



The **FINANCE** PROJECT

Excerpts From

Inside the Black Box

School District Spending on Professional Development in Education

Lessons from Five Urban Districts



By Karen Hawley Miles,
Allan Odden,
Mark Fermanich, and
Sarah Archibald

With a Preface by
The Finance Project

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Inside the Black Box

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Preface by The Finance Project

Virtually all teachers participate in some professional development during their careers. Many school districts spend significant time and money on providing professional development for teachers. The reasons are many and include:

- Most states require teachers to participate in a specified number of hours of professional development to maintain their licenses.
- Collective bargaining agreements and teacher contracts require a certain amount of time be devoted to professional development.
- Due to the large workforce needs in education and the length of time required to prepare new teachers, school districts need to work with the workforce they have, helping them to respond to changes in student populations and other demands in their environments.
- As in any professional position, an individual is not the best at his or her profession on the first day and must continue to learn and improve their skills on a continuing basis once they are on the job.
- Research and emerging evidence demonstrate that better teachers improve student learning and suggest that professional development can help school districts achieve educational goals.
- The federal No Child Left Behind Act requires states to show an annual increase in the percentage of teachers who participate in “high quality” professional development.

As districts struggle to meet the demands of standards-based reform and requirements for “highly qualified” teachers in the face of increasing fiscal constraints, professional development has the potential to be a significant part of a district’s improvement strategy. To use dollars effectively, districts need to think about how to best integrate professional development expenditures and

activities with their overall strategies to improve student performance. To develop and implement a coherent professional development strategy that maximizes their return on investment and is aligned with district goals, districts need to understand how much they spend, what activities those funds support, how the activities align with district goals, and how flexible resources are.

There are significant challenges, however, to identifying this information. Due to the variety of funding sources, a lack of uniform categorical definitions, and inadequate data collection capacity and management systems, very few school districts can determine how much they spend on professional development. There is no uniform definition of what constitutes professional development, and each district includes a different list of activities under that umbrella. While some districts have budget line items for professional development, those figures rarely capture the entirety of professional development activities in the district. For example, much of the professional development that teachers participate in takes place outside of the regular workday, and districts may or may not reimburse teachers for the time and/or money they spend on these activities.

Adding to the complexity, decisions about how much to spend and on what activities are made at many different levels—among them, schools, school districts, states, and the federal government. Further, sources of funds are difficult to identify, as professional development expenditures by districts are typically reported in combination with other spending from money that may come from the state or federal level. Neither state nor federal governments nor, with very few exceptions, districts, routinely track how much is actually spent on professional development.

“Inside the Black Box of School District Spending on Professional Development: Lessons from Five Urban Districts,” by Miles, Odden, Fermanich, and Archibald, originally published as an academic article in the *Journal of Education Finance*, represents a collaboration of some of the most

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knowledgeable education finance researchers about professional development spending in the country. The article sets forth a concrete, powerful tool that helps districts quantify and analyze their professional development spending and discusses the results of its application in a number of districts. This tool not only illuminates where funds are being spent, but also systematically categorizes the purposes of the spending, prompting district leaders to think strategically about targeting resources purposefully to align with the districts' needs and goals. Going beyond broad and sometimes misleading budget categories and the limited sources most districts consider when tallying professional development investments, this tool looks broadly to capture spending on efforts to build instructional capacity and considers the range of resources under district control.

As part of its mission to support decision making that produces and sustains good results for children, The Finance Project is independently publishing excerpts from this article to expand the article's reach beyond an academic research audience to inform practitioners and policymakers about issues in financing professional development and the information necessary to maximize the potential of professional development investments. The hope is that this information will further discussions among the policy, practitioner, and other stakeholder communities about how to address the challenges presented and make that happen.

In conducting and reviewing work to identify professional development spending and the return on investment those expenditures provide, The Finance Project has identified a number of needs in the field:

- **Guidance and tool for state policymakers.** In order to encourage effective professional development and hold districts accountable for professional development spending, state policymakers need a map of current activities and investments. To gather that information in a meaningful way, there must first be agreed-upon definitions for categories of spending that inform reporting requirements for districts. A tool is needed that is designed to assist state-level policymakers understand the effects of state policies and programs. It is also important to consider that, given the federal government's role—specifically the National Center for Education Statistics (NCES)—in developing required reporting requirements, changes at the federal level can also drive how districts and states collect, report, and use professional development information.
- **Data management improvements.** School districts report and gather a vast amount of data, but what is collected often fails to illuminate how district decisions, particularly about professional development, affect teaching and learning. As is true for a number of reform measures, in order to use data effectively to improve professional development, districts will need to improve both their technological infrastructure and the organizational capacity to manage it.
- **Best practices information.** Districts making strides in student achievement need to be examined to determine how the design, delivery, and financing of their professional development activities contribute to their success. Lessons learned in these high-achieving districts could then be applied elsewhere.
- **Further studies.** Researchers, policymakers, administrators, and educators need more information on a range of important issues:
 - how to isolate and evaluate the effects of teachers' professional development on student learning;
- **An accessible tool for district use.** To date, undertaking the coding process and analysis of professional development spending requires significant, intensive resources. Districts of all sizes and resource levels need a user-friendly tool to inventory current professional development spending, identify flexible sources of financing, and provide information that allows them to analyze how to better align their activities and financing with their goals.

