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Teacher and Principal Leadership in Chicago: Ongoing Analyses of Preparation Programs

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Executive Summary

This is the third report by the Consortium on Chicago School Research (CCSR) documenting the progress of several leadership development programs supported by The Chicago Public Education Fund (The Fund), including National Board Certified Teachers (NBCTs) and three principal preparation programs—Leadership and Urban Network for Chicago (LAUNCH), New Leaders for New Schools (NLNS), and the University of Illinois at Chicago's (UIC) Urban Education Leadership program. Drawing on existing quantitative data and our 2007 survey of teachers and principals, we augment The Fund's own data sources and provide information for continued program improvement.

National Board Certified Teachers

- NBCTs are more likely than other teachers to work in magnet schools and less likely to work in the poorest and in predominantly African American schools. Having said this, however, about 85 percent work in schools with at least 85 percent students of color, and more than half work in schools with more than 85 percent low-income students. Compared to NBCTs in other parts of the U.S., they serve far more needy students.
- As in previous years, NBCTs report assuming leadership roles to a greater extent than do other teachers. Fifty percent of NBCTs, compared to 32 percent of other teachers, report holding leadership positions in their school.
- Among elementary schools, where there are three or more NBCTs in a school, we found considerable evidence of strong teacher leadership and heightened professional capacity. Among high schools, only teacher-principal trust was stronger for the cluster schools. This was true even after controlling for individual teacher characteristics and characteristics of schools' student populations.

There were no significant differences in one-year learning gains between schools with clusters of NBCTs and similar schools with similar students. It would be more precise to have more than one year's data on which to base this comparison. However, due to a change in the state's standardized test for elementary schools, comparable test data allowed us to compute learning gains only for one year (2006–07). Learning gains for high schools are similarly based on a short time span: from the beginning to the end of their eleventh-grade year. This prevents a direct comparison to analyses in our previous reports. Yet it is also important to note that this data limitation pertains to all CPS schools, not just schools with clusters of NBCTs.

Principals Trained through Fund-Supported Programs

- On average, Fund-supported principals are five years younger than other principals and have been in their schools about two-and-a-half years.
- According to self-reports, most Fund-supported principals will serve 8 to 12 years as principals, or 2 to 3 contracts.
- With respect to best practices, on average teachers of elementary LAUNCH principals rated their schools significantly lower on the following 5 of 12 measures compared to teachers at similar schools led by non-program principals: principal instructional leadership, teacher influence, program coherence, teacher-principal trust, and teachers' commitment to the school. At the elementary level, schools of NLNS principals were rated more positively than those of non-program principals on principal instructional leadership, innovation, and reflective dialogue. UIC-led elementary schools were rated more highly on principal instructional leadership, teacher influence, professional development, and teacher-parent interaction. At the high school level, NLNS-led schools scored well on teacher influence, and UIC-led schools had high marks for reflective dialogue. These differences were observed after taking into account differences in individual teacher characteristics, whether the principal had less than three years of experience at his/her current school, and differences in the school's student population
- Results indicate schools led by Fund-supported principals are comparable to other similar schools in terms of one-year learning gains. As noted above, the comparison would be more reliable with more data points. Furthermore, as also noted above, most Fund-supported principals have been in their schools for less than three years and may not yet have had enough time to affect measurable differences in student learning gains.
- It is also possible that The Fund's efforts to raise the eligibility requirements for all CPS principals may have had the effect of closing the gap between Fund-supported and other principals. As more qualified leaders are recruited, it may be difficult for principals trained in the preparation programs to distinguish themselves.

Schools with Teams of Fund-Supported Leaders and NBCT Clusters

- Regarding evidence of best practices, schools with teams did not look very different from other schools, after accounting for differences in student and school characteristics. Elementary school teams were stronger than other schools in only two areas: parent involvement and innovation. No differences were found at the high school level.
- Both at the elementary and high school levels, one-year learning gains were similar for schools with teams and for schools without any Fund leaders or NBCTs.
- The majority of schools with teams were led by LAUNCH principals (whose schools were somewhat weaker on key professional practices), and this may account for the small differences between team and other schools.

Introduction

This is the third report by the Consortium on Chicago School Research that examines leadership development programs supported by The Chicago Public Education Fund for Chicago public school principals and teachers. This current study (like the previous two) is not a comprehensive program evaluation. It is more descriptive in nature, providing insights into a series of discrete questions posed by The Fund. We draw on a range of existing quantitative data resources, including Chicago Public School (CPS) personnel and test score data, and our own biannual survey of teachers and principals to augment data sources already available to The Fund. Here, we look at Chicago's three main programs for principal preparation and the city's National Board Certified Teachers (NBCTs).

The first report, in 2004, looked only at Leadership and Urban Network for Chicago (LAUNCH), a principal leadership program administered by CLASS (Chicago Leadership Academy Supporting Success) of the Chicago Principals and Administrators Association (CPAA). Membership in a second program, New Leaders for New Schools (NLNS), was, at the time, too small to include. However by 2006, NLNS, a national, New York City–based organization, had grown from 3 to 13 CPS principals and was included in analyses. The current report adds a local newcomer with 19 principals as of February 2007: the University of Illinois at Chicago's (UIC) Urban Education Leadership program.

Also new to this report is an analysis of how teams of Fund-supported leaders affect school performance. Teams include a combination of LAUNCH, NLNS, or UIC principals or assistant principals and at least three NBCTs. The Fund believes that concentrating well-prepared leaders in schools is most likely to bring about improved practice and ultimately stronger student outcomes.

Chapter 1

Teacher Leadership: National Board for Professional Teaching Standards

The National Board for Professional Teaching Standards (NBPTS) was established to elevate the teaching profession by providing an advanced, rigorous level of certification. NBPTS began certifying teachers in 1993. The process of becoming a National-Board-Certified Teacher (NBCT) involves completing a series of portfolios that includes unedited videotapes of the candidate's work in the classroom, analysis of student work, and evidence of the effectiveness of instructional strategies. In addition, teachers provide information about their successful work with students' families, the community, and their professional colleagues that impacts student learning. Candidates also sit for a series of six computer-delivered prompts at an assessment center. The prompts are designed to elicit knowledge of subject-matter content for the teacher's area of specialization. Candidates must demonstrate pedagogy and a knowledge base that meets the rigorous standards of the NBPTS.

Portfolios and content exams are scored by highly trained classroom teachers (many, but not all, are NBCTs). The scorers receive extensive training to avoid bias and achieve reliability in scoring. The Educational Testing Service creates and administers the assessments.

Data Sources

For the analyses presented in this chapter, we use CPS test and personnel data, as well as survey data from CCSR's 2007 teacher survey. By February 2007, 535 NBCTs were in a CPS teaching position. To obtain demographic and school information for NBCTs, we matched lists of board-certified teachers from the CPS office of National Board Certification with personnel records from CPS. Teacher survey data were used to measure elements of principal leadership, professional capacity, and parent involvement. Test data, including results from the Illinois Standards Achievement Test (ISAT) (for students in third through eighth grade) and PLAN and ACT (for students in eleventh grade), were the bases for learning gains analysis.

In previous years, the identification of NBCTs in survey data collection posed a key challenge. Since teacher surveys contain no personal identifying information, we have asked NBCTs to identify themselves by including a specific question in the survey. However, in 2003 and 2005 (despite increasing the specificity of the question) many more teachers indicated that they were NBCTs than actually existed in CPS. For the 2007 survey, we attempted to provide NBCTs with specially coded surveys. NBCTs' surveys were identical to other teacher surveys except that in place of a serial number they contained the NBCT's candidate number, which did not appear different from the serial numbers of other teachers. In order for the survey to be given to the correct teacher, a removable sticker was placed on the front cover with the NBCT's name.

Though this procedure worked in many cases, stickers and names were occasionally overlooked. In some schools teachers were given the wrong surveys. We could not, therefore, be sure either that a survey bearing an NBCT candidate number actually was filled out by an NBCT or that one without such a number was filled out by a non-NBCT. In these cases, we used information found on both the survey and records of board-certified teachers to match surveys to NBCTs. The variables used for matching were gender, race/ethnicity, degree, grade and subject taught, and area of certification. Since survey and record data were incomplete in many cases, we could not match on every one of these variables. Instead, records were considered a successful match if three of these agreed and if there were no contradictions. This matching resulted in 229 surveys considered to be NBCTs, yielding a response rate of 43 percent.[1]

Note that, throughout this report, schools that serve both elementary and high school grades (combination schools) are included with high schools since, in CPS, these tend to have predominantly high school grades.

Who Are the National Board Certified Teachers in Chicago?

- Overall, NBCTs in CPS are likely to be white females who are more educated than other teachers.
- At the same time, the Chicago NBCT population is more racially/ethnically diverse than that of the NBCT population nationwide, which is 90 percent white.[2] Also the Chicago NBCT population is becoming increasingly racially/ethnically diverse.
- The education gap between NBCTs and other teachers has also been closing over time.
- Consistent with previous findings, NBCTs do not differ greatly in terms of years of teaching experience compared to other teachers.

Tables 1 to 3 document these summary statements about the gender, race/ethnicity, education and teaching experience of NBCTs. Notice that notes below each table indicate the test of statistical significance performed, the groups compared and the significance level.

TABLE 1

Teachers' Gender and Race/Ethnicity

	n	Percentage of Teachers (n)					
		Gender*		Race*			
		Male	Female	African American	Latino	White	Other
Elementary*							
Board Certified	353	9% (31)	91% (322)	22% (77)	9% (32)	65% (228)	5% (16)
Others	15,663	15% (2,393)	85% (13,270)	33% (5,150)	17% (2,642)	46% (7,258)	4% (613)
High School							
Board Certified	143	27% (38)	73% (105)	16% (23)	8% (12)	70% (100)	6% (8)
Others	6,915	40% (2,753)	60% (4,162)	33% (2,290)	10% (685)	51% (3,560)	6% (380)

Source: Chicago Office of NBPTS and 2007 CPS personnel records.
* Differences between board-certified and other teachers are statistically significant using chi-square statistics.

TABLE 2

Teachers' Highest Academic Degrees

	n	Percentage of Teachers (n)		
		Bachelor's Degree	Master's Degree	Doctorate
Elementary*				
Board Certified	345	24% (81)	74% (261)	2% (7)
Others	15,595	45% (7,086)	54% (8,411)	<1% (98)
High School*				
Board Certified	143	23% (33)	74% (105)	4% (5)
Others	6,816	41% (2,793)	57% (3,886)	2% (137)

Source: Chicago Office of NBPTS and 2007 CPS personnel records.
* Differences between board-certified and other teachers are statistically significant using chi-square statistics.

TABLE 3

Teachers' Years of Experience

	n	Average Years
Elementary*		
Board Certified	353	14
Others	15,662	12
High School		
Board Certified	143	11
Others	6,915	11

Source: Chicago Office of NBPTS and 2007 CPS personnel records.
* Differences between board-certified and other teachers are statistically significant using t-test statistics.

Changes in the Composition of NBCTs in Chicago

Two interesting trends were observed in comparing the current group of NBCTs to our previous two studies. First, while the NBCT group has become slightly more racially diverse over the years, the proportion of African American board-certified teachers continues to hover around 20 percent in elementary and 16 percent in high schools. The proportion of white NBCTs has decreased from 77 to 65 percent at the elementary and 88 to 70 percent at the high school level. The proportion of Latino NBCTs has grown at both levels, although it is still very small (from 4 to 9 percent in elementary and 0 to 8 percent in high schools). The remaining increase in non-white NBCTs is due to other race/ethnicities, which have risen from 0 percent to 5 and 6 percent in elementary and high school respectively. Throughout the same time period, the racial composition of the overall CPS teaching force has remained fairly stable.

Second, in previous years, elementary NBCTs tended to have higher degrees than other teachers, while in high schools they generally had less advanced education. Both these gaps have been closing. In 2003, there was a 30 percentage point difference between the number of elementary NBCTs with advanced degrees compared to non-NBCTs. By 2007, this difference was down to 21 percentage points. Among high school teachers in 2003, non-NBCTs held more advanced degrees, a difference of 16 percentage points; but in 2007, more NBCTs (78 percent) had graduate degrees than other high school teachers (59 percent).

Where Do NBCTs Work?

- NBCTs are working in all types of CPS schools but they are not equally distributed. They are more likely than other CPS teachers to work in magnet and higher achieving schools and less likely to work in the poorest, lowest achieving, and predominantly African American schools.
- Unlike NBCTs nationally, however, the vast majority of NBCTs in Chicago teach poor and minority children.

Comparing the six states, in which two-thirds of NBCTs nationwide are located, to Chicago show stark differences. Only 12 percent of NBCTs in these six states work in schools with at least 75 percent of students receiving free or reduced-price lunch, and only 16 percent work in schools with at least a 75 percent minority population.[3] In CPS, more than half of NBCTs work in schools where more than 85 percent of students qualify for free or reduced-price lunch and 84 percent of NBCTs work in schools that have at least 85 percent students of color.[4] It is true that student populations in these states are not comparable to Chicago, being composed of more rural areas and smaller cities. The Fundamental point, however, is that growing numbers of NBCTs in Chicago means relatively more students of color and low-income students have access to highly qualified teachers.

Table 4 provides an in-depth look at the distribution of NBCTs in a system that is heavily low income and minority, including grade levels, types of the schools, and the racial composition and socio-economic status (SES) of students. For the latter we report schools according to percent of students eligible for free or reduced-price lunch, since this is often a reported statistic. However, since the majority of CPS students are low income, this measure does not differentiate schools that are in very poor neighborhoods from those in somewhat better circumstances. Therefore, we also categorize schools by the concentration of poverty experienced by its students, which uses census data tied to students' home neighborhoods. (See Appendix A for more detail.) We used this measure both to create quartiles of schools on concentration of poverty and as a continuous measure. This allowed us to compare the average level of the concentration of poverty in students' neighborhoods between schools where NBCTs teach versus other schools.

TABLE 4

Where Board-Certified Teachers Work

	n of schools	Percentage of Teachers (n)	
	601	Board Certified (n=496)	Others (n=22,645)
Level			
Elementary	491	71% (353)	69% (15,658)
High School	99	25% (123)	27% (6,064)
Combination Elementary/High School	11	4% (20)	4% (862)
Type*			
Regular	531	83% (410)	89% (20,200)
Magnet	44	15% (74)	8% (1,817)
Special Education	12	2% (11)	1% (274)
Achievement Academy	8	<1% (1)	<1% (106)
Alternative	6	0	1% (187)
Racial Composition*			
Predominately African American	268	26% (128)	37% (8,237)
Predominately Latino	95	15% (72)	17% (4,080)
Predominately Minority	129	23% (112)	28% (5,763)
Mixed Race	47	16% (81)	9% (1,975)
Integrated	62	21% (103)	10% (2,590)
Low Income*			
<50	49	16% (77)	7% (1,621)
50–85	126	33% (163)	23% (5,170)
>85	426	52% (256)	70% (15,804)
Concentration of Poverty*			
Bottom Quartile (low concentration)	158	44% (223)	32% (7,388)
Second Quartile	149	28% (139)	27% (6,057)
Third Quartile	144	14% (71)	21% (4,840)
Top Quartile (high concentration)	150	13% (63)	19% (4,299)
Concentration of Poverty (group means)*	0.226	0.059	0.230
Achievement			
Bottom Quartile (low achievement)	145	14% (64)	22% (4,892)
Second Quartile	136	17% (79)	25% (5,379)
Third Quartile	137	26% (123)	28% (6,139)
Top Quartile (high achievement)	138	44% (206)	25% (5,416)

Source: Chicago Office of NBPTS, CPS personnel records, CPS student records.
Note: Charter schools are not included in this analysis because we do not have personnel data on teachers in them. Ten NBCT teachers work in charter schools. Magnets are non-charter schools that either have selective enrollment based on entry test scores or are schools without an attendance area who accept students by lottery. Racial composition categories were based on the following distribution of students in schools: 85% African American = predominately African American, 85% Latino = predominately Latino, 85% African American and Latino = predominately minority, 15% to 29% White and Asian = mixed race, and 30% or more White and Asian = integrated. Schools included in achievement quartiles must serve grades tested by ISAT or PSAE.
* Differences between board-certified and other teachers are significant using chi-square or t-test statistics.

