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A Case Study of Professional Development Expenditures at a Restructured High School

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Abstract

This article is an analysis of professional development spending in a recently restructured urban high school. This study describes the school's restructuring effort, the ways in which professional development in the school supports the effort, and the ways in which the school reallocated

resources to create funds for professional development spending. We then apply the framework of professional development costs proposed by Odden, Archibald, Fermanich and Gallagher (forthcoming) to the professional development expenditures in the school. Information regarding professional development expenditures was obtained from budget and planning documents as well as interviews with school and district personnel. These data revealed that teachers in this school on average received \$9,711 of professional development resources with 98% of the spending on teacher time and training or coaching.

Districts and schools around the country are being called upon to improve the performance of their students. In an attempt to do so, they are implementing whole school designs, reducing class sizes, adopting new curriculums and increasing both the quantity and the quality of professional development for teachers. Experts have come to believe that this focus of effort and resources on professional development is necessary to reach the high student achievement goals set by standards-based reform (Birman et al., 2000; Corcoran, 1995; Hertert, 1997; Killeen, Monk and Plecki, 2000; Little, 1993). With this in mind, CPRE researchers at the University of Wisconsin-Madison embarked on a study of the costs of effective professional development. This study involved a couple of different stages. We began with a review of the literature on effective professional development and its costs, which held a lot of information on what constitutes effective professional development but very little on its costs. Furthermore, the extant research on professional development costs lacked a common framework for analyzing and discussing the costs at the state, district, and school level. This led the CPRE researchers to develop a new framework for assessing the costs of professional development that might become a common framework (Odden, Archibald, Fermanich, and Gallagher, 2001).

At the same time, CPRE researchers Fermanich and Gallagher began collaborating with Karen Hawley Miles on a study of district and school level professional development expenditures in Cincinnati. Miles had already done similar work at the district level in three other districts: San Antonio, Boston and Albuquerque. The work in Cincinnati goes beyond an analysis of expenditures at the district level and evaluates school-level professional development spending as well. This project's first case study, written by Alix Gallagher (2001) about a Cincinnati K-8 school, was the first to systematically estimate costs at the school level and use the Odden et al. (2001) framework to analyze the professional development resources at a school engaged in comprehensive school reform. This case study uses Gallagher's format, and focuses on the different kinds of professional development now being employed by a restructured high school in Cincinnati and the costs of that professional development.

This case highlights Harrison Place High School (Note 1), a magnet school that used professional development as an integral part of a coordinated schoolwide reform. Professional development is defined here as organized district and school activities intended to build teacher knowledge and skills. This includes activities that are often classified as professional activities to promote instructional improvement; for example, workshops, teacher coaching, work with consultants, and collaborative planning time and in-service days used for activities designed to lead to professional growth. Since this case study examines resource use rather than economic costs, it does not cover

activities that have no cost for the district or school, including uncompensated teacher time. This case study seeks to answer three questions: 1) What is Harrison's strategy for improving student achievement? 2) How does professional development support this strategy? 3) How does Harrison allocate resources for professional development?

In an attempt to answer these questions, we developed a framework, collected data from documents and interviews, and aligned that data with our framework. These steps are described in the next section. This article does not involve an extensive literature review. See previous work by Gallagher (2001) and Fermanich (2001), for an extensive review of research on professional development costs, including an analysis of the strengths and weaknesses of those studies. Following the section on methodology, Harrison's educational strategy is explained in light of its district context. The final section examines Harrison's professional development spending in terms of funding sources and the Odden et al. (2001) cost structure.

2. Methodology

Based on prior research, the following goals were set for the study: a) to develop a methodology based on prior research that provides a good estimate of professional development expenditures at the school site and information on the nature of professional development activities; and b) to use a systematic framework for analyzing professional development expenditures.

This case study builds on Elmore and Burney's (1997), Miller, Lord and Dorney's (1994), and Miles' (Miles et al., 1999; Miles and Hornbeck, 2000; Miles, 2001) methodologies, but takes them a step further by analyzing expenditures in terms of a clearly articulated cost structure and tracking district spending on professional development to the school site.

Our first step was to identify a more specific framework for analyzing professional development costs. In a review of literature on the costs of professional development, Odden et al. (2001) built on the Garet et al. (1999) and Elmore and Burney (1997) studies (among others) to create a systematic framework for analyzing the costs of professional development. They then collaborated with Jennifer King Rice of the Finance Project to create a common framework consisting of six core and two optional (Note 2) elements to be used to analyze the costs of professional development. The six core elements are: 1) teacher time, 2) training and coaching, 3) administration, 4) materials, equipment and facilities, 5) travel and transportation, and 6) tuition and conference fees. Table 1 depicts this cost structure.

