individual teachers would drop below the level of other districts.

6. Districts rely on external sources of funding for almost half of all professional development provided.

All five districts relied heavily on non-local revenue sources to fund their professional development programs. As Table 10 below shows, combining spending in the five districts, nearly half of their revenue for professional development programming, 43 percent, came

from non-local sources. As used here, “local sources” refers to the districts’ general fund, which in most cases combined local property taxes and state per pupil financing to be used at the districts’ discretion. At 33 percent of total revenue, federal funds provided the largest source of outside funding. Title I was the single largest source of federal funding, followed by National Science Foundation, Individuals with Disabilities Education Act, and Title II Eisenhower Math and Science program grants. Federal sources paid for about one-third of the professional development in four out of five districts. In Midwest, federal funds accounted for a smaller portion, 18 percent. However, this estimate may under-represent Midwest’s reliance on federal sources because it does not include school-level professional development spending. This omission affected Midwest disproportionately because unlike the other districts, Midwest had decentralized most of its funds.

Table 10
Sources of Funding for Professional Development
Including Contracted Professional Development Days
(Amounts in thousands)

	Southwest	Southeast	Midwest	Great Lakes	Northeast	Total
Local						
Percent of Operating Budget	58%	59%	69%	59%	46%	57%
Total Amount	\$6,436	\$11,446	\$5,919	\$21,236	\$8,954	\$53,991
State						
Percent of Operating Budget	6%	2%	13%	4%	5%	5%
Total Amount	\$655	\$400	\$1,087	\$1,499	\$998	\$4,639
Federal						
Percent of Operating Budget	37%	36%	18%	34%	32%	33%
Total Amount	\$4,102	\$7,040	\$1,511	\$12,401	\$6,138	\$31,192
Regional						
Percent of Operating Budget	0%	0.1%	0%	0%	0%	0%
Total Amount	\$0	\$19	\$0	\$0	\$0	\$19
Private						
Percent of Operating Budget	0.1%	3%	1%	3%	17%	5%
Total Amount	\$12	\$612	\$67	\$1,141	\$3,393	\$5,226
Total						
Percent of Operating Budget	100%	100%	100%	100%	100%	100%
Total Amount	\$11,205	\$19,517	\$8,584	\$36,277	\$19,483	\$95,067

Private sources, such as grants from foundations and corporations, accounted for an average of five percent of revenues, but 17 percent of total revenues in Northeast. The next closest districts, Southeast and Great Lakes, received only three percent of their revenue from private sources. State support for professional development (that did not come from the general fund) also varied across these districts, ranging from only two percent in Southeast to 18 percent in Midwest.

The fact that districts rely so heavily on outside funding has important practical and policy implications. It places the burden of innovation and improvement outside of the local district organization. In some cases it serves to divert the initiative for improvement outside as well. Districts beholden to outside agendas may have more difficulty sustaining a coherent integrated professional development strategy as they may get sidetracked with the influx of new funding attached to outside priorities. In addition, district dependence on external funding makes long range planning difficult as often there are few guarantees that the funding will continue even for the following year. Finally, the prevalence of outside funding perpetuates the notion that investing in professional development is an extra bonus, added when funding is available instead of a core essential in an enterprise that relies on teacher and school leader expertise. In response to this managers must work harder to articulate a coherent strategy and system. Policy makers and funders might look to support more flexible integration of funds and seek to guarantee multi-year streams of funding.

4. Conclusion

The findings and methods reported here represent a snap-shot of work in progress-a first step to getting inside the “black box” of professional development. Before policy makers and districts can set targets for funding levels aimed at professional development or act to

encourage more effective forms of professional development, they must begin with a map of current activities and investments. The framework and coding schemes reported here provide a system that district practitioners and researchers can use that is detailed enough to allow district leaders to pinpoint and grab hold of resources that do not address their most important professional development priorities. They also allow leaders to begin to array all of the resources in the system against a coherent strategy. With a clearly described long term plan, districts might be able to sustain initiatives over time despite fluctuating funding levels and sources.

This work reported here begins to tap the power of this kind of data. It shows clearly that districts have more than they think (though perhaps still not enough) and that the first priority is making strategic use of it. But , there are important missing pieces to the mapping of existing resources and areas for further research.