Are NBCTs More Likely to Assume Leadership Roles?

Teachers were asked if they currently held a leadership position in their school, such as Local School Council (LSC) representative, Professional Personnel Advisory Committee (PPAC) chair, union delegate, curriculum coordinator or facilitator, reading specialist, lead teacher, or other similar roles. Since National Board Certification requires teachers to have at least three years of experience, we compared NBCTs to other teachers with similar experience.[5] Results show 50 percent of NBCTs report holding leadership positions in their schools, compared to 32 percent of other teachers. These findings are consistent, though down somewhat from 2003, when 53 percent of elementary NBCTs reported holding such positions compared to only 25 percent of other teachers. An email survey given in spring 2006 similarly found 65 percent of elementary and 55 percent of high school NBCTs held leadership roles in their schools.

Do Schools with Clusters of Board-Certified Teachers Show Greater Strength in the Essential Supports for School Improvement?

- Elementary schools with clusters of three or more NBCTs demonstrated greater strength in 7 out of 12 essential supports measures, when compared to other schools, even taking into account underlying demographic and other differences.
- In high schools with clusters, a handful of measures showed a positive trend, with one reaching statistical significance. In one additional case, teachers in high schools with clusters had a significantly less positive response than teachers in non-cluster high schools.
- School Leadership: Teachers in elementary schools with clusters of NBCTs report greater teacher influence in curricular decisions and overall school policy. Teachers in high schools with clusters reported more teacher-principal trust than teachers in non-cluster schools.
- Professional Capacity: The faculty of elementary schools with clusters of NBCTs are also more trusting of each other and are more likely to reflect together on their practice and how best to reach out to particular students. Compared to other schools, they are more likely to have teachers who embrace innovation, feel a strong commitment to the school, and take responsibility for improvement of the whole school.
- Parent and Community Partnerships: Teachers in elementary schools with clusters report greater parent involvement than non-cluster elementary schools. However, in high schools with clusters of NBCTs, teachers report less teacher-parent interaction than teachers in non-cluster schools.

The essential supports are a set of practices and conditions that CCSR has determined are critical for improving student outcomes. (See background of essential supports in box on page 10.)[6] CCSR's teacher survey is designed to measure a number of the concepts from our framework of the essential supports. (For a description, see box on page 10.) We looked at teachers' ratings of three of the five support domains: school leadership, professional capacity and workplace, and parent and community partnerships. School leadership measures include: instructional leadership, teacher influence, program coherence, and teacher-principal trust. In the area of professional capacity, we examined school commitment, reflective dialogue, collective responsibility, teacher-teacher trust, quality professional development, and innovation. And finally, for parent and community partnerships, we examined parent involvement in the school (elementary school only) and teacher-parent interaction (a new measure in 2007). (Measure descriptions can be found in Appendix A, Section III.)

The Essential Supports for School Improvement and Why They Matter

In the early 1990s CCSR researchers, along with other Chicago educators and CPS leaders, convened to develop a framework of good practices that had been linked to school improvement. The initial purpose of this framework was to provide a template that schools could use to guide self-assessment. Over time, that initial framework evolved into the current essential supports for school improvement.

Concurrent with the development of the essential supports framework, CCSR researchers developed, tested, and refined a survey measurement system to capture the major concepts in the framework. Since the mid 1990s, we have collected survey information from CPS students, teachers, and principals every two years.

The framework contains five essential supports for school improvement: school leadership, parent and community partnerships, student-centered learning climate, professional capacity, and ambitious instruction. Within each of these supports there are multiple concepts. For example, our 2007 teacher surveys measured three concepts that pertain to school leadership (principal instructional leadership, teacher influence, and program coherence), plus a fourth related concept (teacher-principal trust).

We have accumulated a significant body of evidence relating the essential supports to improved student learning in Chicago public elementary schools. Our evidence base spans the period of decentralization in the early 1990s when the framework was first developed, up to the present time. In a 2006 report, we show how composite measures of the essential supports are predictive of long-term improvements in student achievement as measured by standardized tests. For example, schools that were strongest in their reports of school leadership were about four times more likely to have shown substantial improvements in reading and seven times more likely to have shown improvement in math than schools that were weak in school leadership. We find the same connections between the other essential supports and improved achievement as well.

These relationships also hold up in more recent years. For instance, schools significantly improved their value-added outcomes between 2003 and 2005 if they had reports of high Program Coherence in 2003 or if their reports of Program Coherence improved during this time. Those schools with reports of low Program Coherence in 2003 and those with reports of flat or decreasing Program Coherence showed no such improvements. We find this pattern consistently across the measures of the essential supports that are discussed and analyzed in this report, including instructional leadership, collective responsibility, and innovation.[7] Given the vital role that these supports play in improving student learning, we view the measure of these supports as key indicators of the performance of master teachers and principals.

It may be too much to expect that a lone NBCT in a school can significantly affect a school's organizational climate. Hence, we examined elementary and high schools with clusters of teachers who were board-certified to see whether these schools appeared stronger overall with respect to measures of professional capacity, teacher leadership, and parent involvement than schools without such clusters. The Fund defines a cluster as consisting of at least three NBCTs or at least 15 percent of the faculty. In other words, is there any evidence that a cluster of NBCTs helps to raise the overall performance of the faculty?[8] Later in this report, we will add further to this idea of a critical mass of qualified leaders when we look at Fund teams made up of both Fund-supported principals or assistant principals and a cluster of NBCTs.

We compared schools with clusters of NBCTs to other schools controlling for a number of teacher and school characteristics that we have found to influence school context measures. These include teacher race/

ethnicity, gender, and length of tenure at the school, racial composition and socio-economic status of the student population, and whether a school was a small or charter school. (Details can be found in Appendix A.) In Table 5, we list the difference in standard deviation units between average cluster school scores and scores of non-cluster schools for each measure (only significant differences are listed).

TABLE 5

Essential Support Measures for which Schools with Clusters of NBCTs Reported Significantly Higher Mean Scores

	Elementary Schools	High Schools
n	44	16
Leadership		
Teacher Influence	.36*	—
Teacher-Principal Trust	—	.38*
Program Coherence	—	—
Principal Instructional Leadership	—	—
Professional Capacity		
Collective Responsibility	.19*	—
Reflective Dialogue	.13*	—
Innovation	.20*	—
School Commitment	.20*	—
Teacher-Teacher Trust	.19*	—
Quality Professional Development	—	—
Parent Community Ties		
Teacher-Parent Interaction	—	-.13*
Parent Involvement (elementary only)	.28*	NA

Source: CCSR 2007 teacher survey.
Note: Values given in effect sizes, which take the size of the coefficient and the standard deviation of the measure into account, placing them on a common metric.
Negative values are in purple.

In 2005, it was the high schools with clusters that appeared strongest, not the elementary schools. The reasons for different results in 2007 may have to do with the increased number of schools, some of which are obviously strong. We have data on three times as many elementary schools with NBCT clusters in 2007, compared to 2005. The increase in high schools was not as great—going from nine in 2005 to 16 in 2007. Also in 2005, we reported that the cluster high schools were atypically strong. Of the nine schools, five were selective enrollment schools, one was a charter, and one was a new start-up small school with a professional development focus. Only two were regular high schools.

Do Schools with Clusters of NBCTs Show Greater One-Year Learning Gains than Other Similar Schools?

- No significant differences in one-year learning gains were found for schools with clusters of NBCTs at the elementary or high school level.
- In both elementary and high schools, existing test data were insufficient to calculate value-added. (The methodological limitations of one-year learning gains and additional technical issues inherent in high school exams are discussed in box on page 12.)

For elementary schools, we compared scores on the ISAT in spring 2006 and spring 2007 to calculate a one-year learning gain. The gain for each grade level was compared to the CPS average for that grade level, after controlling for student and school characteristics. This allowed us to calculate whether students in each school were making larger or smaller gains than similar students at similar schools. These analyses differ from previous years in two ways. First, they are based on the ISAT instead of the Iowa Test of Basic Skills (ITBS), which had been the district's accountability exam until spring 2005. Secondly, previous analyses were able to calculate value-added by using several years of data (going back to 1999). Since the state of Illinois revamped the ISAT for 2006, it was possible to calculate only a one-year gain. This is an unfortunate limitation creating a less reliable measure than we have had in the past, although we have no evidence that the limitation impacts schools with clusters of NBCTs any differently than it affects schools without clusters. (See box on page 12 for a discussion of this issue.)

Previously we were unable to calculate learning gains at the high school level. When CPS adopted the Educational Planning and Assessment System (EPAS)

by ACT, a series of exams given to all students in ninth, tenth and eleventh grades, it became possible to measure one year's improvement for high school students. For this study we measured eleventh-grade students' gains from the PLAN (given in October 2006) to the ACT (given in April 2007). This captures roughly one year's gain for eleventh-grade students only.[9] The EPAS exams themselves present additional limitations for this type of analysis. (See box below.)

Technical Limitations Preventing True Value-Added Analysis

Value-Added Versus Learning Gains

The currently recognized standard for measuring the effectiveness of school reforms in improving student achievement is termed "value-added." In this model, value-added is the deviation from individual student growth trajectories predicted by several years of achievement. If a program or reform produces significantly greater growth in achievement than predicted, we say an effect has been found. A learning gain is simply the difference in scores between equated exams. Although in common parlance these terms are used interchangeably, they are distinct and not equivalent. A value-added analysis is based on a series of learning gains and, because of this, is a more robust measure with which to measure progress than learning gains alone.

Elementary Schools

In the past we have been able to track value-added over several years of data, making it possible to represent changes in a school's performance over time. However, in this analysis we are only able to calculate a one-year learning gain because the state of Illinois revamped the ISAT for 2006. This is an unfortunate limitation that creates a less reliable measure. For example, if a school is having an uncharacteristically good or bad year, our data will not accurately represent the school's true performance. In addition, without several years of data with which to define a learning trajectory, this cannot truly be called a value-added analysis. Instead it is a one-year learning gain.

High Schools

We have used two of the EPAS exams (eleventh-grade PLAN and ACT) in order to calculate a measure of one-year improvement. This is the closest approximation of value-added modeling the data currently allow. However, as in elementary schools, the lack of a multi-year learning trajectory means it cannot be considered a value-added analysis. Furthermore, the particular exams used at the high school level present additional issues for calculating value-added. First, expected gains are not consistent at all points on the scale. Second, a one-point gain does not necessarily have the same meaning across the scale. For example, gaining a point from a 16 to a 17 may not indicate the same amount of learning as gaining one point from a 22 to a 23. Third, ACT rounds its raw scores to whole numbers on a scale with relatively few points resulting in large measurement error. The size of this error is similar to the size of the expected gains between exams (typically 1 or 2 points), severely limiting this method's sensitivity as a measure of value-added or learning gains. It is also important to note that ACT, Inc., the developer of EPAS, does not support the use of these exams for accountability purposes.[10]

Chapter 2

Principal Leadership Development Programs

For the purposes of this report, we will collectively call principals trained in LAUNCH, NLNS, or UIC "Fund-supported principals." We compare these principals to other CPS principals both descriptively and in terms of several evaluative outcomes, such as measures of school environment, professional practices, and learning gains. We note differences between programs when appropriate; however, most of our comparisons are between principals who received their principal preparation through Fund-supported programs and those who did not. While descriptive comparisons are based simply on observed group differences with no statistical adjustments, analyses of outcomes are adjusted for relevant school, teacher, and/or principal characteristics.

The three principal preparation programs upon which the district mainly relies to supply its school leaders are: LAUNCH, NLNS, and UIC. The system's need for new principals has been putting great demand on these programs. At the end of the 2006–07 school year, during which this research was conducted, CPS reported they would be faced with a record number of principal vacancies, primarily due to a retirement incentive. By September 2007, they had placed 174 new principals.[11] In 2006, 70 principals stepped down.[12]

The three programs have very different histories and strategies. The oldest and largest program, LAUNCH, began in 1998 under the auspices of the Chicago Principals and Administrators Association. Its funding, aside from The Fund, came primarily from the district. Its purpose is to identify, recruit, prepare, and support talented candidates from within the CPS ranks who have already earned a Type 75 (administrative) credential. Between 2000

and 2005, The Fund invested $720,000 in this program.

NLNS, a national organization working in nine urban districts and based in New York City, began its partnership with CPS in 2000. This program is seen as an alternative route to the principalship since it provides candidates with a Type 75 certificate upon completion of the residency year. Program leaders have established relationships with CPS's Office of Principal Preparation and Development, The Renaissance Schools Fund, and various charter management and other organizations. The Fund's $790,000 investment in this program began in 2001 and concluded in 2005.

UIC's Urban Education Leadership program began in 2003. Admission to the program requires a master's degree. Since its participants can earn a doctorate in education, it draws some current principals. Participants choose between three concentrations resulting in either the Illinois Type 75 certificate, the Illinois Superintendent Endorsement or, for those entering with a Type 75, advanced leadership development tailored to school building or system level positions. The Fund began its support of this program in 2003 and will conclude its $750,000 investment in 2008.

Data Sources

In order to be included among the "Fund-supported principals" in this report, principals from each program must have been in their position as of February 2007. In this section of the report we utilize CCSR's 2007 principal and teacher surveys, principal personnel data, and school test records. In many cases, a school must have multiple types of data to be included in a given analysis. Table 6 shows the total number of schools in each preparation program and the comparison group as well as the response rates for the principal survey and the percentage of each group included in specific analyses. For example, since we control for principals' years at their current school in our analysis of teacher survey measures, a school must have data from both the teacher survey and personnel file to be part of this analytic sample. Some concerns to be noted in Table 6 are the low principal survey response rate for UIC principals, the small numbers of high school principals in all three programs, and the small numbers of NLNS and UIC elementary principals. The overall response rate for the 2007 teacher survey was 70 percent, and for the principal survey it was 58 percent. (See Appendix A for more detail.)