Table 1^{*}
A Cost Structure for Professional Development

Cost Element	Ingredient	How Cost is Calculated
Teacher Time Used for Professional Development	Time within the regular contract: 1. -when students are not	1. teachers' hourly salary

	<p>present before or after school or on scheduled in-service days, half days or early release days</p> <p>2. -planning time</p> <p>Time Outside the regular day/year:</p> <p>3. -time after school, on weekends or for summer institutes</p> <p>4. -release time provided by substitutes</p>	<p>times the number of student free hours used for pd</p> <p>2. the cost of the portion of the salary of the person used to cover the teachers' class during planning time used for pd</p> <p>3. the stipends or additional pay based on the hourly rate that teachers receive to compensate them for their time</p> <p>4. substitute wages</p>
Training and Coaching	<p>Training</p> <p>1. salaries for district trainers</p> <p>2. outside consultants who provide training; may be part of CSR</p> <p>Coaching</p> <p>3. salaries for district coaches including on-site facilitators</p> <p>4. outside consultants who provide coaching; may be part of CSR</p>	<p>1. sum of trainer salaries</p> <p>2. consultant fees or comprehensive school design contract fees</p> <p>3. sum of coach and facilitator salaries</p> <p>4. consultant fees or comprehensive school design contract fees</p>
Administration of Professional Development	Salaries for district or school level administrators of professional development programs	salary for administrators times the proportion of their time spent administering pd programs
Materials, Equipment and	1. Materials	1. materials for pd,

Facilities Used for Professional Development	2. Equipment 3. Facilities	including the cost of classroom materials required for CSRDs 2. equipment needed for pd activities 3. rental or other costs for facilities used for professional development
Travel and Transportation for Professional Development	1. Travel 2. Transportation	1. Costs of travel to off-site pd activities 2. Costs of transportation within the district for professional development
Tuition and Conference Fees	1. Tuition 2. Conference Fees	1. Tuition payments or reimbursement for university-based pd 2. Fees for conferences related to pd

*Reprinted from Odden, Archibald, Fermanich and Gallagher, A cost framework for professional development, *Journal of Education Finance*, forthcoming.

These cost elements provide a meaningful level of detail on how money is spent for professional development at the district and school. The usefulness of this sort of framework for making comparisons across studies becomes most apparent when analyzing the studies by Miller, Lord and Dorney (1994), Miles, et. al. (1999) and Miles and Hornbeck (2000). Although these studies use somewhat similar methodologies, it is difficult to draw conclusions across studies about the level and effectiveness of professional development spending without a shared analytic framework. We hope our comprehensive framework, which was developed in cooperation with other professional development researchers and has now been employed in three case studies, offers a useful standardized framework to allow cross-site analyses.

As previously mentioned, the data collection for this study began in conjunction with Miles' (2001) multi-district analysis of expenditures on instructional improvement. First, data were collected on instructional and school support at the district level. As in Miles' earlier work, instructional and school support were defined as all district supports for high-quality instruction, including professional development. The analysis began with the entire district general fund budget, as well as those from all other public and

private sources of funding for the district. The analysis proceeded according to the following six steps:

- a) District-level interviews were used to develop an understanding of which expenditures were related to instructional and school support and to code spending in all departments within the various categories of instructional support: professional development, accountability, curriculum development and support, special program monitoring and compliance, information systems, district student services and community outreach. Interviews were conducted with the people in charge of departmental and categorical budgets. The interviews provided data on which district initiatives supported instructional and school support, the type of spending each related line item represented, and the percentage of salary costs for relevant individuals that should be considered instructional and school support.
- b) At that point, the focus narrowed to those expenditures within instructional and school support that we defined as professional development. This included, for example, district literacy coaches, stipends paid by the district for lead teachers, the costs of comprehensive school reform design contracts, salary costs for those coordinating professional development, consultant fees, materials costs, and the district's professional development center. The analysis includes an estimate of the cost of teacher planning time that was actually devoted to professional development. However, the cost of salary advancements due to professional development credits and the cost of uncompensated teacher time were not included.
- c) For each line item, several types of data were collected: the description, source, control (e.g. district, school), type (e.g. consultant fee, stipends), topic (e.g. literacy, standards), and form of delivery (e.g. school-based coaching, workshop). With this level of detail, it was possible to sort data according to general initiative (e.g. literacy, standards, teacher leadership) as well as by cost element (teacher time, trainers and coaches, other costs).
- d) Professional development costs from all district budgets were then allocated, where possible, to the school level. The cost of each initiative was allocated among participating schools based on the staff and overhead costs in one of three ways:
 - By participating school—for example, if twenty schools participated in a literacy program, the overhead costs for the entire coaching program would be split evenly amongst the twenty schools. If, within that program, five schools shared a literacy coach, each school was 'charged' for 1/5 of that coach's salary.
 - By pupil at each participating school—for example, one initiative provided a block grant to participating schools based on student enrollment. The number of pupils at each participating school was multiplied by the per pupil funding formula to determine the resource level at the school;
 - By participating teacher—for example if the district offered an after school workshop that cost \$1,000 to produce and five teachers attended, each of their schools would be 'charged' \$200.