Creating a full system picture of professional development resources will require a) finding a way to systematically capture or estimate school level spending on professional development and b) including district investments in capacity building through their salary structures. Mark Fermanich (In Press) and Gallagher (In Press) have applied this coding scheme reported here to a small sample of schools. This work shows that some principals do not know how much they currently invest in professional development and that districts have no way to capture it. It also shows huge variation in school level spending across schools. Researchers will not be able to cost effectively collect data across every school in the district unless districts themselves create new ways of capturing these data. For example, in Boston, each school now must create a separate professional development budget that integrates all of the resources and links to their improvement plan.

As described earlier, the district investment in building teacher capacity through teacher salary represents at least as large an investment as all of the professional development spending reported here combined. Quantifying the size of the investment in paying teachers for course credits across districts will be an important part of the policy and practice discussion. As important will be exploring the ways that districts are looking to ensure this investment is more closely linked to demonstrated teacher effectiveness. Some districts, like Cincinnati are moving toward systems that eliminate increments given for course credits and move toward increases based on demonstrated efficiency. Others are adding salary increments to encourage certification or training they feel are more closely linked with student performance.

Building on the first steps represented by this analysis will also require further research in at least three areas. First, this study addressed professional development spending in five large urban districts. Smaller districts often have much less infrastructure to support the kind of professional development efforts that may be needed to improve school performance. Less urban districts may receive fewer of the external resources that the districts studied here relied so heavily upon. Learning how and whether these districts organize and fund professional development efforts will have important lessons for urban district leaders and policy makers.

Second, case studies of how large urban districts and others are restructuring their professional development efforts in light of this kind of complete look at spending and the increased performance pressure on urban districts will provide important lessons. Boston Public Schools has just recently conducted a second inventory of spending using this methodology and these findings will shortly be available.

Finally, as districts move to a more strategic, deliberate organization of resources, then researchers can begin to look at whether the professional development provided is having an impact on teacher practice and student performance. This research might look across districts examine whether overall level of professional development spending makes a difference, or look at whether investment levels in certain strategies, school based instructional coaching for example, makes a difference. Alternatively, researchers within a district could explore the connection between schools that had received resources to pay for instructional coaches and those that did not. With this kind of information in hand, policymakers and education leaders could organize their district support to make the investments matter for students.

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Appendix A

Delivery Strategies

- *Comprehensive school reform designs (CSRD):* Comprehensive, integrated designs for improving school performance. A comprehensive design would address school improvement by using a prescribed process and set of materials that address improve instruction across all grades in a school. These may include “off the shelf” whole school models such as Success for All or Co-Nect or locally developed models.
- *Department-based training:* Training provided through various central office departments and offices that is not organized as “school based coaching” defined below. This training is frequently more narrowly focused and less likely to be aligned with broader district priorities. Examples include training on special education regulations through a district’s special education department, or technology training sponsored by an instructional technology department.
- *School based coaching:* Coaches assigned by the district to work with instructional staff in the schools on either school improvement and organizational issues or high priority curricular areas. Examples may include literacy or math coaches or coaches working to facilitate staff review of student performance data and creation of a school improvement plan.
- *School Based Lead Teachers:* Teachers who have a formal title of Lead teacher and work within a school to lead improvement efforts in some way. Examples include the use of “Literacy Lead” or “Team Leader” teachers that are paid an additional stipend and have defined responsibilities related to providing school level coaching or professional development.
- *Mentors:* Master teachers to support and coach other teachers, generally either first-year or struggling veteran teachers or with pre-service teacher interns.
- *School-based instructional facilitators:* Teachers who are members of their schools’ instructional staff and have an explicit role in leading instruction and do not handle a full class load. This can be a district sponsored position or a school level decision. They are generally accomplished teachers who serve as the instructional leaders in their schools, frequently supporting specific strategies such as comprehensive school reform designs, curriculum standards or literacy instruction.
- *Training academy.* A department or organization with mission of offering coursework and other training opportunities to teachers and principals mostly on a volunteer basis. Many have an in-house professional development “academy” that offers a catalog of short-term workshops on a wide variety of topics. Alternatively, a district might contract with an outside organization to offer training programs.

- *Professional Development Schools:* Demonstration schools staffed with master teachers and structured to allow apprenticeships. The additional costs of creating such schools would be included here but not the direct cost of providing instruction to students in these schools.