TABLE 6

Data Sources for Principals

	Total	Completed Principal Survey (Collected Spring 2007)		Principal Personnel Data‡ (Snapshot from June 30, 2007)		Schools in Essential Supports Analyses*		Schools in Learning Gains Analysis**		Schools in On-Track Analyses***	
Elementary	**507**	**304**	**60%**	**470**	**93%**	**434**	**86%**	**485**	**96%**		
LAUNCH	83	55	66%	81	98%	78	94%	79	95%		
NLNS	26	16	62%	20	77%	20	77%	23	88%		
UIC	13	4	31%	9	69%	8	62%	13	100%		
Fund-Supported Principals	*122*	*75*	*61%*	*110*	*90%*	*106*	*87%*	*115*	*94%*		
Other	*385*	*229*	*59%*	*360*	*94%*	*328*	*85%*	*370*	*96%*		
High School	**131**	**65**	**50%**	**98**	**75%**	**88**	**67%**	**80**	**61%**	**105**	**80%**
LAUNCH	19	12	63%	18	95%	15	79%	12	63%	18	95%
NLNS	10	6	60%	9	90%	6	60%	8	80%	7	70%
UIC	6	3	50%	6	100%	6	100%	5	83%	5	83%
Fund-Supported Principals	*35*	*21*	*60%*	*33*	*94%*	*27*	*77%*	*25*	*71%*	*30*	*86%*
Other	*96*	*44*	*46%*	*65*	*68%*	*61*	*64%*	*55*	*57%*	*75*	*78%*

‡ Percent of principals for whom tenure at current school was available from 2007 CPS personnel data. All charter schools and many schools that opened in the fall of 2006 were omitted from the personnel data. Personnel data file is a snapshot as of June 30.
* Schools needed to have at least a 42% response rate for CCSR teacher survey and personnel data for years at current school.
** Schools needed to have test data (at least third and fourth grade for ISAT and eleventh grade for ACT) and personnel data to determine principal's years at current school.
*** To be included in this analysis, schools needed to have ninth-graders and CPS grade data.

Additional Details for LAUNCH, NLNS, and UIC

Selection Process

Potential participants to each program begin by filling out an online application. For those considered qualified, the next step is an interview.

For LAUNCH, the interview process has evolved in the last few years from a traditional interview into a five-part process. In addition to the traditional interview, potential fellows complete an on-site writing sample, an in-depth discussion of their writing, a role-play, and a hypothetical memo to parents. Reviewers rate individuals' performance using rubrics and then make final decisions.

For NLNS, similar components are divided into two days. First, applicants participate in a 90-minute first round interview, which involves their assessment of a case study and allows the interviewer to delve deeply into applicants' responses. Those chosen attend a finalist selection day; a full-day, intensive interview that includes case studies, role-playing, and various interview rooms where participants must show evidence of their ability and readiness to become a CPS principal. Each component of the admissions process is evidence based, and detailed rubrics are used to evaluate the candidate each step of the way on the new leaders' ten selection criteria.

For UIC, the process begins with a traditional academic admissions process, including online application, submission of GRE or GMAT scores, letters of reference, academic records, and goal statements. Candidates who pass the online screening are invited to prepare a 30-minute presentation to a panel of faculty and school leaders, analyzing a case of a low-performing school and presenting a plan for improving that school's performance over time. Candidates are assessed on that presentation and their performance in a one-hour question-and-answer session on all aspects of their readiness to lead the transformation of urban schools. Finally, candidates are asked to produce an on-demand sample of their writing and analytic skills in response to a prompt they have not previously seen.

Programs

Each of the programs start with a summer institute. For LAUNCH the summer institute is a four-week Leadership Academy at Northwestern University's Kellogg Graduate School of Management. LAUNCH staff, faculty from Kellogg and Northwestern's School of Education and Social Policy, practicing principals, and other educational experts conduct sessions. NLNS has a five-week session at their Foundations Institute. Courses are taught by academics, experts, and master principals from around the country. UIC candidates begin around August 1 with two weeks of coursework on urban school improvement and organizational leadership theory and research.[13] All programs then include a full-time yearlong internship/externship or residency with mentor principals, funded by CPS. Each LAUNCH participant completes both an elementary and a high school experience. During this phase, participants are provided with leadership coaching and meet monthly. They also are involved in book studies, action research, and a school case study. In addition, LAUNCH graduates are part of the Urban Network that provides ongoing professional development and support. Network activities include retreats, workshops, and social gatherings. NLNS's residency year entails working with a mentor principal as a member of the schools' leadership team. During this year, NLNS participants attend weekly cohort meetings at National-Louis University and quarterly weeklong seminars at the Foundations Institute, both of which are a continuation of their summer curriculum. UIC's residency year integrates three major components: working with a principal as part of the school's leadership team, intensive weekly coaching on-site and at UIC, and weekly coursework throughout the residency year. Students are rigorously assessed on their performance in coursework and in hands-on leadership tasks.

For more current information, visit the following websites:

LAUNCH: *classacademies.org*
NLNS: *nlns.org*
UIC: *uic.edu/educ/eddprogram/index.html*

Who Are Fund-Supported Principals?

Gender and Race/Ethnicity

- Looking at the three programs together, Fund-supported principals are demographically similar to other principals in terms of both gender and race/ethnicity, although individually programs differ in the populations they serve. For example, UIC is unique in having a majority male population among its elementary school principals and all female principals at the high school level.[14]
- With respect to race/ethnicity at the elementary level, LAUNCH and NLNS principals are similar to other principals; more than half are African American and nearly 20 percent are Latino. The small UIC group again differs from the others, having more than half white and a third Latino principals.[15]
- At the high school level, the majority of LAUNCH, UIC and other principals are African American. The NLNS group, on the other hand, is nearly evenly split between white, African American, and Latino participants.

Education

- Compared to non-program principals, more Fund-supported principals have Master's degrees and fewer have doctorates; however this difference is not statistically significant.

This difference in doctoral degrees is most pronounced at the high school level, where more than twice as many non-program principals have doctorates. All UIC participants have Master's degrees, since this is necessary for entrance to the program and, as yet, none of the candidates have completed a dissertation. Program leaders estimate they are one year from their first completed doctorate.

TABLE 7

Gender and Race/Ethnicity of Principals

	Total	Percentage of Principals (n)		Total	Percentage of Principals (n)		
		Male	Female		African American	Latino	White
Elementary							
LAUNCH	82	23% (19)	77% (63)	82	59% (48)	18% (15)	22% (18)
NLNS	23	39% (9)	61% (14)	23	57% (13)	17% (4)	26% (6)
UIC	9	67% (6)	33% (3)	9	11% (1)	33% (3)	56% (5)
Fund-Supported Principals	*114*	*30% (34)*	*70% (80)*	*114*	*54% (62)*	*19% (22)*	*25% (29)*
Other	*371*	*28% (103)*	*72% (268)*	*370*	*53% (196)*	*17% (62)*	*29% (107)*
High School							
LAUNCH	19	47% (9)	53% (10)	19	68% (13)	0% (0)	32% (6)
NLNS	10	60% (6)	40% (4)	10	40% (4)	30% (3)	30% (3)
UIC	6	0% (0)	100% (6)	6	100% (6)	0% (0)	0% (0)
Fund-Supported Principals	*35*	*43% (15)*	*57% (20)*	*35*	*66% (23)*	*9% (3)*	*26% (9)*
Other	*77*	*48% (37)*	*52% (40)*	*76*	*57% (43)*	*13% (10)*	*29% (22)*

Source: 2007 CPS Personnel Records. As reported in Table 6, personnel data was not available for all principals. Percentages above represent only those for whom such data were available.

Note: Difference between Fund-supported principals and other principals is not statistically significant using chi-square statistics.

Time Spent Teaching

- Fund-supported principals are similar to other principals in terms of the number of years they spent teaching prior to becoming a principal. The vast majority of principals report having taught at least six years.
- A growing proportion of LAUNCH principals have five or fewer years of previous teaching experience.

According to the principal survey, 10 percent of LAUNCH principals had five or fewer years teaching experience. (See Table 9.) This is an increase over time. In 2003, none of the twenty-one LAUNCH principals reported having this little experience in the classroom. In 2005, only 2 percent of the forty-two elementary and none of the four high school LAUNCH principals were in the least experienced category. By 2007, we see a small upturn in principals with less teaching experience—10 percent at both levels.

Tenure as Principal of Current School

- Fund-supported principals have been principals of their schools about half as long as other principals, with a tenure of about two-and-a-half years in elementary and slightly less in high schools. These differences are statistically significant. (See Table 10.)
- Although the LAUNCH program has been in operation since 1998, the average tenure of its principals is similar to the other two programs.
- While the district as a whole has many new principals, significantly more Fund-supported principals are in their very first contract period with their school. (See Table 11.)[16] In fact, only 12 percent of Fund-supported principals, whether elementary or high school, are in their second contract with their school, compared to half of other elementary and more than a third of other high school principals. This is worth noting since principals who are in their second contract may feel more secure in making changes in their schools. A CCSR study of actively restructuring elementary schools in the 1990s, found that among the four schools with new

TABLE 8

Highest Academic Degrees of Principals

	Total	Percentage of Principals (n)		
		Bachelor's Degree	Master's Degree	Doctorate
Elementary				
LAUNCH	55	0% (0)	82% (45)	18% (10)
NLNS	15	0% (0)	80% (12)	20% (3)
UIC	4	0% (0)	100% (4)	0% (0)
Fund-Supported Principals	*74*	*0% (0)*	*82% (61)*	*18% (13)*
Other	*228*	*1% (2)*	*74% (168)*	*25% (58)*
High School				
LAUNCH	12	0% (0)	83% (10)	17% (2)
NLNS	6	0% (0)	83% (5)	17% (1)
UIC	3	0% (0)	100% (3)	0% (0)
Fund-Supported Principals	*21*	*0% (0)*	*86% (18)*	*14% (3)*
Other	*43*	*2% (1)*	*60% (26)*	*37% (16)*

Source: CCSR 2007 principal survey.
Note: Difference between Fund-supported principals and other principals is not statistically significant using chi-square statistics.

TABLE 9

Years of Teaching Prior to Becoming a Principal

	Total	Percentage of Principals (n)		
		0–5 Years	6–15 Years	16 Years or More
Elementary				
LAUNCH	49	10% (5)	59% (29)	31% (15)
NLNS	15	7% (1)	87% (13)	7% (1)
UIC	3	33% (1)	67% (2)	0% (0)
Fund-Supported Principals	*67*	*10% (7)*	*66% (44)*	*24% (16)*
Other	*175*	*8% (14)*	*67% (118)*	*25% (43)*
High School				
LAUNCH	10	10% (1)	40% (4)	50% (5)
NLNS	6	17% (1)	83% (5)	0% (0)
UIC	3	33% (1)	0% (0)	67% (2)
Fund-Supported Principals	*19*	*16% (3)*	*47% (9)*	*37% (7)*
Other	*35*	*20% (7)*	*40% (14)*	*40% (14)*

Source: CCSR 2007 principal survey.
Note: Difference between Fund-supported principals and other principals is not statistically significant using chi-square statistics.

principals, it took three to four years for them to establish trusting relationships, distributed leadership, a sense of professional community, and beginning efforts to strengthen instruction.[17]

- Despite differences in the number of years the preparation programs have existed, principals' mean years of experience for each is about two-and-a-half years. Although the UIC program is the newest, its principals do not have less experience as leaders, since a number of participants entered as current principals.

Average Age

- Fund-supported principals are five years younger, on average, than other principals.
- There are some age differences between programs. NLNS principals are considerably younger than LAUNCH and other principals, particularly among high school leaders. UIC principals fall in between these groups.

Future Plans

- Without regard to age or experience differences, Fund-supported principals plan to spend, on average, two additional years as school leaders and four additional years in education, compared to other principals. (See Table 13.)
- However, when we add time already spent as a principal to respondents' expectations for the future, Fund-supported principals plan to spend three fewer years in the principalship than do other leaders.
- Compared to others, Fund-supported principals want to spend more time in the field of education after concluding their tenure as principal. This could mean teaching in a university setting or being promoted within the district.

These findings highlight a question we were asked to explore, namely, given the great need for effective school leaders and the resources required to recruit and train them, how long will new principals stay in the principalship? On their survey we asked principals about their plans for the future. Namely, we

TABLE 10

Average Number of Years as Principal of Current School

	n	Mean	Range
Elementary		**	
LAUNCH	81	2.75	0–9
NLNS	20	1.85	0–3
UIC	9	2.22	0–8
Fund-Supported Principals	*110*	*2.55*	*0–9*
Other	*360*	*6.14*	*0–35*
High School		**	
LAUNCH	18	2.33	1–7
NLNS	9	2.56	1–5
UIC	6	2.17	1–6
Fund-Supported Principals	*33*	*2.36*	*1–7*
Other	*64*	*4.46*	*0–16*

Source: 2007 CPS Personnel Records.
Note: Zero indicates less than a year of experience.
Significance tests between Fund-supported principals and other principals using t-test statistics: ** p<0.01 * p<0.05 ~ <0.10

TABLE 11

Percentage of Principals in Second Contract Period

	Total	Percentage of Principals (n)
Elementary		**
LAUNCH	81	14% (11)
NLNS	20	0% (0)
UIC	9	22% (2)
Fund-Supported Principals	*110*	*12% (13)*
Other	*360*	*55% (198)*
High School		*
LAUNCH	18	11% (2)
NLNS	9	11% (1)
UIC	6	17% (1)
Fund-Supported Principals	*33*	*12% (4)*
Other	*65*	*37% (24)*

Source: 2007 CPS Personnel Records.
Note: A contract period is four years.
Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.05 ~ p<0.10

asked how many more years they expected to: (1) stay in their current position, (2) remain a principal, and (3) work in education. Likely due to the greater uncertainty involved in answering questions about the future, response rates for these items were lower than those for other survey items. For this reason we collapsed elementary and high school principals together to report results.

We first looked at differences in how many more years respondents expect to serve as a principal. However, these differences could simply reflect that Fund-supported principals are younger and have less experience in their schools than the other principals.[18] We, therefore, further examined the total number of years participants planned to be principals by adding their current years of experience to their planned future years in the principalship.

TABLE 12

Principals' Average Age

	n	Average Age
Elementary		**
LAUNCH	53	52
NLNS	15	41
UIC	4	45
Fund-Supported Principals	*72*	*49*
Other	*185*	*54*
High School		~
LAUNCH	11	52
NLNS	6	38
UIC	3	46
Fund-Supported Principals	*20*	*47*
Other	*33*	*52*

Source: CCSR 2007 principal survey.
Significance tests between Fund-supported principals and other principals using t-test statistics: ** p<0.01 * p<0.05 ~ p<0.10

TABLE 13

Principals' Future Plans

		Average Number of Remaining Years Expected			
	n	To Serve as Principal of this School	To Work as a Principal	To Work in Education	Total Years Expected to be a Principal
All Principals		*	**	**	**
LAUNCH	47	7	8	11	12
NLNS	13	8	11	19	13
UIC	5	4	6	16	8
Fund-Supported Principals	*65*	*7*	*8*	*13*	*11*
Other	*159*	*5*	*6*	*9*	*14*

Source: CCSR 2007 principal survey. Only those who answered all three questions were included.
Note: Last column represents years of experience by 2007, plus planned future years as principal.
Significance tests between Fund-supported principals and other principals using t-test statistics: ** p<0.01 * p<0.05 ~p<0.10

Demographic Shifts in New Leaders for New Schools

Comparisons to our previous two reports point to some interesting trends in the composition of the growing NLNS program in terms of gender and race/ethnicity. In terms of gender, male principals made up the majority of the NLNS program in 2005 at both the elementary and high school levels. In 2007, 61 percent of elementary NLNS principals are female, and the percentage of male NLNS principals in high schools has dropped from 67 to 60 percent.

NLNS has become increasingly racially/ethnically diverse. This is particularly true in high schools where the percentage of white principals in NLNS has dropped from two-thirds to 30 percent. The change is mainly due to an increase in the proportion of African American principals, which has gone from zero to 40 percent. In 2005, NLNS was proportionately more Latino than the other programs or the system. It appeared then that as this program grew, it might provide more school leaders with similar cultural heritage to the growing proportion of Latino students in CPS. However, while Latino principals continue to make up nearly a third of NLNS high school principals, in elementary schools their proportion has dropped from a third to 17 percent.