A later section explains the precise method of calculating the cost for each

initiative that involves Harrison Place High School.

- e) Once district-level spending was tracked to the schools, resources from the school site budget and categorical programs were analyzed. Line item budgets were available for both the school general fund and Title I (the federal grant that provides supplemental educational funding for low-income students) budgets. For Title VI (the federal class size reduction initiative), Obey-Porter (the federal comprehensive school reform demonstration project), Literacy Today (a state literacy initiative) and TechNow (a state technology initiative) only total allocations were available. All of these sources were added to the district information to generate a preliminary estimate of resources controlled by the school. The next step ascertained how many of these resources were used for professional development.
- f) Using the data collected in the earlier steps, preliminary and follow-up phone interviews were conducted with the principal to verify information, identify how the school used categorical dollars and its discretionary control to increase or reduce professional development resources at the school site. The interviews also provided an understanding of the school's educational strategy and how resources were deployed to achieve school goals. At all stages, data were gathered by cost structure elements.

These data provided three types of information: 1) Qualitative information on the school's goals and strategies; 2) A comprehensive resource use picture; 3) Descriptive data that enabled this analysis to move beyond accounting codes to an understanding of the professional development strategies and their cost.

These three types of data together made it possible to present professional development spending at Harrison utilizing the cost structure developed by Odden et al. (2001). Additionally, as becomes apparent in the next section, these data allow for a detailed explanation of exactly how the cost estimates were developed. Finally, this methodology and cost structure makes it possible to overcome the barriers typical accounting practices create to understanding the relationship between professional development and educational strategies.

3. District And School Context

Harrison Place High School is located in the Cincinnati Public School District, a moderately large, urban district in the Midwest that serves approximately 48,000 students. In the mid 1990's the district had relatively low achievement, but has made a significant attempt to generate improvements by focusing on school accountability, coordinated reform, teacher leadership, and instructional improvement. Cincinnati's accountability system categorizes schools into five performance categories, the lowest of which can trigger 'redesign,' the district's school reconstitution plan. Redesign schools receive a new principal and a substantially new staff, who are required to implement the comprehensive school reform model chosen by the school's redesign committee (comprised of four members chosen by the district and four members chosen by the union). Cincinnati also operates a number of magnet schools funded at a slightly higher amount per pupil, and supports the adoption and implementation of comprehensive school reform models in many schools in the district that are not redesign schools.

Cincinnati has several other strategies for improvement in addition to comprehensive school reform. The district invested significantly in teacher leadership through its team leader and lead teacher programs. The district also provides ongoing teacher coaching on literacy and aligning instruction to standards for schools that participate in either of these initiatives. Furthermore, the district provides mentors for new and struggling teachers, and hosts teacher-interns from a local university. Finally, the district contracts with an independent staff development academy to provide workshops and training for teachers on topics that the district identifies as important for instructional improvement. Cincinnati's initiatives have made significant district resources available to school sites undertaking reform, and in several cases, have focused efforts on raising student achievement to the district's standards.

School Background Information

Harrison Place High School is one of five schools in the Cincinnati Public School District that serves students in grades 9-12. Its student population is 85% African American and 15% white. Approximately 50% of students qualify for free or reduced-price lunch. Compared to other high schools in CPS, Harrison serves a relatively high number of special education students; approximately 15% of students have Individual Education Programs (IEPs). Table 2 provides other relevant facts about Harrison High School.