Financing Professional Development in Education

- how to finance effective professional development, including policy options to support flexible integration of professional development funds;
 - the costs of improving professional development for schools and districts, evaluated over time and at different stages of reform; and
 - school-level spending on professional development and the coordination of those activities with the district.¹
- delivery, and financing of professional development in six other fields with that in education.³ The Finance Project is also working with Education Resource Strategies to adapt and apply a financing framework in a number of high-performing districts with low-income student populations.⁴ This work can both provide positive models of professional development delivery and spending and lead to development of a “user-friendly” budget analysis tool for district use. The Finance Project has also convened a group of representatives from policy organizations that focus on state-level education issues.⁵ This group is formulating next steps for data, research, and demonstration initiatives that would allow for more informed policies and practices regarding professional development at the state and federal levels. Additional information, including The Finance Project’s body of work in this area as well as links to other relevant resources, is available at www.financingpd.org.

Through its Collaborative Initiative on Financing Professional Development in Education, The Finance Project is undertaking work to address a number of these needs, with the goal of developing resources and refining tools to better support the needs of practitioners, policymakers, and other decision makers. For example, The Finance Project has documented and analyzed practices and issues in the field to further a common understanding among the many stakeholders involved, including producing both a primer for policymakers and a primer for parents and community members.² This work also includes a comparative analysis contrasting the design,

More work, of course, remains to be done to maximize the return on investment in professional development in education. Advancing the common interests of the field will require the efforts of many actors and collaborations among them. The Finance Project is pleased to be part of one such collaboration by publishing the following work.

¹ See Gallagher, H. A. (2002). “Elm Street School: A Case Study of Professional Development Expenditures.” *Education Policy Analysis Archives*, 10 (28), 1-32.

Fermanich, M. (2002). “School Spending for Professional Development: A Cross Case Analysis of Seven Schools in One Urban District.” *Elementary School Journal*, 103 (1), 27-50.

Archibald, S. and Gallagher, H. A. (2002). “A Case Study of Professional Development Expenditures at a Restructured High School.” *Education Policy Analysis Archives*, 10 (29), 1-24.

² The Finance Project (2003). *The Delivery, Financing, and Assessment of Professional Development in Education: Pre-service preparation and in-service training*.

The Finance Project and Public Education Network (2004). *Teacher Professional Development: A primer for parents and community members*.

³ The Finance Project (2005; in press). *Preparing And Training Professionals: Comparing Education To Six Other Fields* (working title).

⁴ The Finance Project (2005; in press). *A Study of the Delivery and Financing of Professional Development in a Number of High-Performing High-Poverty Districts* (working title).

⁵These groups include the Education Commission of the States (ECS), Achieve, the Council of Chief State School Officers (CCSSO), the National Governors Association (NGA), the National Council of State Legislatures (NCSL), the National Council on Teaching and America’s Future (NCTAF), the Learning First Alliance, Standard & Poor’s School Evaluation Services, as well as Education Resource Strategies and the Maryland State Department of Education. This group is in the process of formulating next steps for research and initiatives that would provide a framework to allow for more informed policies regarding professional development at the state and federal levels.



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

The research reported in this paper comes out of a collaboration between researchers with Education Resource Management (led by Karen Hawley Miles), 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, this research team sought to create a standard way of:

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

The research team 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.

Literature Review

A review of the current literature pertaining to professional development expenditures suggests a wide range of district spending levels, from about 1 percent of operating budgets to more than 8 percent. But, each study has defined professional development spending differently and many have used district or state reports of spending, which renders 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.

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. For example, most districts and schools rely on Title I as a source of professional development dollars. But, without further probing through interview or survey, this spending could be hidden in various reports and line items.

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 the vastly different forms of professional development delivery (Chambers, 1999; Hertert, 1997).

Method and Sample

The difficulties discussed in the previous section have led to several efforts to develop a more consistent, comprehensive system for tracking professional development expenditures

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(Chambers, 1999; Killeen et al., 2002; Miles and Hornbeck, 2000; Odden et al., 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. This approach involved:

- Creating a cost framework of 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, who was working on a similar study for The Finance Project. This framework, which is described in greater detail in an earlier article published in the *Journal of Education Finance* (Volume 28, Number 1), describes six core elements of professional development spending. 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.²

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 investment. Also, 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 as well as for substitutes and stipends.