What Kind of Schools Are Led by Fund-Supported Principals?

- In general, there are no large differences between Fund-supported and other principals in the kinds of schools they lead.
- Among elementary schools, NLNS and UIC principals were somewhat less likely than other principals to work in regular schools and more likely to be in charters. The majority of LAUNCH principals are in regular schools, but they are also more likely than other principals to lead magnet schools.
- A very different pattern is found for high schools. NLNS and UIC principals are mainly in regular schools. LAUNCH principals are more likely to lead magnet schools than other groups, but more than half are in regular schools.
- In addition, significantly fewer Fund-supported principals were working in schools with more than 95 percent low-income students. It is important to note, however, that on the more finely grained measure of student SES, there were no significant differences between the two groups in terms of serving schools with greater concentration of poverty. Grouping Fund programs, however, obscures the fact that NLNS principals have the greatest proportion in the poorest and lowest achieving elementary schools, and UIC principals have the greatest proportion in the poorest and lowest achieving high schools.

We examined the kind of schools that Fund-supported principals lead with respect to school type and the racial composition and student socioeconomic status (SES). The latter was examined in three different ways. First, we divided schools into categories using the proportion of students receiving free or reduced-price lunch, which we call low income. However, since the vast majority of students in CPS qualify as low income, we also used a measure of poverty taken from the U.S. Census. First, we divided schools into quartiles on this measure, categorizing principals' schools by their rank relative to other CPS schools. Second, we also compared groups of schools by mean scores on this variable. (See Tables 14 and 15.) These variables are described in further detail in Appendix A.

TABLE 14

Where Principals Work: Elementary Schools

	LAUNCH	NLNS	UIC	Fund-Supported Principals	Other
	(83)	(26)	(13)	(122)	(385)
Type~	**Percent (n)**	**Percent (n)**	**Percent (n)**	**Percent (n)**	**Percent (n)**
Regular	88% (73)	73% (19)	69% (9)	83% (101)	88% (337)
Magnet	10% (8)	4% (1)	0% (0)	7% (9)	6% (23)
Charter	1% (1)	23% (6)	31% (4)	9% (11)	4% (18)
Special Education	0% (0)	0% (0)	0% (0)	0% (0)	2% (7)
Achievement Academy	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Alternative	1% (1)	0% (0)	0% (0)	1% (1)	0% (0)
Racial Composition					
Predominately African American	46% (38)	62% (16)	15% (2)	46% (56)	46% (177)
Predominately Latino	13% (11)	15% (4)	38% (5)	16% (20)	18% (69)
Predominately Minority	22% (18)	19% (5)	23% (3)	21% (26)	18% (69)
Mixed Race	7% (6)	4% (1)	15% (2)	7% (9)	7% (27)
Integrated	12% (10)	0% (0)	8% (1)	9% (11)	11% (43)
Low Income *					
<50	8% (7)	0% (0)	8% (1)	7% (8)	9% (35)
50–80	22% (18)	19% (5)	8% (1)	20% (24)	10% (40)
80–95	39% (32)	54% (14)	46% (6)	43% (52)	42% (163)
>95	31% (26)	27% (7)	38% (5)	31% (38)	38% (147)
Concentration of Poverty (quartiles)					
Bottom Quartile (low concentration)	28% (23)	4% (1)	54% (7)	25% (31)	25% (95)
Second Quartile	24% (20)	27% (7)	23% (3)	25% (30)	25% (97)
Third Quartile	27% (22)	38% (10)	8% (1)	27% (33)	24% (94)
Top Quartile (high concentration)	22% (18)	31% (8)	15% (2)	23% (28)	26% (99)
Concentration of Poverty (group means)					
Mean	0.248 (83)	0.539 (26)	0.084 (13)	0.293 (122)	0.318 (385)
Achievement					
Bottom Quartile (low achievement)	26% (21)	36% (9)	15% (2)	27% (32)	24% (91)
Second Quartile	17% (14)	28% (7)	15% (2)	19% (23)	27% (104)
Third Quartile	29% (24)	36% (9)	31% (4)	31% (37)	24% (91)
Top Quartile (high achievement)	28% (23)	0% (0)	38% (5)	23% (28)	25% (94)
Average 2007 ISAT Test Scores					
Reading/Math	220/231 (84)	217/227 (25)	219/231 (13)	219/230 (122)	219/230 (382)

Source: CPS student records and test score files.
Note: Magnets are non-charter schools that either have selective enrollment based on entry test scores or are schools without an attendance area who accept students by lottery. Racial composition categories were based on the following distribution of students in schools: 85% African American = predominately African American, 85 % Latino = predominately Latino, 85% African American and Latino = predominately minority, 15% to 29% White and Asian = mixed race, and 30% or more White and Asian = integrated.

Concentration of Poverty calculated from 2000 Census Data. Higher numbers represent greater poverty. The ISAT score is the predicted scores for a third-grade student at each school, whether or not the school has third-graders. It adjusts for each grade level's relative performance to predict this third-grade score so all schools can be compared regardless of their grade configuration.
Significance tests between Fund-supported principals and other principals using chi-square and t-test statistics: ** p<0.01* p<0.05 ~ p<0.10

TABLE 15

Where Principals Work: High Schools

	LAUNCH	NLNS	UIC	Fund-Supported Principals	Other
	(19)	(10)	(6)	(35)	(96)
Type	**Percent (n)**	**Percent (n)**	**Percent (n)**	**Percent (n)**	**Percent (n)**
Regular	58% (11)	80% (8)	100% (6)	71% (25)	52% (50)
Magnet	21% (4)	0% (0)	0% (0)	11% (4)	7% (7)
Charter	5% (1)	10% (1)	0% (0)	6% (2)	17% (16)
Special Education	5% (1)	0% (0)	0% (0)	3% (1)	4% (4)
Vocational	5% (1)	10% (1)	0% (0)	6% (2)	4% (4)
Achievement Academy	0% (0)	0% (0)	0% (0)	0% (0)	8% (8)
Alternative	5% (1)	0% (0)	0% (0)	3% (1)	7% (7)
Racial Composition					
Predominately African American	53% (10)	40% (4)	50% (3)	49% (17)	41% (39)
Predominately Latino	5% (1)	10% (1)	0% (0)	6% (2)	5% (5)
Predominately Minority	32% (6)	40% (4)	50% (3)	37% (13)	40% (38)
Mixed Race	0% (0)	10% (1)	0% (0)	3% (1)	9% (9)
Integrated	11% (2)	0% (0)	0% (0)	6% (2)	5% (5)
Low Income					
<50	11% (2)	10% (1)	0% (0)	9% (3)	5% (5)
50–80	11% (2)	30% (3)	0% (0)	14% (5)	19% (18)
80–95	68% (13)	20% (2)	67% (4)	54% (19)	50% (48)
>95	11% (2)	40% (4)	33% (2)	23% (8)	26% (25)
Concentration of Poverty (quartiles)					
Bottom Quartile (low concentration)	26% (5)	10% (1)	0% (0)	17% (6)	27% (26)
Second Quartile	26% (5)	50% (5)	33% (2)	34% (12)	22% (21)
Third Quartile	21% (4)	30% (3)	33% (2)	26% (9)	25% (24)
Top Quartile (high concentration)	26% (5)	10% (1)	33% (2)	23% (8)	26% (25)
Concentration of Poverty (group means)					
Mean	0.382 (19)	0.370 (10)	0.646 (6)	0.424 (35)	0.381 (96)
Achievement					
Bottom Quartile (low achievement)	33% (5)	13% (1)	40% (2)	29% (8)	25% (17)
Second Quartile	27% (4)	25% (2)	40% (2)	29% (8)	22% (15)
Third Quartile	7% (1)	25% (2)	20% (1)	14% (4)	31% (21)
Top Quartile (high achievement)	33% (5)	38% (3)	0% (0)	29% (8)	22% (15)
Average 2007 ACT Scores					
Composite	17.7 (13)	16.6 (8)	14.8 (5)	16.8 (26)	16.4 (69)

Source: CPS student records.
Note: Magnets are non-charter schools that either have selective enrollment based on entry test scores or are schools without an attendance area who accept students by lottery.
Racial composition categories were based on the following distribution of students in schools: 85% African American = predominately African American, 85 % Latino = predominately Latino, 85% African American and Latino = predominately minority, 15% to 29% White and Asian = mixed race, and 30% or more White and Asian = integrated.
Concentration of Poverty calculated from 2000 Census Data. Higher numbers represent greater poverty.
Difference between Fund-supported principals and other principals is not statistically significant using chi-square and t-test statistics.

What Data Do Fund-Supported Principals Use?

- Overall, Fund-supported principals were not significantly different from other principals in terms of either the extent of their data use or the ways in which they used standardized test data.
- Elementary Fund-supported and other principals agree on four of the five data sources they used most often: standardized test scores, direct classroom observations, Learning First Benchmark Assessments, and DIBELS (Dynamic Indicators of Basic Early Literacy Skills). Of these, three are connected to district and/or federal mandates.
- In high schools, both Fund-supported and other principals relied heavily on standardized test scores, student attendance, freshman on-track rate and college-going rate. It is notable that all of these metrics can be found on the school score cards the district publicly provides about each high school.[19]
- All elementary principals report using standardized test data mainly to set schoolwide and individual student achievement goals, examine teachers' and school performance over time, and for program evaluation.
- Among high schools, Fund-supported and other principals share four of their top five uses for standardized test data. These are setting schoolwide achievement goals, examining school performance over time, program evaluation and comparing their school to other schools.[20]

Principals were asked to rate the extent to which various types of data influenced them (and their leadership team) in their efforts to promote curriculum and instructional improvement. Types of data included standardized test scores, letter grades, rubric-based scoring, attendance, walk-through reviews, and surveys. (See Tables B2 and B3 in Appendix B for full text of items.) Principals rated their use of these data on a four-point scale from "not at all" to "to a great extent." These items were combined into a scale of data-driven decision-making. Higher values on this measure indicate that principals use a greater variety of data sources and use them to a greater extent. Table 16 displays the means for each group, indicating no significant differences between Fund-supported principals and other principals or between Fund programs.

TABLE 16

Means on Data-Driven Decision-Making

	Elementary Mean (n)	High School Mean (n)
LAUNCH	1.91 (55)	1.54 (11)
NLNS	1.59 (16)	1.09 (6)
UIC	2.08 (4)	1.46 (3)
Fund-Supported Principals	*1.85 (75)*	*1.39 (20)*
Other	*1.70 (223)*	*1.52 (42)*

Source: CCSR 2007 principal survey.
Note: The means are in log-odds units.
Difference between Fund-supported principals and other principals is not statistically significant using t-test statistics.

We also report the top five types of data used by principals. (This was determined by the highest percentage of respondents selecting the highest answer category, "to a great extent.") Tables 17 and 18 illustrate the similarities and differences in responses between groups. Items in purple are those held in common. Note that data sources outside our top five might also be used fairly frequently. (See Tables B2 and B3 in Appendix B.)

percentage of each group giving this response.) These tables show similarities in Fund-supported and other principals' uses of standardized test data. Again, items in purple are shared.

In looking at principals' use of data, we are not suggesting that there is a correct answer to these items. We simply provide a descriptive comparison on what data principals report using. Principals' use of data likely depends greatly on the school's particular

TABLE 17

Elementary Principals' Top Five Data Sources *(Items in purple are shared.)*

Fund-Supported Principals (67–75)	Other Principals (204–222)
Standardized test scores	Standardized test scores
Direct observation of classrooms (not walkthroughs)	Learning First benchmark assessments
Learning First benchmark assessments	Direct observation of classrooms (not walkthroughs)
Other formal assessments	DIBELS
DIBELS	Student attendance

Source: CCSR 2007 principal survey.

TABLE 18

High School Principals' Top Five Data Sources *(Items in purple are shared.)*

Fund-Supported Principals (16–20)	Other Principals (33–43)
Standardized test scores	Standardized test scores
Direct observation of classrooms (not walkthroughs)	College-going rate
Student attendance	Graduation rate
On-track rate	Student attendance
College-going rate	On-track rate

Source: CCSR 2007 principal survey.

Given the high stakes placed on standardized tests to satisfy No Child Left Behind and CPS requirements for students to move from one grade to the next, we also compared principals on the ways they used these data. Principals rated their use of test data for each purpose on a four-point scale from "not at all" to "to a great extent." As in the tables above, the top five uses for each group are based on the greatest percentage of principals responding "to a great extent." These are listed in Tables 19 and 20. (Tables B4 and B5 in Appendix B list full item text with the

issues and strategies for improvement. This points to an important caveat in examining data-driven decision-making through survey items. The measures discussed above measure quantity and not quality. Understanding the facility and effectiveness with which principals use data would require observations and interviews.

TABLE 19

Elementary Principals' Top Five Uses of Standardized Tests *(Items in purple are shared.)*

Fund-Supported Principals (70–72)	Other Principals (218–222)
Set schoolwide student achievement goals	Set schoolwide student achievement goals
Examine school performance over time	Examine school performance over time
Set individual student achievement goals	Program evaluation
Program evaluation	Set individual student achievement goals
Examine teachers' performance over time	Examine teachers' performance over time

Source: CCSR 2007 principal survey.

TABLE 20

High School Principals' Top Five Uses of Standardized Tests *(Items in purple are shared.)*

Fund-Supported Principals (16–20)	Other Principals (33–43)
Set schoolwide student achievement goals	Set schoolwide student achievement goals
Examine school performance over time	Program evaluation
Program evaluation	Examine school performance over time
Compare your school to other schools	Compare your school to other schools
Compare performance of groups of students	Set individual student achievement goals

Source: CCSR 2007 principal survey.

How Much Time Do Fund-Supported Principals Spend on Their Own and Their Staff's Professional Development?

- Overall, Fund-supported principals reported spending more time on both staff and personal professional development than other principals, though these differences were not statistically significant. The largest difference between the two groups was for time spent on staff development. Elementary Fund principals spent slightly over half an hour per week more time in this area than did other elementary principals.
- Between programs, LAUNCH principals look similar to other principals in most cases, while UIC and NLNS report more time spent in these areas. While UIC principals have the highest averages in each comparison, it should be recognized that low survey participation combined with fewer responses on these items yielded responses from only 23 percent of elementary and 33 percent of high school UIC principals.
- It appears that since the 2005 survey NLNS principals have reduced personal professional development time by three-quarters of an hour per week and increased time spent on staff development by two hours per week. In 2007, NLNS principals reported spending the least time on their own professional development. Collapsing elementary and high school principals together to match the 2005 analysis, in 2007 their average was 1.9 hours per week, or a drop of three-quarters of an hour from 2005 (2.6 hours per week). On the other hand, the amount of NLNS staff development has increased nearly two hours per week since 2005 (from 3.5 to 5.3 hours per week). This may suggest that NLNS principals are reallocating time from their own personal professional development to staff development. Or it may be that staff development demands may undermine their own training needs.
- As in data-driven decision-making, it is important to note here that time spent on professional development measures quantity but not quality.