Table 2
Facts about Harrison Place High School

Student Enrollment	1550
Grades	9-12
Student-teacher ratio, overall	12:1
Student-teacher ratio, academic classes	17:1
Number of special education teachers	19
Comprehensive School Reform Designs	Paideia, Co-nect

After the 1988-1989 school year, the district closed Harrison Place High School due to persistently low academic performance. After reopening in Fall 1989, the school was structured to create smaller, self-contained academic programs for students. As of the 2000-2001 school year, the school offered five academic programs that are close to being self-contained. In this structure, students choose one of the five programs, and then take all of their academic courses with only those students and teachers in their chosen program, thus creating a smaller community for both students and teachers. The only exceptions are for non-core academic courses such as physical education and music. Two of the programs students select from are national whole school designs, Paideia and Co-nect, and the other three are “homegrown” designs created at the school or district level. Although only one of the programs officially uses Paideia, the whole school considers itself a Paideia school, adopting the Paideia mission of producing graduates who will become lifelong learners, responsible citizens and productive workers. The five programs include:

- Paideia: With 400 students, this program uses teachers as coaches, runs classes as seminars, and places an extra emphasis on English.
- Cincinnati Academy of Math and Science (CAMAS): With 375 students, this program helps students acquire specific skills unique to science and mathematics by concentrating on these areas in other disciplines. There is also a small program within CAMAS called the ZOO Academy. Students in this program attend classes at the Cincinnati Zoo and study a zoological-centered curriculum.
- Teaching and Technology: With 250 students, this program uses the Co-nect school design, which emphasizes project-based learning supported by technology.
- Communications: With 250 students, this program offers a complete high school academic studies program and provides students with experiences in journalism, graphics and photography, public relations, advertising, and technical writing.
- Health Professions: With 225 students, this program offers the essential building blocks for any health career – academic coursework combined with lab and field experience in health-related or medical areas.

In addition to five separate academic programs, Harrison made a number of changes to meet the constant need for teachers to engage in a wide variety of professional development. Five on-site instructional facilitators were hired, one for each academic program, to provide teachers with full-time support specific to their program. In 1997-1998, Harrison Place also became a team-based school. Teams of teachers and students created smaller learning communities for students and reduced student loads for teachers. The school also began participating in the district's team leader and lead teacher programs.

Another big change at the school came in 1999 when the school changed to flexible block scheduling. This change allowed the principal to rearrange the schedule so that all teachers had common planning time with their core academic team members. The school leadership recognized that common planning time was necessary for teacher teams to engage in job-embedded professional development during the regular workday. By the 2001-2002 school year, all core academic teachers had two 45-minute planning periods per day, or 450 minutes per week. In most cases, teachers used one of these planning periods to meet with their team for professional development purposes while the other was used for personal planning time. The collaboration time allows teachers to meet and discuss teaching strategies, plan a curriculum unit, or meet with their instructional facilitator during the regular school day, and is therefore included in our cost estimate of professional development. The next section outlines the various sources of professional development spending at Harrison. (Note 3)

4. Sources and Control of Professional Development Spending at Harrison

In the 2000-2001 school year, Harrison received federal, state and local funding. While some resources are controlled at the district level, the school site has significant control over the budgets from most sources. Unlike previous studies that focused on data from the district level, this case study tracks district and school expenditures on professional

development from federal, state and local sources. Because these data are complex, it may be useful to think of two categories of professional development spending at Harrison:

1. District spending on the infrastructure to support professional development (such as the salaries of central office administrators of professional development programs, clerical support, equipment, and supplies) and on professional development activities and programs that are provided to school staff. This category can be further divided into two groups:
 - a. Trackable funds: some district spending on professional development can be reasonably tracked to the schools that receive the direct benefit of the resources. Of district spending on professional development, \$7.4 million dollars (approximately 73%) of district spending fell into this tracking category. This includes spending on district-funded coaches that work with schools on instructional improvement, mentors for new teachers, courses provided by the district professional development academy and funds earmarked for adoption of CSRDs. This article provides significant detail on this category of spending;
 - b. Untrackable funds: some district spending on professional development occurs in a manner such that it is *not* possible to track which schools receive the direct benefit of the resources. Of district spending on professional development, \$2.7 million dollars (or 27%) fell into this category. It was not allocated to the school level for one of the following reasons:
 - Spending was designed to build individual or district-level, rather than school-level, capacity (for example district support for individuals to pursue National Board certification) and so could not be accurately tracked to a given school;
 - Funds were controlled by neither the district or school (for example, the contractually mandated, union-controlled professional development fund);
 - Spending was too fragmented to be accurately allocated to the school level;
 - While funding was allocated for professional development, the dollars had not yet been spent.

