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ABSTRACT

This study examined whether the Chicago Annenberg Challenge promoted improvement in schools it supported and in student achievement and other outcomes; factors that might explain improvement or lack thereof among Annenberg schools; and what could be learned from the Challenge's experiences. It highlighted the period between 1996-1997 through 2000-2001. Results suggest that among the schools it supported, the Challenge had little impact on school improvement and student outcomes, with no statistically significant differences between Annenberg and non-Annenberg schools in rates of achievement gain, classroom behavior, student self-efficacy, and social competence. The study also examined trends in school improvement among a small group of "Breakthrough Schools," which received special financial and professional support from the Challenge between 1990-2001, a time during which the Challenge began withdrawing funds from the other Annenberg schools. Overall, Breakthrough schools began to develop in ways that distinguished them from other Annenberg schools and sustained or strengthened aspects of teacher professional community, school leadership, and relational trust while other Annenberg schools did not. Factors distinguishing strong and weak schools included cultivation of strong, distributive leadership and use of an array of complementary, reinforcing strategies. Appendixes contain research methodology and results. (Contains 59 figures, 27 tables, and 131 endnotes.) (SM)

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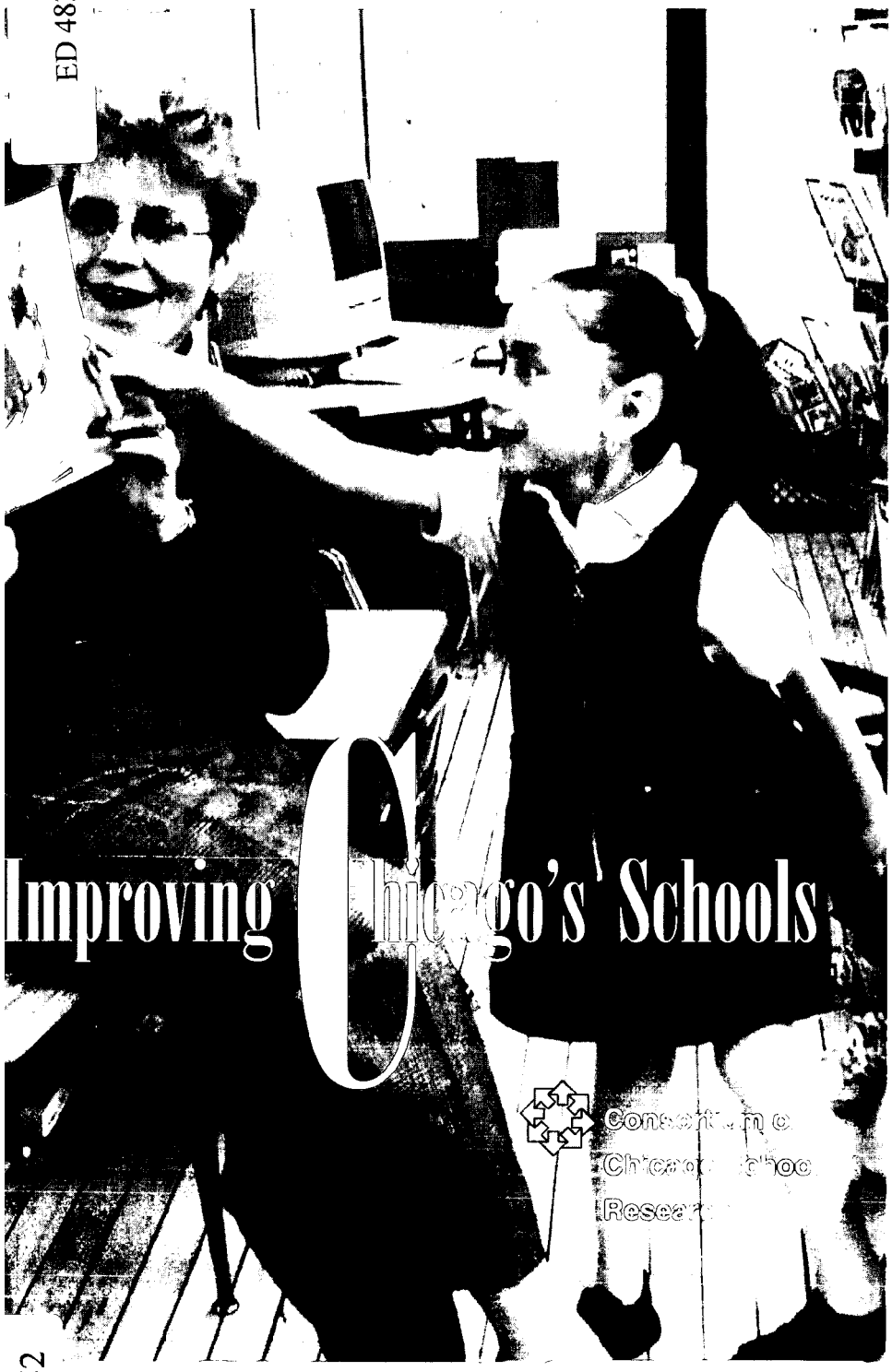