TABLE 21

Average Number of Hours Spent Weekly on Professional Development

	n	Time Spent on Principal Professional Development (Hours)	n	Time Spent on Planning and Conducting Staff Development (Hours)
Elementary				
LAUNCH	38	2.6	45	3.8
NLNS	11	1.7	12	5.8
UIC	3	2.7	4	6.5
Fund-Supported Principals	*52*	*2.4*	*61*	*4.4*
Other	*179*	*2.2*	*192*	*3.8*
High School				
LAUNCH	10	2.0	11	3.7
NLNS	6	2.3	6	4.3
UIC	2	3.0	2	5.0
Fund-Supported Principals	*18*	*2.2*	*19*	*4.1*
Other	*34*	*1.8*	*39*	*3.9*

Source: CCSR 2007 principal survey.
Note: Difference between Fund-supported principals and other principals is not statistically significant using t-test statistics.

Do Teachers in Schools Led by Fund-Supported Principals Rate Their Schools High on the Essential Supports for School Improvement?

- On average, elementary teachers rated LAUNCH-led schools lower on 5 of the 12 measures, compared to teachers in similar schools. These included teacher influence, program coherence, and teacher-principal trust. The last leadership measure, principal instructional leadership, was lower but only marginally significant. Their schools' scores on professional capacity measures also tended to be lower than other principals, but only school commitment reached significance. Note that evidence from 2003 and 2005 turned up no significant differences between schools led by LAUNCH principals and other similar schools. Since analyses were conducted in the same way, this may reflect a change in included schools or other programmatic factors.
- It is also important to note that nearly all LAUNCH elementary schools participated in the teacher survey on which the essential supports analysis is based, compared to 62 percent of UIC and 77 percent of NLNS elementary schools. (See Table 6.)
- NLNS and UIC schools both show a small number of positive results, more at the elementary than the high school level.
- Teachers in elementary schools led by NLNS principals reported significantly more innovation and reflective dialogue. This was also true in 2005. Principal instructional leadership also is higher for these schools, but only marginally significant. At the high school level, teacher influence was also greater than similar schools and marginally significant. In 2005, NLNS high schools did not participate sufficiently in the teacher survey to analyze their essential supports.
- Elementary teachers in UIC-led schools reported greater principal instructional leadership, teacher influence, teacher-parent interaction, and quality professional development, though the latter was only marginally significant. Reflective dialogue was higher and marginally significant for UIC high schools.

TABLE 22

Differences Among Programs in Teachers' Ratings of the Essential Supports

	Elementary Schools			High Schools		
	LAUNCH	NLNS	UIC	LAUNCH	NLNS	UIC
n	78	20	8	15	6	6
Leadership Measures						
Teacher Influence	-.13*	—	.28*	—	.33~	—
Teacher-Principal Trust	-.14*	—	—	—	—	—
Program Coherence	-.23*	—	—	—	—	—
Principal Instructional Leadership	-.12~	.20~	.23*	—	—	—
Professional Capacity						
Collective Responsibility	—	—	—	—	—	—
Reflective Dialogue	—	.23*	—	—	—	.26~
Innovation	—	.27*	—	—	—	—
School Commitment	-.16*	—	—	—	—	—
Teacher-Teacher Trust	—	—	—	—	—	—
Quality Professional Development	—	—	.22~	—	—	—
Parent and Community						
Teacher-Parent Interaction	—	—	.11*	—	—	—
Parent Participation (elementary only)	—	—	—	—	—	—

Source: CCSR 2007 teacher survey.
Note: Values given in effect sizes, which take the size of the coefficient and the standard deviation of the measure into account, placing them on a common metric. Negative values are in purple. ~ p<.10 * p<.05 ** p<.01 *** p<.001

- Though statistically significant, none of these differences are larger than a third standard deviation.

In this analysis we compared principals in each program to other (non-program) principals, controlling the same teacher and school characteristics as in the analysis of cluster schools in Chapter 1. We also added, as a control variable, the length of time the principal had been at their school. (Details can be found in Appendix A, including descriptions of measures.) We did not combine Fund-supported principals this time since on many measures one program might be positive where another was negative.

A second analysis was inspired by the original study of the essential supports, which defined strength in an essential support, such as school leadership, as being in the top quartile of schools on the measures making up that support. Thus schools falling in the top quartile on principal instructional leadership were considered strong in that aspect of leadership. Similarly schools in the top quartile on teacher influence were also considered strong. Ultimately, we found that such schools had a much higher probability of improving student learning. Following this line of reasoning, we investigated whether schools led by Fund-supported principals were more likely or not than other schools to be rated among the top quartile schools on measures of the essential supports.

For each measure we divided all schools into four quartiles. If schools led by Fund-supported principals are similar to other schools on the strength of their essential supports, one would assume that 25 percent of schools in each group would fall into the top quartile. If schools led by Fund-supported principals were stronger in the levels of essential supports than other similar schools, then we would expect that more

than 25 percent would be rated in the top quartile. Tables 23 and 24 show the percentage of schools led by LAUNCH, NLNS, UIC, all Fund-supported, and non-program principals that fell into the highest quartile on each measure.

We found:

- Overall, Fund elementary schools were less likely to be in the top quartile of principal instructional leadership, teacher-teacher trust, teacher-principal trust, and collective responsibility than other principals (the latter two are marginally significant). For high schools, significantly more Fund schools fell in the highest quartile for access to new ideas.
- A look at the individual programs shows that, as in the previous analysis, LAUNCH schools did not perform as well as non-program schools, especially at the elementary level.
- No fewer than 20 percent of NLNS-led schools were in the top quartile in every measure in both elementary and high school. And on nearly half of the measures, more than 25 percent of NLNS-led schools, or disproportionately more than we would expect, were in the top quartile.
- UIC-led schools performed better than expected on several measures—such as innovation at the elementary level and collective responsibility in high schools. But on other measures, such as program coherence, only half as many schools as expected fell in the top quartile. However, with only eight elementary and six high schools, one additional school would bring these low percentages within the expected range.

TABLE 23

Are Elementary Schools Led by Fund-Supported Principals More Likely To Be in the Top Quartile on Measures of the Essential Supports?

Percent of Elementary Schools in Top Quartile on Teacher Measures (n)					
Teacher Measure	LAUNCH (78)	NLNS (19)	UIC (8)	Fund-Supported Principals (105)	Other (332)
Leadership Measures					
Principal Instructional Leadership*	13% (10)	26% (5)	25% (2)	16% (17)	26% (86)
Teacher Influence	24% (19)	26% (5)	13% (1)	24% (25)	27% (90)
Program Coherence	18% (14)	21% (4)	13% (1)	18% (19)	26% (86)
Teacher-Principal Trust~	14% (11)	32% (6)	25% (2)	18% (19)	27% (91)
Professional Capacity					
Innovation	14% (11)	32% (6)	38% (3)	19% (20)	24% (81)
Reflective Dialogue	22% (17)	53% (10)	13% (1)	27% (28)	24% (81)
School Commitment	26% (20)	21% (4)	38% (3)	26% (27)	27% (90)
Quality Professional Development	26% (20)	26% (5)	13% (1)	25% (26)	27% (88)
Collective Responsibility~	17% (13)	42% (8)	13% (1)	21% (22)	30% (98)
Access to New Ideas	14% (11)	21% (4)	25% (2)	16% (17)	20% (67)
Teacher-Teacher Trust*	9% (7)	37% (7)	25% (2)	15% (16)	27% (88)
Parent and Community					
Parent-Teacher Interaction	27% (21)	26% (5)	25% (2)	27% (28)	23% (76)

Source: CCSR 2007 teacher survey. Only schools where at least 42% of teachers responded to survey were included.

Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.05 ~ p<0.10

TABLE 24

Are High Schools Led by Fund-Supported Principals More Likely To Be in the Top Quartile on Measures of the Essential Supports?

Percent of High Schools in Top Quartile on Teacher Measures (n)					
Teacher Measure	LAUNCH (16)	NLNS (5)	UIC (6)	Fund-Supported Principals (27)	Other (69)
Leadership Measures					
Principal Instructional Leadership	19% (3)	40% (2)	17% (1)	22% (6)	23% (16)
Teacher Influence	19% (3)	60% (3)	17% (1)	26% (7)	22% (15)
Program Coherence	19% (3)	20% (1)	17% (1)	19% (5)	26% (18)
Teacher-Principal Trust	25% (4)	40% (2)	17% (1)	26% (7)	25% (17)
Professional Capacity					
Innovation	19% (3)	20% (1)	33% (2)	22% (6)	25% (17)
Reflective Dialogue	19% (3)	20% (1)	33% (2)	22% (6)	23% (16)
School Commitment	19% (3)	60% (3)	33% (2)	30% (8)	22% (15)
Quality Professional Development	19% (1)	40% (2)	33% (2)	26% (7)	25% (17)
Collective Responsibility	19% (3)	40% (2)	50% (3)	30% (8)	23% (16)
Access to New Ideas*	6% (1)	80% (4)	83% (5)	37% (10)	14% (10)
Teacher-Teacher Trust	19% (3)	20% (1)	50% (3)	26% (7)	26% (18)
Parent and Community					
Parent-Teacher Interaction	19% (3)	20% (1)	50% (3)	26% (7)	20% (14)

Source: CCSR 2007 teacher survey. Only schools where at least 42% of teachers responded to survey were included.

Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.05 ~ p<0.10

In interpreting these results, it is important to keep in mind that they are cross-sectional and not longitudinal; therefore, we cannot be sure of the causal relationships. We are looking only at the association between the principal and the presence of essential supports in their school at one point in time. For example, schools with NLNS principals have greater teacher innovation than comparable schools led by non-program principals. This may be due to NLNS principals fostering this kind of behavior in their faculty, or it may be that schools with more innovative teachers tend to seek out NLNS principals. It is also important to note that, as mentioned in the discussion of principals' tenure at their current school; we find it takes three to four years for a new principal to lay the foundations so that these practices can flourish.

Does the Available Evidence Indicate Fund-Supported Principals Produce Greater Learning Gains Than Other Principals?

- Results indicate that one-year learning gains in elementary and high schools led by Fund-supported principals were not different than those in other similar schools.[21]
- A true value-added measure is a more robust indicator of student performance than is a one-year learning gain. Even if such data were available, however, it is possible that the short tenure of Fund-supported principals may be constraining measurable differences in student learning or that the more rigorous selection process for CPS principals in general may be narrowing the differences in student performance across schools.

For elementary schools, learning gains were calculated for all students in grades three through eight, who were enrolled in each school in both spring 2006 and spring 2007. The gains were then averaged for each school, and schools led by Fund-supported principals were compared to similar schools. We controlled for students' gender, race/ethnicity, SES, and grade, as well as for school characteristics, including the racial composition and SES of the student population and the principal's length of tenure at the school. (See Appendix A for details.) As discussed in Chapter One (see box on page 12), the state's overhaul of the 2006 ISAT made it possible to calculate only a one-year gain, which is not comparable to our previous value-added analyses.

At the high school level, gains were estimated between fall PLAN and spring ACT scores for eleventh-grade students.[22] As in the elementary analysis, we controlled for students' gender, race/ethnicity, SES, and grade, as well as for school characteristics, including the racial composition and SES of the student population and the principal's length of tenure at the school. (See Appendix A for details.) The only difference was that instead of grade we controlled for the PLAN score. Differences in gains between Fund-supported and non-program principals were small, nearly all less than half a point, and did not reach statistical significance. (See box on page 12 for limitations.)

How Do Freshman On-Track Rates for High Schools Led by Fund-Supported Principals Compare to Other High Schools?

We also compared schools on the percent of their first time freshmen who were on track to graduate—defined as having sufficient credits to move to tenth grade and only one semester F—by the end of the ninth-grade year. In prior research, CCSR has shown that being on track to graduate in ninth grade is a powerful predictor of graduation four years later, and for this reason CPS has adopted the indicator and included it in annual school report cards. Thus, it is a valuable additional indicator of a school's strength. The comparison showed no significant differences in on-track rates between schools led by LAUNCH, NLNS, or UIC principals and non-program schools (not shown). However, a strong effect was found for UIC schools, which approached significance even though there were only five high schools led by UIC principals compared to 75 schools led by non-program principals.

TABLE 25

Elementary Principals' Top Five Roadblocks

(Items in purple are shared.)

Fund-Supported Principals (69–74)	Other Principals (213–222)
Parents apathetic	Test scores
Difficulty removing poor teachers	Difficulty removing poor teachers
Lack time to evaluate teachers	Parents apathetic
Test scores	Problem students
Pressure to obtain external funds/ Problem students	Social problems in school's community

Source: CCSR 2007 principal survey.

What Types of Roadblocks Do Fund-Supported Principals Find Most Serious in Terms of Preventing Their School from Improving?

- Fund-supported and other principals held similar views on their main challenges.
- Elementary principals, both Fund-supported and other, expressed great concern over apathetic parents, difficulty removing poor teachers, problem students and pressure to raise test scores.
- High school principals, Fund-supported and other, shared similar perceptions about many impediments to improvement. Pressure to raise test scores, social problems in the school's community, and difficulty removing poor teachers ranked highly on the list of roadblocks for both groups.

We obtained these results by analyzing principals' responses to the following question: "Below are several

TABLE 26

High School Principals' Top Five Roadblocks

(Items in purple are shared.)

Fund-Supported Principals (18–20)	Other Principals (42–43)
Test scores	Test scores
Social problems in school's community	Social problems in school's community
Difficulty removing poor teachers	Problem students
Recruiting/hiring teachers	Difficulty removing poor teachers
Pressure to obtain external funds/ Problem students	Parents apathetic/ negative stereotypes about school's community

Source: CCSR 2007 principal survey.

factors which could be considered as 'roadblocks' that prevent a school from improving. Please indicate the extent to which each may be a factor in preventing your school from improving." They were asked to rate each of 20 items as "not a factor," "somewhat a factor," or "a serious factor." We compared the percentage of principals in each group that rated a given roadblock "a serious factor." (See Tables B5 and B6 in Appendix B for the full text of items and percentages of each group providing this response.) Tables 25 and 26 display the top five roadblocks for Fund-supported and other principals; items held in common are in purple.

Chapter 3

Expert Leadership Teams

How Do Schools Perform When They Have a Strong Leadership Team of Both Fund-Supported Principals and NBCTs?

Taking the idea of a critical mass of well-trained, talented leaders one step further, The Fund defines six types of teams with varying levels of Fund-supported principals, assistant principals and NBCTs. There were 18 elementary and 9 high schools with teams. Note that we are not testing the team concept by examining whether or not Fund administrators and NBCTs are working together towards common ends. Instead, as an initial step, we are seeing whether the mere existence of teams is associated with stronger school outcomes. Table 27 displays the different kinds of teams and the number of schools in each analysis. Since the number of schools in any particular team category was small, we compared schools with a team versus those without any Fund leaders (no NBCTs, Fund-supported principal, or assistant principal). In other words, we compared schools with the strongest combination of Fund leaders, a best-case scenario, to schools without any Fund leaders. To achieve the clearest contrast, those schools that had Fund leaders and/or NBCTs, but not enough to constitute a team, were left out of the analysis. We will call schools without any Fund leaders or NBCTs "no-Fund schools."