For these reasons it was not possible to accurately allocate this district spending to the school level, but because it is such a small portion of the total expenditures, we do not believe it is a problem for our analysis.

2. Spending for school-initiated professional development activities funded from schools' own discretionary budgets. This would include a school's use of Title I money to hire a facilitator or coach to provide teachers training and support in implementing a CSRD, structuring planning time to provide teachers time within the school day for professional development, or using the school's general fund budget for materials or travel expenses for professional development.

The upcoming sections explain the sources of trackable district-level and school-level professional development resources at Harrison.

District-Level Support for Professional Development at Harrison

Harrison participated in many of Cincinnati's professional development initiatives, including team leaders, lead teachers, teacher mentoring, the teacher intern program, and math and science workshops. Individual staff members also took courses on various topics offered by the district through its independent professional development academy. While most initiatives were funded through the district general fund, funding for the math and science workshops came from Title II of the federal Elementary and Secondary Education Act, also known as the Eisenhower Program. Table 3 lists the district initiatives in which Harrison participated, the strategy used for allocating the cost to Harrison, and the cost estimate of the resources Harrison received. All estimates include the cost of fringe benefits where applicable.

Table 3
District Professional Development Initiatives at Harrison

Initiative	Allocation Method	District-wide Expenditure per Initiative	Harrison Resource Estimate
Team-based schools	Teacher stipends allocated per team leader to participating schools; other initiative costs allocated evenly across participating schools	\$1,192,959	\$85,999
Lead Teachers	Teacher stipends	\$587,500	\$57,000
Staff Development Agency Courses	Allocated proportionally across schools based on prior year course-taking patterns	\$867,134	\$11,897
Teacher Intern Program	By salary and stipend costs for participating schools	\$219,474	\$54,677
Peer Mentoring	Allocated across schools based on number of new hires/intervention teachers at each school	\$602,731	\$ 32,018
Eisenhower Math and Science	Allocated proportionally across schools based on current year workshop enrollment.	\$ 343,371	\$5,404
Total District-controlled		\$3,813,169	\$246,995

professional development resources at Harrison

In sum, the district provided Harrison's teachers with an average of \$1930 (Note 4) in professional development resources.

As previous research has shown (Miles & Hornbeck, (2000); Miles, et. al., (1999); Elmore & Burney (1997); Hertert, 1997; Miller & Lord, (1994)), districts utilize multiple sources of funding for professional development. Cincinnati is no exception. As Table 4 shows, Cincinnati used federal programs, state and local tax revenues to fund professional development.

**Table 4
Sources of District-Level Professional Development at Harrison**

Initiative	Federal	State/Local	Private	Total
Team-based schools		\$85,999		\$85,999
Staff Development Agency Courses	\$2,808	\$9,089		\$11,897
Lead Teachers		\$57,000		\$57,000
Teacher Intern Program		\$54,677		\$54,677
Peer Mentoring		\$32,018		\$32,018
Eisenhower Math and Science Workshops	\$ 5,404			\$5,404
Total	\$8,212	\$241,591	\$0	\$246,995
Source Percentage of Total	3%	97%	0%	100%

As Table 4 illustrates, state and local funds represent the largest source of dollars for Cincinnati's professional development initiatives. These sources provide 98% of the district-level professional development resources at Harrison.

In addition to the \$246,995 that the district spends to provide Harrison's teachers with professional development, the school spends some of its site budget on professional development. These expenditures are detailed in the next section.

School-Controlled Support for Professional Development at Harrison

At the school level, Harrison spent a total of \$995,986 on professional development. Most of these funds came from the school's general fund budget. The only other source of school-controlled funds used for professional development at Harrison was a \$300,000 grant from TechNow, a state educational technology initiative. The state recommended that 30% of the grant money at each school be spent on technology professional development. Harrison used approximately \$15,000, or 5% for professional development at the school site; the money was spent to provide technology training for teachers.

Harrison's commitment to funding teachers for core academics means that some

common school-site expenditures on professional development are not a part of its budget. For example, Harrison has no allocation in its budget for substitutes to free teachers to attend professional development activities. Instead, teachers must rely on members of their team to cover their classes or money from the union's professional development fund. However, the fact that its five separate academic programs each have a full-time, on-site instructional facilitator means that the school spends a significant amount on what we term professional development in this study, even when the cost of providing common planning time is excluded.