More detailed information on the cost structure is available in Odden et al. (2002).

Coding for Target, Purpose, and Delivery Strategy

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 1 lists the different purposes of professional development under each target category. 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.

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

² Rice includes two optional elements, future salary obligations and research and development. The research team chose not to analyze them in this study.

investments targeted at building individual teacher or principal professional skills. This professional development is not aimed at a school or school-based team of teachers but at *meeting individual career needs*.

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, 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, takes place in their own schools and classrooms with

coaching and ongoing feedback, and seeks to involve all teachers so that the activity emphasizes school-wide as compared to just individual capacity (Burney, Corcoran & Lesnick, in press; Elmore 2002; Garet, Porter, Desimone, Birman, and Yoon, 2001). 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 target category. 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 five general categories of *purpose* for professional development aimed either at individuals or 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 by topic such as literacy, technology or math. Similarly, those activities coded as “support to special student populations” would be coded

Table 1. Coding Categories for Target and Purpose

Target Individual (Teacher, Principal, and Other Subcategories)

- Pre-Service Preparation
- Induction
- Continuing Education
- Remediation
- Teacher Leadership

Target School Instruction (Low Performing, High Performing, Elementary, Middle, High)

- 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 education, bilingual, Title I, gifted)

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by the type of student, such as bilingual or disabled.

The final major coding step involved classifying activities into the eight distinct delivery strategy categories shown in Table 2 below. 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. The research team defined 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, the research team 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.

Method and Sample

Unlike many studies that ask districts to provide them with only their professional development spending, this analysis began with the entire

district budget and whittled it down to professional development investments using the above methodology. The budgets included general funds as well as funds from all other public and private sources of funding for a district.

District-level interviews clarified which expenditures were related to instructional and school support. Interviewers asked each staff person to estimate the time spent on professional development-related activities. Finally, the narrowed list of activities was coded according to the expenditure framework and coding scheme described above.

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 in the early stages of implementing ambitious reform efforts centered around building teaching capacity. Four of the 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 only implemented these agendas in 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.

Findings

Applying this standardized method across five urban districts yielded an improved understanding of how much the districts invest in professional development, what these dollars buy and how resources are organized. The following paragraphs describe six lessons learned from conducting this analysis in the five districts.

Table 2. Coding Categories for Delivery Strategy
Comprehensive School Reform Designs
Department-Based Training
School-Based Coaching
School-Based Lead Teachers
Mentors
School-Based Instructional Facilitators
Training Academy
Professional Development Schools

Table 3. Total Professional Development Expenditures with Contracted Professional Development Days: Five District Comparisons

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

* Districts identified by area only, not actual names.

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 3 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 managed. As district leaders reviewed the investment levels by department they realized they had numerous efforts that were sometimes aimed at the same targets but were managed by different departments that did not 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, three districts had organized “intervention” support for low-performing schools that included significant professional development from district 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.

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. Because excluding the cost of contracted time for professional development changes spending level estimates so

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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.

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 percent of all of their professional development spending to teacher time. 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.

It would be dangerous to use dollars spent on teacher time alone to measure a district's commitment to providing teacher professional development time. Three kinds of information help complete the picture. First, school-level spending must be added. Especially in a decentralized district, 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.

4. Most districts targeted the majority of professional development spending 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.

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 received resources from many different sources to effectively integrate them.

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

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 reflects a blend of history, politics and, to some degree, a deliberate strategy. Four of the delivery strategies were not used at all in at least one of the five districts. These include school-based

lead teachers, school-based instructional facilitators, training academies, and formal professional development schools. Comprehensive school reform designs, department-based training, school-based lead teachers, school-based instructional facilitators, and teacher mentors each represent more than a fifth of all professional development in at least one district and are not employed or used little in 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. The revenue for nearly half of the combined spending for professional development programming in the five districts, 43 percent, came from non-local sources. As used here, “local sources” refers to the districts’ general fund, which in most cases consists of a mix of 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 of the five districts.

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 and 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.



Conclusion

The findings and methods reported here represent a snapshot 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.

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

Creating a full picture of professional development resources will require finding a way to systematically capture or estimate school level spending on professional development along with the district investments in capacity building. Mark Fermanich (2002) and Gallagher (2002) have applied the coding scheme reported here to a small sample of schools. This work shows that some principals also 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 school improvement plan.

Building on the first steps represented by this analysis will also require further research. 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. Furthermore, districts in smaller municipalities may receive fewer of the external resources that the districts studied here relied so heavily upon. Learning how these districts organize and fund professional development efforts will have important lessons for all district leaders and policy makers.

Second, as districts move to a more strategic, deliberate organization of resources, 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 to examine whether the overall level of professional development spending makes a difference, or look at whether investment levels in certain strategies – school-based instructional coaching, for example – has a greater impact on instructional quality than other investments. Alternatively, researchers within a district could explore the variation between schools that 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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