TABLE 27

Teams of Fund-Supported Principals, Assistant Principals, and NBCTs

	Fund-Supported Principal?	Fund-Supported Assistant Principal?	NBCTs	Total	Schools in Essential Supports Analyses*	Schools in Learning Gains Analyses**
Elementary Schools with Teams				**17**	**17**	**16**
Team 1	Yes	No	At least 3	6	5	5
Team 2	Yes	No	At least 15% of faculty	5	5	4
Team 3	No	Yes	At least 3	1	1	1
Team 4	No	Yes	At least 15% of faculty	0	0	0
Team 5	Yes	Yes	At least 3	2	2	2
Team 6	Yes	Yes	At least 15% of faculty	3	4	4
Elementary Schools without Teams				**231**	**193**	**230**
High Schools with Teams				**10**	**6**	**8**
Team 1	Yes	No	At least 3	4	3	4
Team 2	Yes	No	At least 15% of faculty	0	0	0
Team 3	No	Yes	At least 3	1	1	1
Team 4	No	Yes	At least 15% of faculty	0	0	0
Team 5	Yes	Yes	At least 3	1	0	1
Team 6	Yes	Yes	At least 15% of faculty	4	2	2
High Schools without Teams				**55**	**32**	**25**

Note: Total for schools without teams is out of 638 survey schools.
* Schools needed to have at least a 42% response rate for CCSR teacher survey and personnel data for years of experience.
** Schools need to have test data (ISAT or ACT) and personnel data for years of experience.

Where Are the Teams?

- Distribution of teams was somewhat more even among elementary schools than among high schools. Yet for both there was a tendency of teams to be more concentrated among lower poverty and higher achieving schools and less visible in predominantly African American schools.
- Elementary schools with Fund teams showed lower mean concentrations of poverty, and significantly fewer of their students qualified for free and reduced-price lunch than no-Fund schools.
- Eighty percent of elementary schools with teams were in the top two quartiles among the historically highest achieving schools, while only three elementary teams were located in the lowest achieving quartile. (This could reflect either where Fund leaders choose to work or that Fund leaders contribute to higher student achievement.)
- There were only ten high schools with teams. Of these, only three served schools that are predominantly African American. Also, no teams were located in predominantly Latino high schools.
- Among the high schools with the highest concentration of poverty (those in the top 50 percent), only one school has a Fund team.

Tables 28 and 29 show how teams are distributed

across elementary and high schools compared to schools without NBCTs or Fund leaders. Note that in Table 29 only one integrated high school is shown; this is because schools with Fund leaders but no teams have been excluded from the analysis.

As in previous discussions, it is important to remember that uneven distribution does not imply that Fund-supported leaders are not reaching needy students. In a large urban system such as CPS, schools in the top or middle of the distribution on achievement or income still face great challenges on both accounts. Said another way, if you were to relocate a typical CPS school with 85 percent low-income students in most any other Illinois district, it would be among the poorest.

TABLE 28

Where Teams Work (Elementary Schools)

	Percentage of Teams in Types of Schools (n)	
	Schools with Any Teams n=17	Schools with No Fund Leaders n=235
Racial Composition		
Predominately African American	25% (6)	53% (113)
Predominately Latino	18% (3)	15% (32)
Predominately Minority	24% (4)	21% (45)
Mixed Race	12% (2)	3% (7)
Integrated	12% (2)	8% (18)
Percent Low Income	*	
<50	6% (1)	8% (18)
50–85	41% (7)	17% (41)
>85	53% (9)	75% (176)
Concentration of Poverty (categories)		
Bottom Quartile (low concentration)	35% (6)	20% (47)
Second Quartile	35% (6)	23% (55)
Third Quartile	12% (2)	27% (64)
Top Quartile (high concentration)	18% (3)	29% (69)
Average Concentration of Poverty*	0.1188	0.4118
Achievement		
Bottom Quartile (lowest achievement)	20% (3)	26% (60)
Second Quartile	0	25% (57)
Third Quartile	40% (6)	25% (57)
Top Quartile (highest achievement)	40% (6)	24% (55)

Source: Chicago Office of NBPTS, CPS personnel records, CPS student records.
Racial composition categories were based on the following distribution of students in schools: 85% African American = predominately African American, 85 % Latino = predominately Latino, 85% African American and Latino = predominately minority, 15% to 29% White and Asian = mixed race, and 30% or more White and Asian = integrated.
Achievement quartiles were based on the percentage of students who meet or exceed 2007 state ISAT reading standards.
* Differences between schools with teams and schools without teams are significant using chi-square or t-test statistics.

TABLE 29

Where Teams Work (High Schools)

	Percentage of Teams in Types of Schools (n)	
	Schools with Any Teams n=10	Schools with No Fund Leaders n=51
Racial Composition		
Predominately African American	30% (3)	51% (20)
Predominately Latino	0	5% (2)
Predominately Minority	50% (5)	41% (16)
Mixed Race	10% (1)	3% (1)
Integrated	10% (1)	0
Percent Low Income	*	
<50	10% (1)	0
50–85	60% (6)	24% (12)
>85	30% (3)	76% (39)
Concentration of Poverty (categories)	*	
Bottom Quartile (low concentration)	50% (5)	16% (8)
Second Quartile	40% (4)	22% (11)
Third Quartile	10% (1)	29% (15)
Top Quartile (high concentration)	0	33% (17)
Average Concentration of Poverty	0.0513*	0.4928
Achievement	*	
Bottom Quartile (lowest achievement)	0	35% (10)
Second Quartile	22% (2)	17% (5)
Third Quartile	11% (1)	38% (11)
Top Quartile (highest achievement)	67% (6)	10% (3)

Source: Chicago Office of NBPTS, CPS personnel records, CPS student records.
Racial composition categories were based on the following distribution of students in schools: 85% African American = predominately African American, 85 % Latino = predominately Latino, 85% African American and Latino = predominately minority, 15% to 29% White and Asian = mixed race, and 30% or more White and Asian = integrated. Achievement quartiles were based on the percentage of students who meet or exceed 2007 state PSAE reading standards.
* Differences between schools with teams and schools without teams are significant using chi-square or t-tests statistics.

How Do Schools with Teams of Fund-Supported Leaders and NBCT Clusters Perform on the Essential Supports and Learning Gains?

- Given the evidence of stronger professional capacity in elementary schools with clusters of NBCTs, results for teams were surprising. We found team elementary schools to be significantly different from other similar schools on only one measure, parent involvement. Though team schools also showed stronger innovation, this was marginally significant.
- No significant differences were found at the high school level.
- Further analyses revealed that over half the team schools were led by LAUNCH principals, whose ratings on the essential supports were generally lower than other schools. This resulted in overall lower ratings for team schools in the essential supports.
- Learning gains were comparable between team and no-Fund schools both at the elementary and high school level.

Similar to analyses done for Fund-supported principals and schools with clusters of NBCTs, we compared schools with Fund teams to those with no Fund leaders or NBCTs on teachers' ratings of the essential supports. (Details can be found in Appendix A, including measure descriptions.) Team schools are a subset of the schools with clusters. The addition of Fund-supported principals and/or assistant principals to these clusters was expected to make these schools even stronger. Instead, however, few differences were significant for elementary team schools.

TABLE 30

Essential Support Measures for Which Schools with Fund Teams Reported Significantly Higher Mean Scores

	Elementary Schools	High Schools
n	17	6
Innovation	.25~	—
Parent Involvement	.27*	NA

Source: CCSR 2007 teacher survey.
Note: Values given in effect sizes, which take the size of the coefficient and the standard deviation of the measure into account, placing them on a common metric.
~ p<.10 * p<.05 ** p<.01 *** p<.001

It was possible that these surprising results were due to the smaller number of team schools (only 17 elementary and six high schools had both a team and sufficient teacher survey data to be included in this analysis compared to 44 elementary and 16 high schools with clusters). However, investigation suggested another reason. Recall that LAUNCH elementary schools scored significantly lower than other similar schools on a number of Essential Support measures. At the same time, LAUNCH-led schools make up more than half of team schools. (This is true both at the elementary and high school level.) This is evidently enough to reduce average team scores and, therefore, the difference between team and no-Fund schools on the essential supports. Since LAUNCH-led cluster schools were only a fifth of all cluster schools, this combination did not impact the cluster analysis as noticeably.

One-year learning gains did not differ significantly between team and no-Fund schools at either the elementary or high school level. As noted previously, having more data points would make this finding more robust.

Chapter 4

Interpretive Summary

The Chicago Public Education Fund's Theory of Change

Believing that investments in human capital within schools can improve student academic outcomes, The Fund has invested extensively in preparation programs and incentives to encourage hundreds of CPS teachers to seek National Board Certification.[22] From 2000 through February 29, 2008, The Fund has invested $6,056,802 for National Board Certification programs and initiatives in Chicago. National Board Certification was designed to be a professional credential obtainable only by truly expert teachers, a way to strengthen professional standards and rewards. In Chicago there has been a great push by Mayor Richard M. Daley, the school district, and The Fund to increase the number of NBCTs. It is a way to acknowledge and reward good teaching and to identify accomplished teachers. With The Fund's support, CPS has demonstrated the highest one-, two-, and three-year growth rates among annual and cumulative NBCTs compared to other urban districts.

In addition, drawing on extensive research, The Fund has made school leadership another central focus of its investment strategy. In its view, strengthening leadership in the Chicago Public Schools is one of the most effective ways to leverage improvement across the system. Since 2000, The Fund has invested in four principal preparation programs designed to provide principals with theoretical foundations and extensive clinical training (one is too new to evaluate). In addition, The Fund led a civic task force that examined eligibility requirements for becoming a CPS principal and made specific recommendations to strengthen the requirements, hoping to create

a more highly qualified candidate pool. CPS accepted and implemented these recommendations. Finally, believing that the synergy in a school will be positively impacted by a combination of capable teachers and administrators, The Fund has sought to encourage teams comprised of NBCTs and graduates from Fund-supported principal preparation programs.

Distribution of Fund-Supported Human Capital

As of the date of publication, 863 NBCTs are located in 295 of Chicago's 627 schools. Although they are proportionately more likely than other teachers to work in magnet, higher-performing, and selective-enrollment schools, about 85 percent of them work in schools with at least 85 percent students of color, and more than half work in schools with more than 85 percent low-income students. Compared to NBCTs in other parts of the U.S., they serve far more needy students. We also found that NBCTs are more likely to take on leadership roles than are other teachers.

As of February 2007, there were 157 sitting principals who were graduates of Fund-supported preparation programs. While they share many similarities with other CPS principals, they are younger than other principals (especially NLNS and UIC) and have fewer years in their schools. In fact, nearly 90 percent are in their first contract (first four years) in their school, compared with 45 percent of non-Fund elementary principals and 63 percent of non-Fund high school principals.

Levels of Essential Supports for School Improvement in Elementary Schools Served by Fund-Supported Leaders

According to survey responses, elementary schools with clusters of three or more NBCTs have significantly higher levels of professional capacity than other similar schools. This does suggest that NBCTs may be elevating practice in their schools, but since our analysis is cross-sectional, we cannot be sure that there is a causal relationship.

The picture is more mixed among schools served by Fund principals. Our analysis of the essential supports in elementary schools found NLNS and UIC-led schools show some strength in both School Leadership and Professional Capacity. On the other hand, Leadership measures were significantly weaker in LAUNCH-led schools compared to similar schools led by non-program principals, even after controlling for principals' length of tenure.

It is also part of the theory of change that putting these assets together in schools will provide greater strength and expertise to move schools forward. However, the essential support levels in schools served by teams combining clusters of NBCTs and Fund principals are somewhat counter-intuitive. As noted above, we show some positive leadership and professional capacity levels for schools with clusters of NBCTs compared to similar schools. To a lesser extent this is also the case for NLNS and UIC-led schools. However, the results for the schools with teams fell short of those found for clusters alone in terms of essential supports. Further analysis revealed that more than half of the teams (but only 20 percent of clusters) are led by LAUNCH principals. As mentioned above, LAUNCH-led elementary schools were rated weaker than non-program principals in similar schools on Leadership. It therefore appears that the greater proportion of LAUNCH-led elementary schools among the teams reduced the difference between teams and schools without Fund-supported principals or NBCTs. Hence, the composition of the teams did not afford a robust test of the strategy of deploying multiple well-trained leaders to particular schools.

One-Year Student Learning Gains

Our analyses showed no significant one-year test score learning gains among schools with clusters of NBCTs, nor among schools with teams of Fund-supported educators, nor among schools led by principals from Fund-supported preparation programs when compared to similar schools with principals with similar years in their schools. We did find marginally significant differences of less than a point on the ISAT between elementary schools led by UIC principals and their non-Fund comparison group. Similarly, we found marginally significant differences of no more than a third of a point on the ACT between high schools led by

LAUNCH principals and their non-Fund comparison group. However, overall the differences in test scores measuring one year's learning gains for all of these initiatives were modest at best.

Factors That Contribute to the Lack of Greater Learning Gains

When we compare the results of the essential support analyses and the learning gains analyses, it is somewhat surprising that we do not find stronger evidence of greater learning gains in schools with clusters of NBCTs, since these schools showed strength in nearly all measures of professional capacity as well as teacher influence. It is possible that strength in these areas does not necessarily translate into improvements in instruction. In a study of high schools, Stevens[23] has determined that teachers can engage in both supportive and developmental activities. The first refers to teachers listening to each other and working together in mutually supportive ways that do not necessarily change teaching practices. The latter refers to work that specifically focuses on improving instruction. While supportive behaviors are important for encouraging teachers to engage in collective work, they are not sufficient to produce improved student achievement. Our current data do not allow us to explore this possibility more deeply.

It is also disappointing that schools led by principals from Fund-supported programs have learning gains comparable to those of other principals in similar schools, especially UIC and NLNS schools, which do have some evidence of strength in the essential supports. It is important to note that principals in Fund-supported programs have spent less time in their schools than non-program principals. The majority of principals in all three programs are in their very first contract with their schools, and most first-contract principals have not been a principal in any other school before. This means that they are new to a very challenging job, working with a faculty they did not select (except in the case of some new schools), and trying to build trust and capacity with great pressure to make rapid progress. It has been demonstrated that it takes at least three to four years in a school for a principal to establish a foundation for building stronger practices.[24] On the other hand, these difficult circumstances were also present for non-Fund new principals. And while more Fund than non-Fund principals were new, our analyses essentially compared those with less than three years' experience in their current school to other principals with less than three years of experience (and those with three or more years to other principals with three or more years). This method of statistical control assumes that new Fund and non-Fund principals behave similarly and that they face similar challenges. If Fund principals experienced their early principalships in a systematically different way this method might not adequately capture the nuances across differing experience levels. For example, if Fund principals were much more likely to attempt a more-complete overhaul of their schools' climates they could face a greater initial decline than other new principals. Such a transformative approach might also lengthen the timeframe necessary to observe improvements in the essential supports. The assessment of whether or not new Fund principals are significantly different from other new principals in their approach was beyond the scope of the current study.

In both the analyses of schools with clusters of NBCTs and those led by Fund-principals, it is also possible that the comparison groups have improved over time. Emerging changes in teacher preparation may begin to reduce differences between NBCTs and other teachers. For example, more teacher preparation programs are mirroring the National-Board process of assessment, including portfolios and analysis of classroom work.[25] In addition, it is possible that The Fund's efforts to raise the eligibility requirements across the board may have had the effect of closing the gap between Fund-supported and other principals. As more qualified leaders are recruited, it may be difficult for principals trained in the preparation programs to distinguish themselves.

Limitations and Questions for Further Study

Another set of considerations that may contribute to the somewhat modest findings in this study are the limitations of the study itself. There are three main issues:

the limitations of the available test data for calculating learning gains and value-added, small numbers of representatives in each group, and a lack of qualitative data in some key areas. First, as discussed throughout this report, the test data available for calculating learning gains for elementary schools begins in 2006, preventing true value-added analysis for a few more years. Our 2005 value-added analysis of LAUNCH and NLNS, which was able to take advantage of multiple years of the Iowa Test of Basic Skills (ITBS, the district's former accountability exam), showed no significant differences.[26] However, an additional two years and a greater number of schools might have changed this story. In high schools we are limited by the use of a set of exams that are not designed to measure growth.