Harrison spent \$980,986 from its school general fund for professional development. Most of this spending was used for the salary costs of teachers who provided classroom teachers with common planning time. While including planning time dramatically increases the estimate of professional development spending, it is included here because planning time provides teachers student-free time with the opportunity to collaborate with other teachers and build their skills. Not all schools have arranged their schedules to provide teachers with common planning time, and those that have are, in effect, building an infrastructure for job-embedded professional development. Although we cannot be sure that all of this time is used for professional development, we believe that thinking of this time as a professional development resource could help to justify creating joint planning time for staff, which is an excellent opportunity for collaboration around student learning. Furthermore, interview data revealed that common planning time at Harrison is used for meetings with instructional facilitators and collegial discussions about better teaching strategies and curriculum units. These activities clearly fall within our definition of professional development. For purposes of comparison, however, estimates of professional development spending without planning time are included in Table 5.

In addition to providing planning time, the general fund budget was used to pay the salaries of the five instructional facilitators, one for each separate academic program. These full-time, on-site facilitators are licensed teachers who have extensive knowledge of their specific academic program. Their on-site coaching and support of teachers is an example of the kind of professional development that has been proven effective – ongoing, job-embedded, and focused on the content of the academic program.

The additional \$995,986 (\$7,781/teacher) spent on professional development at the school site underscores the importance of conducting school-level professional development spending analyses in districts that have decentralized budgeting, since the school's discretion can both augment and detract from predicted expenditures on professional development. Table 5 lists Harrison's school-controlled expenditures on professional development, which are all funded by state and local sources. The table also shows the percentage of the total spent on each item.

Table 5
Sources of School-Level Professional Development at Harrison

Description	State/Local	Percentage of total*
Salaries (& benefits) of on-site facilitators	\$349,910	35%
On-site technology training	\$15,000	2%

Common planning time used for pd	\$631,076	63%
Total with planning time	\$995,986	100%
Total without planning time	\$364,910	37%

*Rounded to the nearest percent

Professional Development Resources from Other Sources

In addition to the public funds listed above, Harrison also has other resources that support professional development that were not quantified in this study. More specifically, there were two major types of additional staff development resources at Harrison that were not included in the analysis:

External support for individual teachers' professional development—Harrison had two such sources. The first was the union's professional development fund, to which teachers in Cincinnati could apply for mini-grants to attend conferences that supported their professional growth. Second, since Harrison participated in the teacher intern program with a university, teachers were eligible to apply for individual grants from the university to support their own course-taking. Since these are outside of district and school control and no records of participation were obtained, this study did not include these.

Uncompensated teacher time—Little (1987) found that uncompensated teacher time was a significant resource for professional development. At Harrison this included, among other things, graduate classes that several teachers took at a local university, and collegial work outside of the contract day. However, since the school site bears none of this cost, it was not included in the analysis.

Leaving these activities out of the analysis potentially leads to an underestimate of professional development resources at Harrison; however, accurately quantifying these resources is outside the scope of this study.

Table 6 presents a summary table with total, per teacher and per student professional development resources at Harrison at both the district and school level.

Table 6
Professional Development Resources at Harrison by Level

Locus of Control	Percentage Spending per level	Total Professional Development Spending	Total per Teacher*	Total per Student
School level	80%	\$995,986	\$7,781	\$642
District level	20%	\$246,995	\$1,930	\$159
Total	100%	\$1,242,981	\$9,711	\$801

*This table uses all professional teaching staff, including core academic, specials, vocational education and special education teachers in the per teacher calculation.

As Table 6 shows, Cincinnati and Harrison combined provide for \$9,711 per teacher in professional development resources. If the untracked average district-level expenditure per teacher of \$1,038 were included, this estimate would be \$10,749 per teacher. Since we are unable to definitively track these resources to Harrison, however, the higher estimate is not used in this study.

5. Cost Structure of Professional Development Spending At Harrison

The remainder of this article analyzes Harrison's professional development resources by cost structure, which provides a framework for understanding how resources were allocated within the school. Of Harrison's \$1,242,981 total expenditures for professional development (including both district and school level spending), 98% were for either teacher time or training and coaching. Teacher time was the largest expenditure, \$631,519. All but \$443 was spent on providing teachers with a common planning period during each regular school day that could be used to engage in professional development. The remainder was used to pay teachers to attend math and science workshops funded by the Eisenhower program. The school spent \$581,781 on training and coaching, spending \$58,134 for training and \$523,647 for coaching. Table 7 shows Harrison's expenditures for professional development by cost element.