The Chicago Annenberg Challenge: Successes, Failures, and Lessons for the Future

Final Technical Report of the Chicago Annenberg Research Project

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August 2003

UD 035 952

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The findings contained in this report were presented for review to the Consortium Steering Committee. Drafts of the report were also read by members of the Chicago Annenberg Challenge Evaluation Advisory Committee and by a group of reviewers that included Victoria Chou (University of Illinois at Chicago and Board Member of the Chicago Annenberg Challenge), John Q. Easton (Consortium on Chicago School Research), Paul Goren (Spencer Foundation), G. Alfred Hess (Northwestern University), Peter Martinez (University of Illinois at Chicago and formerly of the MacArthur Foundation), Fred Newmann, and Penny Bender Sebring (Consortium on Chicago School Research). We are grateful for the comments and suggestions these persons provided and we assume all responsibility for omissions and errors contained in the report. Our findings and conclusions do not necessarily reflect the views of the Chicago Annenberg Challenge, the Consortium on Chicago School Research and the members of its Steering Committee, or our reviewers.

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August 2003

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Executive Summary

This final technical report of the Chicago Annenberg Research Project addresses four central questions: (a) Did the Chicago Annenberg Challenge promote improvement of the schools that it supported? (b) Among those schools, did it also promote improvement in student academic achievement and other outcomes? (c) What factors might explain improvement or lack thereof among Annenberg schools? and (d) What can we learn from the Challenge's experiences to promote school improvement in the future? In answer to these questions, this report provides a macro view of the Challenge's success in promoting school improvement and student learning. Additionally, it looks closely at several Annenberg schools to understand what makes local school improvement successful.

This report focuses on the period between the 1996 to 1997 and 2000 to 2001 school years, the five full years during which the Challenge supported local school improvement. In all, the Challenge supported about 210 high schools and elementary schools, but because approximately 90 percent of these were elementary schools, this report focuses only on them.

The Challenge's "bottom line" was improving student achievement and other social and psychological outcomes. Our research indicates that student outcomes in Annenberg schools were much like those in demographically similar non-Annenberg schools and across the Chicago school system as a whole, indicating that among the schools it supported, the Challenge had little impact on student outcomes.

- Analyses of ITBS scores indicate that between 1996 and 2001, student academic achievement improved across Annenberg schools as it did across the Chicago Public School system as a whole. At the same time, rates of gain in student achievement among Annenberg schools did not improve markedly. There were no statistically significant differences between Annenberg schools and non-Annenberg schools in rates of achievement gain.

- Across Annenberg schools, student academic engagement was only slightly greater in 2001 than before the Challenge. Classroom behavior, students' sense of self-efficacy, and social competence were weaker in 2001 than before the Challenge. Like student academic achievement, there were no statistically significant differences in these outcomes between Annenberg schools and non-Annenberg schools.

Although Annenberg schools did not achieve an overall effect on student outcomes, we examined whether the Challenge promoted improvements in schools that might lead to subsequent improvement in student outcomes. Using the Model of Essential Supports for Student Learning as a framework for analysis, we assessed seven areas of school improvement: (a) quality of classroom instruction; (b) student learning climate; (c) school leadership; (d) teacher professional community; (e) parent and community support; (f) relational trust; and (g) instructional program coherence.