Second, while elementary LAUNCH and cluster schools have achieved a reasonable size, other groups are often quite small. Small groups can make differences hard to detect.

Finally, some elements of good practice are difficult to measure using survey items, which are often better at measuring quantity or frequency than quality. Our measure of the quality of professional development for teachers has been very successful because it asks teachers to assess their own professional development and then pools the responses of all teachers in a school into one estimate. Our current principal measure of professional and staff development only asks for the amount of time spent and does not attempt to measure quality. Survey measures of data use are another example. While we can report frequency of use, we do not know how extensively data are shared within a school, whether there are opportunities for staff to examine and discuss evidence together, and what actions they may take when using data. In this situation, observations and interviews would yield more insight.

One last question to be addressed is why positive results have been less prevalent in high schools. Stronger leadership and professional capacity were found in elementary schools with clusters of NBCTs and, to a lesser extent, in those led by NLNS and UIC principals. But differences in high schools have been few. A clear possibility is that there are fewer Fund-supported principals and fewer clusters and teams in high schools, again making differences harder to detect. Also, schools, especially those struggling to improve, have teachers of varying levels of ability who produce wide variation in student outcomes. This may be an even greater obstacle in high schools with larger and even more heterogeneous student and teacher populations. Furthermore, the organizational structure of high schools, where students experience multiple teachers and teachers routinely interact with more than 100 students per day, is much more complex than the structure of elementary schools. These larger settings are likely to be more difficult environments in which to build strong essential supports, since principals necessarily have less contact with each teacher and classroom. Finally, our framework of the essential supports was developed through research on elementary schools. Though we have found evidence to suggest these concepts are important for the success of high school students, there may be additional and alternate mechanisms at work in these schools.

Conclusions

Despite the caveats and considerations presented here, our results suggest that elementary schools with clusters of NBCTs and schools led by NLNS and UIC principals have somewhat stronger principal leadership and professional capacity. Though these advantages are in many cases still modest and have not yet been translated to greater learning gains, it is still early in most of these principals' careers and tenure at their schools. Based on results for cluster schools, it would seem that schools with teams might show greater differences in the future. But currently LAUNCH elementary principals, and therefore more than half of team schools, seem to be slightly weaker in terms of principal and teacher leadership and trust. In order to more fully examine the success of these programs and The Fund's theory of change, future research could be greatly aided by additional years of test data; increased survey participation; larger group sizes; the inclusion of additional indicators measuring the other essential supports, Ambitious Instruction, and Student-Centered Learning Climate; and some qualitative data collection to obtain some of the nuances that survey data cannot provide.

Endnotes

Chapter 1

1. Despite some data collection inconsistencies, we are confident that our procedures were able to greatly reduce any negative impact on our findings. We were able to use a question on the survey asking if teachers received a check from The Fund for having achieved National Board Certification to evaluate the effectiveness of our validating procedures. We found that 98 percent of those identified as NBCTs reported receiving a check from The Fund, while 98 percent of those identified as non-NBCTs reported not receiving a check.
2. SASS data for all public, private, and BIA (Bureau of Indian Affairs) schools.
3. WestEd (2007). The six states are California, Florida, Mississippi, North Carolina, Ohio, and South Carolina.
4. Racial composition categories for CPS differ from those used in the WestEd study, but are consistent with previous reports and are better able to differentiate Chicago's schools. For free or reduced-price lunch categories, we used 85 percent because it is the district average.
5. Since none of the NBCTs responding to the survey reported having three or fewer years of experience, we only included teachers with at least four years experience in this comparison.
6. See Sebring, Allensworth, Bryk, Easton, and Luppescu (2006). Available online at ccsr.uchicago.edu/content/publications.php?pub_id=86.
7. See Sebring, Allensworth, Bryk, Easton, and Luppescu (2006), p. 29.
8. It is true that three NBCTs in a faculty of 20 teachers are likely to have more of an impact than the same cluster in a large high school with a hundred teachers. This more inclusive definition maximizes the number of schools with clusters but may dilute our measurement of the impact of clusters. With additional clusters in future years, limiting the definition of clusters to 15 percent of the faculty would be more feasible.
9. Ninth-grade EXPLORE and the tenth-grade PLAN were unavailable.
10. See Prairie State Achievement Examination Technical Manual, p.1 (2007).

Chapter 2

11. Gail Ward, Office of Principal Preparation and Development (2007).
12. Williams (2007).
13. Beginning in January 2008, candidates are admitted in January to provide them with additional time for such coursework.
14. This distribution is based on available personnel data. However, more NLNS and UIC elementary principals are missing this data than other groups (data available for 77 percent of NLNS and 69 percent of UIC). See Table 6.
15. This distribution is based on available personnel data. However, more NLNS and UIC elementary principals are missing this data than other groups (data available for 77 percent of NLNS and 69 percent of UIC). See Table 6.
16. In CPS, a contract period is four years.
17. See Bryk, Sebring, Kerbow, Rollow, and Easton (1998). Smylie, Mayrowetz, Murphy, and Louis (2007) also found that it took three years for a new high school principal to see significant improvement in trust and the development of distributed leadership. Over time, faculty members increasingly took responsibilities for streamlining the class schedule, addressing faculty concerns, developing crisis management routines, making recruitment decisions, and improving teaching and learning.
18. Since the number of principals answering the survey, and specifically the future plans items, is nearly half that of the principals listed in Table 10 (average years as principal of current school), we recreated Table 10 for only those principals in the future plans analysis. This table (B1) can be found in Appendix B.
19. Graduation rate, which reached the top five for other principals, is also found on school report cards but not rated as highly by Fund-supported principals. However, since on-track rate, which measures the percentage of ninth-grade students on-track to graduate in four years, is highly predictive of graduation rate (Allensworth and Easton [2007]), some principals may focus on this more as an early indicator. (See Section V of Appendix A for definition of on-track.) Direct observations of classrooms, which made Fund-supported principals' top five, were number six for other principals.
20. Fund-supported principals also used standardized tests to compare groups of students, a purpose which fewer other principals emphasized. Other principals instead use these data more for setting individual student achievement goals. Only slightly lower percentage of Fund-supported principals emphasized this use.
21. This is consistent with 2005 results in which no significant differences were found for LAUNCH or NLNS. In 2003, a small but statistically significant advantage was found for LAUNCH principals. compared to other new principals. Their gains were, on average, similar to those of veteran principals.

Chapter 4

22. The Fund also invested in the recruitment of talented new teachers, i.e., teachers who obtained certification through alternate routes. (CCSR has not studied this group.)
23. Stevens (2006).
24. See Bryk, Sebring, Kerbow, Rollow, and Easton (1998). Also see Smylie, Mayrowetz, Murphy, and Louis (2007).
25. Keller (2007).
26. In 2003, LAUNCH principals were found to have a slight advantage in value-added compared to other new principals. They did not show the small dip in learning gains characteristic of other new principals but instead were similar to veteran principals.

Appendix A: Further Description of Data and Analyses

I. Principal and Teacher Survey Response Rates

	2005	2007
Principal Survey		
Elementary	66%	60%
High School	56%	50%
Teacher Survey		
Elementary	60%	74%
High School	54%	62%

II. Variable Descriptions in Alphabetical Order

Concentration of poverty: We call our measure of socio-economic status "Concentration of Poverty." It is based on data from the 2000 U.S. Census about the census block group in which students lived. Students' home addresses were used to link each student to a particular block group within the city, which could then be linked to census data on the economic conditions of the students' neighborhood. Two indicators were reverse coded and combined to construct this variable: (1) log of the percentage of families above the poverty line, and (2) log of the percentage of men employed in the block group. The census data allow for a more accurate indicator of students' economic status than a simple indicator of whether the student qualifies for free or reduced-price lunch. The vast majority of students in CPS qualify for free or reduced-price lunch, and there is wide variation in the economic status of students who qualify as low income. Furthermore, by the time students reach high school age, proportionately more parents fail to apply for free or reduced-price lunch, and different schools treat this phenomenon differently.

Low income: This is a categorical variable that refers to the percentage of students in a school receiving free or reduced-price lunch.

Old for grade: Although some students may have started school late, most students who are "old for grade" have been retained at least once before this current year.

Principal experience: In our analyses, we control for the years a principal has been in his or her current position at his or her current school. This control was dichotomous based on whether a principal had been at his or her current school for at least three years or for less than three years. This information is available in CPS personnel records for all district schools except charter schools. For charter schools, if a school had existed for less than three years, we could safely supply this variable for that school. This is the case with many charter schools which opened fairly recently. Where available, we used survey data for older charters.

Though a principal's total years of experience as a principal would also be a good control for analyses, we did not use this for two reasons. First, it is not available in personnel data and therefore would only be existent for survey responders. Second, regardless of a principal's years of experience, we believe it takes principals at least three years in a particular school to begin to see the effects of new leadership.

Racial composition of school: Racial composition categories were based on the following distribution of students in schools:

85% African American = predominately African American
85% Latino = predominately Latino
85% African American and Latino = predominately minority
15% to 29% White and Asian = mixed race
30% or more White and Asian = integrated

School type: These are categories defined by CPS. Regular schools include general education and vocational schools. Achievement Academies are two-year secondary school programs for over-age students who have not met the promotion criteria to enter high school. The academies are a collaborative effort between CPS and Johns Hopkins University and are located in eight high schools.

Small school: A school is considered small if it is an elementary school with fewer than 350 students enrolled or if it is a high school with fewer than 600 students.

Teaching experience: Teaching experience was measured for principals and teachers. We ask principals how many total years they taught before becoming a principal. Answer categories were: none, 1 to 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years, and more than 20 years. Teachers were asked how many years they had been a teacher. Answer categories were: none, less than one year, 1 to 3 years, 4 to 5 years, 6 to 10 years, 11 to 15 years, and more than 15 years. In HLM analysis of essential supports, we controlled for teaching experience by omitting the none (or less than one year) category and collapsing the middle categories into 1 to 5 years, 6 to 15 years, and more than 15 years.

III. Essential Supports Analysis Details: Measures of How Teachers Perceive Their Principals and Their Schools

Leadership

Principal instructional leadership measures whether teachers view their principal as an instructional leader with respect to teaching and learning standards, communication of a clear vision for the school, and tracking academic progress.

Teacher influence measures the extent of teachers' involvement in school decision-making. It assesses teachers' influence on selecting instructional materials, setting school policy, planning in-service programs, allocating discretionary funds, and hiring professional staff.

Program coherence reflects the degree to which teachers feel the programs at their school are coordinated with each other and with the school's mission. Teachers are asked if instructional materials are consistent within and across grades, and if there is sustained attention to the quality of program implementation.

Teacher-principal trust indicates the extent to which teachers feel their principal respects and supports them. Teachers responded to questions about whether the principal looks out for their welfare, has confidence in their expertise, and if they respect the principal as an educator.

Professional Capacity

School commitment gauges the extent to which teachers feel loyal and committed to their school. Teachers report whether they look forward to working in the school, would rather work somewhere else, and would recommend the school to parents.

Reflective dialogue assesses how often teachers talk with one another about curriculum and instruction, the school's goals, and the best ways to help students learn and to manage classroom behavior.

Collective responsibility measures the strength of teachers' shared commitment to improve the whole school. Questions ask teachers how many colleagues feel responsible for students' academic and social development, set high standards for professional practice, and take responsibility for school improvement.

Teacher-teacher trust measures the extent to which teachers in school have open communication with and respect for each other. We ask, for example, whether teachers in the school respect other teachers who lead school improvement efforts and whether teachers trust and respect each other.

Quality professional development measures teachers' assessment of the degree to which professional development has influenced their teaching, helped them understand students better, and provided them with opportunities to work with colleagues and teachers from other schools.

Innovation captures the extent to which teachers feel they are continually learning and seeking new ideas, have a "can-do" attitude, and are encouraged to try new ideas in their teaching.

Parent and Community Partnerships

Parent involvement in school (elementary school only) measures parent participation and support for the school. Teachers report how often parents pick up report cards, attend teacher-parent conferences, attend school events, and volunteer to help in the classroom or raise funds for the school.

Teacher-parent interaction (a new measure for 2007) measures the degree to which teachers contact parents when there is some problem with their children or when their children have performed well.

Model Description

To be included in the analysis of essential supports, a school must have had at least 42 percent of its teachers respond to the teacher survey. The percentage of each group included in this analysis can be found in *Table 1.* All measures of the essential supports for this report are from the teacher survey.

A three level hierarchical linear model was used to compare the level of the essential supports in schools led by LAUNCH, NLNS, or UIC principals and other non-Fund principals. The identical model was used to compare schools with clusters of NBCTs to those without clusters and finally schools with teams to those without Fund leaders. Controls used at each level of these models are listed below.

Level 1: Measurement model in which a teacher's "true" score for a measure is obtained by taking into account the error of measurement for each individual item.

Level 2: Teacher characteristics—gender, race/ethnicity, teacher experience

Level 3: Principal and school characteristics—the school's average concentration of poverty, racial composition, whether the school is a charter or small school, principal experience*

** Principal experience was left out of the models used for clusters and team schools.*

IV. Value-Added Analysis Details

A two level hierarchical linear model was used to compare the value-added in schools led by LAUNCH, NLNS, or UIC principals and other non-Fund principals. The identical model was used to compare schools with teams to those without Fund-supported principals, assistant principals, or NBCTs. Elementary and high school models differed slightly due to the nature of the tests. Controls used at each level of these models are listed below.

Elementary Schools

The outcome here is the one-year gain in ISAT scores calculated by subtracting each student's 2006 ISAT score from his or her 2007 ISAT score.

Level 1: Student characteristics—gender, race/ethnicity, concentration of poverty, grade level

Level 2: School characteristics—concentration of poverty, racial composition, whether it was a charter or small school, principal experience*

** Only principal experience was left out of the models used for team schools.*

High Schools

The outcome here is 2007 ACT score for eleventh-graders. Since the anticipated gain from PLAN to ACT differs by PLAN score, the outcome is not the difference between PLAN and ACT scores as in elementary school. This is instead accomplished by predicting the ACT score for each student's PLAN score.

The ACT is a college entrance exam, which is part of the Prairie State Achievement Examination (PSAE) given to all eleventh-graders in CPS. The PSAE is the federal and state accountability exam for Illinois.

CPS students also take an ACT-produced test called EXPLORE in the fall of their ninth-grade year and another test called PLAN test at the beginning of their tenth-grade year and then again at the beginning of their eleventh-grade year. Ideally we could compute a ninth-grade gain score by subtracting the 2006 ninth-grade fall EXPLORE score from the 2007 tenth-grade fall PLAN score, and a tenth-grade gain by subtracting the 2006 fall tenth-grade PLAN from the fall 2007 eleventh-grade PLAN. However, these test scores from fall 2007 were not available at the time we did this analysis, so we were not able to calculate gain scores for students who were ninth- or tenth-graders in fall of 2006.

Level 1: Student characteristics—gender, race/ethnicity, concentration of poverty, PLAN score (fall 2006)

Level 2: School characteristics—concentration of poverty, racial composition, dichotomous variables for charter and small school, principal experience*

** Only principal experience was left out of the models used for team schools.*

V. On-Track Rate Analysis

The on-track outcome is dichotomous. Students are considered on-track to graduate if at the end of ninth grade they have at least five credits and not more than one semester F in a core course. Charter schools are not included in CPS grade data files. Therefore, they were not included in analysis of on-track rates.