Table 7
Resources for Professional Development by Cost Structure

Cost Element	Expenditure	Average Expenditure per Teacher	Average Expenditure per Pupil	Percentage of Total Professional Development Expenditures
Training & Coaching	\$581,781	\$4,545	\$375	47%
Teacher Time	\$631,519	\$4,934	\$407	51%
Travel & Transportation	\$704	\$6	\$ *	*%
Tuition & Conference Fees	\$0	\$0	\$0	0%
Administration	\$26,049	\$203	\$17	2%
Materials, Equip. & Facilities	\$2,928	\$23	\$2	*%
Grand Total	\$1,242,981	\$9,711	\$801	100%

*Since this was such a small amount of money, the per-pupil and/or percentage of total expenditures calculations were negligible.

As noted earlier, it is important to include the cost of teachers' time within the school contract as part of a discussion of the cost of professional development. While this time is included in the regular teacher contract and therefore has no marginal cost to the school, the school leadership had to make a number of changes to enable teachers to have such a substantial amount of common planning time. For this reason, we feel it is appropriate to include the estimate of the cost of providing the common planning time in the calculation of the total amount spent on professional development. However, some researchers prefer to use estimates of professional development costs that does not include planning time, so, for the purposes of comparison with those studies, Table 8 shows Harrison's professional development expenditures excluding teacher time within the regular school day. The figures are still substantial, on both a per teacher and a per student basis.

Table 8
Resources for Professional Development by Cost Structure, Not Including Teacher Time within the Regular Contract

Cost Element	Expenditure without Teacher Time within the Contract	Average Expenditure per Teacher	Average Expenditure per Pupil	Percentage of Total Professional Development Expenditures
Training & Coaching	\$581,781	\$4,545	\$375	95%
Teacher Time	\$443	\$3	\$*	*%
Travel & Transportation	\$704	\$6	\$*	*%
Tuition & Conference Fees	\$0	\$0	\$0	0%
Administration	\$26,049	\$203	\$17	4%
Materials, Equip. & Facilities	\$2,928	\$23	\$2	1%
Grand Total	\$611,905	\$4,780	\$394	100%

*Since this was such a small amount of money, the per pupil and/or percentage of total expenditures calculations were negligible.

Excluding the cost of teacher time within the contract, professional development resources at Harrison are spent almost entirely on training and coaching. A closer look at his cost element reveals that most of it (99%) is spent on coaching. This cost is high for a number of reasons. First, coaching is a form of professional development with a longer duration than most, making it more expensive. Secondly, this school has hired five full-time instructional facilitators to provide coaching at the school site; their

salaries account for 60% of the amount spent on coaching and 28% of total spending on professional development at Harrison. This reflects the fact that the separate academic programs, including two comprehensive school designs, is one of the main strategies for school improvement at Harrison. The school administration's belief that a full-time, on-site coach who could meet with teachers during common planning time is reflected in their large investment in both facilitators and common planning time.

While most comprehensive school designs have fees, Harrison has managed not to incur any costs from its two programs. Administrators and staff at Harrison agreed to let Co-NECT use Harrison as a demonstration site; in exchange, the school gets to use the program without paying the usual fees. Any initial fees to use the Paideia program were paid by the district in previous years and are not part of this analysis.

In addition to the salaries of the five instructional facilitators, the training and coaching expenses covered \$173,737 in coaches across a variety of district initiatives, including lead teachers, team leaders, and peer mentors. Workshops across a variety of topics cost \$16,804, including math and science workshops funded by the federal Eisenhower program. The combination of district and school-level expenditures on professional development adds up to comprehensive, ongoing professional development for teachers at Harrison Place High School.

7. Conclusion

The methodology of interviewing multiple central office staff as well as the principal to identify professional development expenses at Harrison helped the researcher gain a more complete picture of spending than would have been possible from an analysis of budget data alone. This methodology provided much more detailed and accurate information about the district program resources available at the school site. Furthermore, this study uncovered some resources that were not apparent from school budget data. One example of this was the \$15,000 in grant money used for technology training.

This study has two very interesting findings: the relatively high estimate of the amount spent on professional development and how that money was spent. The first, the high level of expenditure per teacher for professional development, is higher than those found in other studies mentioned earlier in the article. Including time within the teacher contract, Harrison teachers had an average of \$9,711 of resources of professional development. There are three main reasons that this estimate is higher than those found in other studies:

Unlike much earlier research, Harrison's data were collected using a multi-step methodology. The researcher supplemented budget data, traditionally the main source of data for professional development cost studies, with interviews that enabled the researcher to more accurately determine which expenditures were directly related to professional development. Without these interviews the data would have been much less precise, since current accounting systems are not designed to clearly identify all types of professional development expenditures.