Findings from large-scale survey analyses, longitudinal field research, and student achievement test score analyses reveal that while the Challenge contributed to the improvement of a number of Annenberg schools, there is little evidence of an overall Annenberg school improvement "effect." Any improvements were much like those occurring in demographically similar non-Annenberg schools.

- The overall quality of instruction improved somewhat among Annenberg schools, particularly teachers' use of interactive teaching strategies, the intellectual demand of instruction, and teachers' emphasis on writing. Some aspects of student learning climate also improved, particularly school safety and classroom personalism. Some small improvements occurred in school leadership, teacher professional community, parent involvement in schools, and relational trust. At the same time, other areas failed to improve and some weakened. These included student peer support for academic learning, inclusive school leadership, and teacher commitment to school.

- Initial improvement that occurred by 1999 among Annenberg schools in a number of areas of school organizational capacity—school leadership, teacher professional community and professional development, parent and community support, relational trust, and instruction program coherence disappeared by the end of the Challenge in 2001. Although some measures of organizational capacity were slightly stronger or weaker in 2001 than at the beginning of the Challenge, there was little net change. In all, the organizational capacity of Annenberg schools at the end of the Challenge looked much like it did at the beginning.

Factors that might explain the lack of an overall Annenberg effect on school improvement and student outcomes include (a) various shortcomings in the design and implementation of the Challenge, including broad goals and vague strategies, too few resources for too many schools, and weak levers for change; (b) External Partners' lack of capacity; (c) schools' lack of capacity to "do Annenberg," including weaknesses in human, social, and material resources; (d) schools' lack of commitment to the Challenge; (e) sources of disruption and persistence within schools; and (f) countervailing forces outside of Annenberg schools, notably the school system's high-stakes accountability policies. The loss of initial improvement among Annenberg schools may have resulted from both the decline in Annenberg financial and professional support after 1999, and intensified CPS accountability policies.

In addition to trends in school improvement across all Annenberg schools, this report examined trends in school improvement among a small group of "Breakthrough Schools." These Breakthrough Schools received special financial and professional support from the Challenge between 1999 and 2001. At the same time, the Challenge began withdrawing funding from the remainder of Annenberg schools.

The findings indicate that Breakthrough Schools began to develop in ways that distinguished them from other Annenberg schools. Although there were no statistically significant differences between Breakthrough Schools and other Annenberg schools in 1999, the year they were selected by the Challenge, Breakthrough Schools sustained or strengthened aspects of teacher professional community, school leadership, and relational trust while other Annenberg schools

did not. This suggests that these schools may have built a stronger foundation for subsequent development of instruction and student learning climate, and this, in turn, may promote future improvement in student outcomes.

Factors that might explain the relative success of Breakthrough Schools include (a) greater initial capacity for development, coupled with (b) different and sustained resources, and perhaps (c) a motivational boost from their selection.

The fourth component of our research helped us to better understand what factors influenced successes and failures in Annenberg schools. We examined the development of 12 Annenberg schools over a five-year period and studied the relationship of their development to the improvement activities in which they engaged. Four factors emerged from this study that distinguished strong schools and schools that improved from those that were weak and those that did not improve. Strong schools or schools that improved focused on improving multiple, mutually-reinforcing aspects of school organization and practice (e.g., classroom instruction and aspects of school leadership and professional community that might support instructional improvement) rather than a single aspect of school organization or practice (e.g., instructional improvement alone). They used an array of complementary, reinforcing strategies (e.g., professional development with incentives and accountability) rather than only one (e.g., accountability or professional development alone). Schools that were strong or that improved were generally more effective at searching for, securing, and taking full advantage of external resources. However, what distinguished these schools from nonimproving schools was the ability to secure resources aligned with a particular development agenda and to employ these resources in an efficient and strategic manner. Finally, schools that were strong or that improved distinguished themselves from weak schools and nonimproving schools by the cultivation of strong, distributive leadership. Teacher leaders make substantial contributions to school improvement, but this analysis highlights the "make-or-break" role of the principal, even when people in different roles join principals in "leadership work."