Controls used in the two-level logistic hierarchical linear model are described below:

Level 1: Student characteristics—gender, race/ethnicity, old for grade, concentration of poverty, dichotomous variable indicating special education status, composite EXPLORE score from fall 2006.

Level 2: School characteristics—concentration of poverty, racial composition, dichotomous variables indicating charters and small schools, principal experience

Appendix B: Data-Driven Decision-Making and Roadblock Tables

TABLE B1

Average Number of Years as Principal of Current School

	n	Mean	Range
All Principals		**	
LAUNCH	46	2.76	0–8
NLNS	11	1.91	1–5
UIC	5	2.00	1–5
Fund-Supported Principals	*62*	*2.55*	*0–8*
Other	*147*	*5.95*	*0–35*

Source: 2007 CPS Personnel Records.
Note: Only principals who are in Table 13 and have personnel records available were included. Zero indicates less than a year of experience.

Significance tests between Fund-supported principals and other principals using t-test statistics: ** p<0.01 * p<0.05 ~ p<0.10

TABLE B2

Percentage of Elementary Fund and Other Principals Reporting Using Each Type of Data "To a Great Extent"

Question: "To what extent does each kind of data influence you and your leadership team in your efforts to promote curriculum and instructional efforts?"

	LAUNCH (49–55)	NLNS (14–16)	UIC (4)	Fund-Supported Principals (67–75)	Other (204–222)
Standardized test scores (i.e., ISAT, PSAE, EPAS)	**82% (45)**	**75% (12)**	**75% (3)**	**80% (60)**	**80% (175)**
Direct observations of classrooms (other than walkthroughs)	**76% (41)**	**81% (13)**	**75% (3**	**77% (57)**	**68% (150)**
Learning First benchmark assessments	**67% (36)**	**38% (6)**	**75% (3)**	**61% (45)**	**70% (153)**
Other formal assessments (e.g., Stanford Diagnostic, quarter tests)~	**60% (31)**	**69% (11)**	25% (1)	**60% (43)**	48% (104)
DIBELS	**63% (32)**	40% (6)	**75% (3)**	**59% (41)**	**59% (129)**
Student attendance	50% (27)	**44% (7)**	**75% (3)**	50% (37)	**56% (121)**
Rubric-based scoring of student work	50% (26)	38% (6)	**75% (3)**	49% (35)	43% (94)
Walkthroughs	48% (26)	40% (6)	50% (2)	47% (34)	41% (90)
CMSI benchmark assessments	48% (25)	31% (5)	**75% (3)**	46% (33)	52% (107)
Percentage of your graduates who qualify for high-performing high schools	31% (16)	**47% (7)**	50% (2)	36% (25)	36% (75)
Letter grades or GPAs	38% (20)	25% (4)	25% (1)	35% (25)	28% (61)
Disciplinary records	30% (16)	25% (4)	**75% (3)**	31% (23)	28% (62)
Teacher-made tests and other informal assessments	30% (16)	31% (5)	50% (2)	31% (23)	36% (79)
CCSR survey results for your school*	22% (11)	29% (4)	25% (1)	24% (16)	12% (25)

Source: CCSR 2007 principal survey.
Note: Top five influences for each group in **BOLD** print. Table arranged in order of "Fund-supported principals" responses.

Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.05 ~ p<0.10

TABLE B3

Percentage of High School Fund and Other Principals Reporting Using Each Type of Data "To a Great Extent"

Question: "To what extent does each kind of data influence you and your leadership team in your efforts to promote curriculum and instructional efforts?"

	LAUNCH (9–11)	NLNS (3–6)	UIC (3)	Fund-Supported Principals (16–20)	Other (33–43)
Standardized test scores (i.e., ISAT, PSAE, EPAS)	**82% (9)**	**50% (3)**	**100% (3)**	**75% (15)**	**72% (31)**
Direct observations of classrooms (other than walkthroughs)	**73% (8)**	33% (2)	**67% (2)**	**60% (12)**	56% (24)
Student attendance	**50% (5)**	**50% (3)**	**100% (3)**	**58% (11)**	**58% (25)**
On-track rate	27% (3)	**67% (4)**	**67% (2)**	**45% (9)**	**58% (23)**
College-going rate	40% (4)	25% (1)	**67% (2)**	**41% (7)**	**63% (22)**
Disciplinary records	27% (3)	**50% (3)**	33% (1)	35% (7)	30% (13)
Letter grades or GPAs	27% (3)	**50% (3)**	33% (1)	35% (7)	38% (15)
Graduation rate~	30% (3)	25% (1)	**67% (2)**	35% (6)	**59% (22)**
Enrollment in AP classes	**46% (5)**	20% (1)	0% (0)	32% (6)	42% (16)
Other formal assessments (e.g., Stanford Diagnostic, quarter tests)	27% (3)	33% (2)	33% (1)	30% (6)	41% (17)
Walkthroughs	**46% (5)**	17% (1)	0% (0)	30% (6)	33% (14)
Rubric-based scoring of student work	36% (4)	17% (1)	0% (0)	25% (5)	37% (16)
CPS Student Connection Survey	27% (3)	0% (0)	33% (1)	20% (4)	24% (9)
Percentage of your graduates who qualify for high-performing high schools	30% (3)	0% (0)	0% (0)	19% (3)	24% (8)
Teacher-made tests and other informal assessments~	27% (3)	0% (0)	0% (0)	15% (3)	36% (15)
CCSR survey results for your school	11% (1)	0% (0)	33% (1)	11% (2)	18% (6)

Source: CCSR 2007 principal survey.
Note: Top five influences for each group in **BOLD** print. Table arranged in order of "Fund-supported principals" responses.

Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.05 ~ p<0.10

TABLE B4

Percentage of Elementary Fund and Other Principals Reporting Using Standardized Test Scores "To a Great Extent" for Each Purpose

Question: "To what extent do you use standardized test results (i.e., ISAT, PSAE, EPAS) to do the following?"

	LAUNCH (51–52)	NLNS (15–17)	UIC (4)	Fund-Supported Principals (70–72)	Other (218–220)
Set schoolwide goals for student achievement	**79% (41)**	**75% (12)**	**75% (3)**	**78% (56)**	**77% (168)**
Examine trends in your school's performance over time	**69% (36)**	**88% (14)**	**75% (3)**	**74% (53)**	**74% (162)**
Set goals for individual student achievement	**56% (29)**	**38% (6)**	**50% (2)**	**51% (37)**	**58% (127)**
Program evaluation (i.e., relate the use of particular instructional programs/initiatives to student performance)~	**54% (28)**	31% (5)	25% (1)	**47% (34)**	**58% (128)**
Examine trends in your teachers' performance over time	**44% (23)**	**50% (8)**	**50% (2)**	**46% (33)**	**46% (101)**
Compare your school to other schools	37% (19)	31% (5)	**50% (2)**	37% (26)	30% (65)
Compare performance of different groups of students (i.e., race/ethnicity, gender, special education)	33% (17)	**38% (6)**	**50% (2)**	35% (25)	29% (64)
Teacher evaluation (i.e., relate teaching practices to student performance)	35% (18)	19% (3)	0% (0)	29% (21)	29% (63)
Compare grades and classrooms	33% (17)	20% (3)	0% (0)	29% (20)	25% (54)

Source: CCSR 2007 principal survey.
Note: Top five influences for each group in **BOLD** print. Table arranged in order of "Fund-supported principals" responses.

Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.05 ~ p<0.10

TABLE B5

Percentage of High School Fund and Other Principals Reporting Using Standardized Test Scores "To a Great Extent" for Each Purpose

Question: "To what extent do you use standardized test results (ISAT, PSAE, EPAS) to do the following?"

	LAUNCH (11)	NLNS (6)	UIC (3)	Fund-Supported Principals (20)	Other (38–41)
Set schoolwide goals for student achievement	**64% (7)**	**50% (3)**	**100% (3)**	**65% (13)**	**63% (26)**
Examine trends in your school's performance over time	**64% (7)**	**50% (3)**	**33% (1)**	**55% (11)**	**40% (16)**
Program evaluation (i.e., relate the use of particular instructional programs/initiatives to student performance)	**36% (4)**	**50% (3)**	**33% (1)**	**40% (8)**	**42% (16)**
Compare performance of different groups of students (i.e., race/ethnicity, gender, special education)	**27% (3)**	**50% (3)**	**33% (1)**	**35% (7)**	18% (7)
Compare your school to other schools	27% (3)	**50% (3)**	**33% (1)**	**35% (7)**	40% (16)
Examine trends in your teachers' performance over time	**36% (4)**	17% (1)	**33% (1)**	30% (6)	**28% (11)**
Set goals for individual student achievement	9% (1)	**50% (3)**	**67% (2)**	30% (6)	**39% (16)**
Compare grades and classrooms	9% (1)	17% (1)	**33% (1)**	15% (3)	15% (6)
Teacher evaluation (i.e., relate teaching practices to student performance)	9% (1)	17% (1)	33% (1)	15% (3)	7% (3)

Source: CCSR 2007 principal survey.
Note: Top five influences for each group in **BOLD** print. Table arranged in order of "Fund-supported principals" responses.

Difference between Fund-supported principals and other principals is not statistically significant using chi-square statistics.

TABLE B6

Percentage of Elementary Fund and Other Principals Rating Each Roadblock "A Serious Factor"

Question: "Below are several factors which could be considered "roadblocks" that prevent a school from improving. Please indicate the extent to which each may be a factor in preventing your school from improving:"

	LAUNCH (49–54)	NLNS (15–16)	UIC (4)	Fund-Supported Principals (69–74)	Other (213–222)
Difficulty removing poor teachers	**34% (18)**	**50% (8)**	0% (0)	**26% (26)**	**32% (71)**
Lack of time to evaluate teachers*	**31% (16)**	13% (2)	**25% (1)**	**26% (19)**	14% (30)
Parents apathetic or irresponsible about their children	**31% (16)**	**31% (5)**	0% (0)	**29% (21)**	**29% (63)**
Pressure to obtain external funds	**29% (15)**	13% (2)	0% (0)	**24% (17)**	19% (41)
Problem students (e.g., apathetic, hostile)	**25% (13)**	**25% (4)**	0% (0)	24% (17)	**29% (63)**
State or federal mandates (e.g., desegregation, special education, bilingual education)	**25% (13)**	**25% (4)**	0% (0)	23% (17)	23% (52)
Social problems in the school's community (e.g., poverty, drugs, gangs)~	23% (12)	**25% (4)**	0% (0)	22% (16)	**24% (74)**
Pressure to get test scores up quickly*	21% (11)	**44% (7)**	0% (0)	**25% (18)**	**38% (85)**
Faculty apathy and resistance to change	16% (8)	19% (3)	**25% (1)**	17% (12)	11% (24)
Negative stereotypes about this school's community	12% (6)	13% (2)	0% (0)	11% (8)	10% (22)
Difficulty recruiting and hiring the right teachers	10% (5)	**38% (6)**	0% (0)	15% (11)	11% (23)
Lack of teacher knowledge and skills	8% (4)	13% (2)	**25% (1)**	10% (7)	8% (18)
Teacher turnover	8% (4)	13% (2)	0% (0)	8% (6)	7% (15)
Pressure to constantly adopt new programs~	7% (4)	19% (3)	0% (0)	9% (7)	19% (41)
Lack of support from external organizations (e.g., universities, businesses, reform groups, educational consultants)	6% (3)	6% (1)	0% (0)	6% (4)	7% (15)
Lack of support from the school's community	6% (3)	13% (2)	0% (0)	7% (5)	9% (20)
Leaders within the faculty~	6% (3)	6% (1)	**25% (1)**	7% (5)	3% (6)
Mistrust between parents and teachers	6% (3)	0% (0)	0% (0)	4% (3)	6% (14)
Disagreements or lack of coordination among school partners	2% (1)	**25% (4)**	0% (0)	7% (5)	5% (11)
Racial or ethnic tensions in the school's community	0% (0)	0% (0)	0% (0)	0% (0)	3% (7)

Source: CCSR 2007 principal survey.
Note: Five most serious roadblocks for each group in **BOLD** print. Table arranged in order of "LAUNCH" responses.

Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.05 ~ p<0.10

TABLE B7

Percentage of High School Fund and Other Principals Rating Each Roadblock "A Serious Factor"

Question: "Below are several factors which could be considered 'roadblocks' that prevent a school from improving. Please indicate the extent to which each may be a factor in preventing your school from improving."

	LAUNCH (9–11)	NLNS (6)	UIC (3)	Fund-Supported Principals (18–20)	Other (42–43)
Difficulty removing poor teachers	**56% (5)**	**17% (1)**	**33% (1)**	**39% (7)**	**24% (10)**
Pressure to get test scores up quickly	**50% (5)**	**50% (3)**	**33% (1)**	**47% (9)**	**38% (16)**
Social problems in the school's community (e.g., poverty, drugs, gangs)	**50% (5)**	**50% (3)**	**33% (1)**	**47% (9)**	**33% (14)**
Difficulty recruiting and hiring the right teachers~	**40% (4)**	**17% (1)**	**33% (1)**	**32% (6)**	12% (5)
Pressure to constantly adopt new programs	**40% (4)**	**17% (1)**	**33% (1)**	**32% (6)**	14% (6)
Teacher turnover	**40% (4)**	0% (0)	0% (0)	21% (4)	9% (4)
Lack of time to evaluate teachers	30% (3)	**33% (2)**	0% (0)	26% (5)	17% (7)
State or federal mandates (e.g., desegregation, special education, bilingual education)*	30% (3)	**33% (2)**	0% (0)	26% (5)	7% (3)
Problem students (e.g., apathetic, hostile)	20% (2)	**17% (1)**	0% (0)	16% (3)	**26% (11)**
Negative stereotypes about this school's community	20% (2)	**17% (1)**	**33% (1)**	21% (4)	**21% (9)**
Faculty apathy and resistance to change	10% (1)	0% (0)	0% (0)	5% (1)	9% (4)
Lack of teacher knowledge and skills	10% (1)	**17% (1)**	0% (0)	11% (2)	10% (4)
Lack of support from the school's community	10% (1)	0% (0)	0% (0)	5% (1)	5% (2)
Mistrust between parents and teachers	10% (1)	0% (0)	0% (0)	5% (1)	0% (0)
Parents apathetic or irresponsible about their children	10% (1)	0% (0)	0% (0)	5% (1)	**21% (9)**
Pressure to obtain external funds	10% (1)	**17% (1)**	0% (0)	11% (2)	12% (5)
Lack of support from external organizations (e.g., universities, businesses, reform groups, educational consultants)	9% (1)	0% (0)	0% (0)	2% (1)	2% (1)
Disagreements or lack of coordination among school partners	0% (0)	0% (0)	**33% (1)**	5% (1)	2% (1)
Leaders within the faculty	0% (0)	**17% (1)**	0% (0)	5% (1)	2% (1)
Racial or ethnic tensions in the school's community	0% (0)	0% (0)	**33% (1)**	5% (1)	2% (1)

Source: CCSR 2007 principal survey.
Note: Five most serious roadblocks for each group in **BOLD** print. Table arranged in order of "LAUNCH" responses.

Significance tests between Fund-supported principals and other principals using chi-square statistics: ** p<0.01 * p<0.0 5 ~ p<0.10

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