Additionally, data were collected on school discretionary as well as district expenditures for professional development. If only the district-level spending were taken into account, the researcher would have only estimated Harrison professional development

expenditures of \$1930 per teacher or \$160 per student. This is within the range found in some other studies, but clearly underestimates the total professional development resources available to Harrison Place teachers.

The methodology and cost framework utilized in this study includes teacher time within the regular contract spent on professional development activities in the estimate. This adds \$4,931 to the per teacher estimate of professional development expenditure. Similarly, Miles and Hornbeck (2000) include district-level spending for teacher time, which includes district-wide inservice days, in their calculations. Since Cincinnati does not include such days in the district contract, the teacher time in our estimates is all provided on the school level.

The variation in definitions of professional development that lead to very different estimates of costs will continue unless researchers decide on a comprehensive and relevant definition. This project attempted to advance this effort by looking across several prior works on professional development expenditures to arrive at such a definition. We then constructed a cost structure to aid in the collection of the same expenditures across studies. Only when studies include the same expenditures will we be able to say that one estimate is higher or lower than another and focus on why that is the case.

As illustrated in this case study, the Odden, et. al. (2001) cost structure provides a substantial level of detail about the nature of spending being studied. The cost structure helps highlight the second interesting finding of this study: how Harrison's professional development money was spent. The highest percentage (51%) of the money spent on professional development at Harrison was for common planning time for teachers – time within the regular school day to engage in professional development. Including this cost estimate is important because school leadership at Harrison purposefully reorganized the school schedule to ensure that every teacher had daily common planning time with his or her teacher team. The second largest percentage (47%) of the expenditure for professional development at Harrison was for training and coaching, and the highest portion of these funds was spent on the salaries of five full-time, on-site instructional facilitators. Again, this school-based expenditure is important to include because it represents such a substantial investment in ongoing teacher learning.

As these examples show, using this cost structure makes it possible to break out the variation caused by different definitions of professional development (for example inclusion of teacher time within the contract or ongoing coaching) from those caused by variations of spending. Use of this framework thus creates estimates that more empirically and practically useful.

In sum, the cost structure analysis yielded useful findings about not just the total professional development costs at Harrison, but more importantly, the strategic allocation of resources. The cost structure also makes it possible to see how different definitions of professional development shape findings. It is thus an important contribution to the field since widespread use of such a cost structure would facilitate comparing findings across studies.

This case study represents one of the early steps of a broader research agenda, which ultimately seeks to identify the level of professional development spending and spending strategies that will best enable schools and districts to improve teaching and student

learning. Continuing these analyses in a systematic manner and employing the cost methodology defined in Odden, et. al. (2001) will yield more data that will add to the extant knowledge on the cost of effective professional development. This knowledge will help districts and schools make informed decisions about spending on professional development.

Notes

This article was prepared for the Consortium for Policy Research in Education, Wisconsin Center for Education Research, University of Wisconsin-Madison. It borrows heavily from two other CPRE papers. The literature review, methodology, and general format were taken from *Elm Street School: A Case Study of Professional Development Expenditures*, by H. Alix Gallagher, another school in the same study of one district. Some details about the school itself were taken from: *A Case Study of Dramatic Resource Reallocation to Improve Student Achievement: Harrison Place High School*, by Sarah Archibald. The research reported in here 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-R3086A60003). 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, or the Wisconsin Center for Education Research.

1. The actual name of the high school described here is not used; Harrison Place High School is a pseudonym.
2. The two optional elements are research and development and future salary obligations. We chose not to use them in this study.
3. For more information on the changes made at the school, please see: Archibald, Sarah. 2001. *A Case Study of Dramatic Resource Reallocation to Boost Student Achievement: Harrison Place High School*, CPRE Working Paper Series, SF-01-1, available online: <http://www.wcer.wisc.edu/cpre/finance/research/reallocation.asp>.
4. To calculate the per-teacher estimate, all core academic teachers, specials teachers, vocational education teachers and special education teachers were included. If the estimate were only to include core academic teachers, the estimate would be \$2954 per teacher. It is likely that most of these district initiatives were focused on these teachers, but not all.

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