This report concludes with several lessons drawn from the experience of the Chicago Annenberg Challenge for promoting future large-scale school improvement. First, while it may be important to encourage local pluralism and self-determinism in developing, adopting, and implementing initiatives to improve schools, it may be equally important to provide guidance for local initiatives in the form of well-researched and well-thought out maps of change. Second, it may be more effective to concentrate greater amounts of resources on a relatively small number of schools that are selected in part for their capacity to implement the particular reform at hand. This report argues it is less effective to distribute relatively small amounts of resources among a very large number of schools that have been selected with less discrimination. Third, adequate and sustained financial support for school improvement is essential, but as important is how that money is spent. Money appears to be a necessary but insufficient resource to promote and support school improvement. Also important are intellectual, social, and political resources that build upon and extend a school's existing resources. Resources should be aligned with coherent goals and plans for school improvement. Fourth, constructive interaction with and engagement of the school system seems to be an important ingredient for supporting local school improvement. Conflicts and contradictions among reform initiatives and system policies pose implementation problems at the school and classroom levels. Finally, school improvement is a difficult and complex task that requires hard and sustained work over long periods of time. While it may be foolish to spend too much time and too many resources on bad reform ideas, it is also foolish to give up prematurely on potentially effective ones.

Part One: Introduction

In 1995, the Chicago Annenberg Challenge launched a six-year, large-scale initiative to improve Chicago's public schools. It set out a broad vision for change, calling for the "enhancement of learning for all students through dramatically improved classroom practice and strengthened community relationships."[1] The Challenge funded networks of schools and External Partners to plan, develop, and implement activities to improve local schools and student learning. At its peak, it supported improvement activities in about 210 schools in the Chicago public school system. These focused on many different areas of school organization and practice, including curriculum and instruction, student learning climate and social services, teacher and leadership development, and the involvement of parents and the community in schools and student learning.

Overview

This final technical report of the Chicago Annenberg Research Project describes the Chicago Annenberg Challenge and the broader context of Chicago school reform within which it was established and operated. It documents changes among participating Annenberg schools from 1996 to 1997 through 2000 to 2001, the five full school years the Challenge supported local school improvement activity. It also presents trends among Annenberg schools in academic achievement and other student outcomes during the same period. The report analyzes the strengths and weaknesses of the Challenge as a strategy for promoting large-scale local school improvement and identifies a number of factors that may have affected what it was able to accomplish. Finally, drawing on the experiences of the Chicago Challenge, it discusses several lessons about how to promote urban school improvement in the

[1] Hallett, Chapman, and Ayers (1995). See also Sconzert, Shipps, and Smylie (1998).

future. This report follows and extends two previous technical reports, *Getting Started: A First Look at Chicago Annenberg Schools and Networks* and *Development of Chicago Annenberg Schools, 1996–1999.*[2]

This report addresses four central questions: (a) Did the Chicago Annenberg Challenge promote improvement of the schools it supported? (b) Among those schools, did it also promote improvement in student achievement and nonacademic outcomes? (c) What factors might explain improvement or the lack thereof among Annenberg schools? and (d) What can we learn from the Challenge's experience to promote school improvement in the future? In the process of answering these questions, this report provides a general assessment of the overall success of the Chicago Challenge in promoting school improvement and student learning.

This report focuses primarily on the Challenge as a whole and on the large group of schools it supported. The vast majority of these—about 90 percent—were elementary schools. Because so few high schools participated in the Challenge, and because of the unevenness of data available on them, we only discuss elementary schools here. We draw upon citywide survey and student achievement data to identify trends in school change and student outcomes across Annenberg schools. As described in our discussion of research methodology, a significant part of the Chicago Annenberg Research Project was longitudinal field research. We draw on this field research to illustrate broad trends across Annenberg schools in survey data. Although much can be learned about large-scale school improvement from examining Annenberg schools as a whole, much can also be learned by looking at the experiences of individual schools. So, this report contains a section that draws on the field research to examine closely differences between improving and nonimproving schools and to understand in-depth what helps make local school improvement successful.

Overall, this report presents a story of a particular large-scale, decentralized approach to educational reform. It is a complex story from which we can draw important lessons about how to make reform more efficient and effective.

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[2] Smylie et al. (1998) and Wenzel et al. (2001). The Challenge made its first grants to networks and External Partners in December 1995. Winter and spring of 1996 were used primarily for planning and development. For most funded networks, implementation of development activities did not begin in earnest until the fall of the 1996–97 school year.

The Chicago Annenberg Challenge

The Chicago Annenberg Challenge was established in January 1995 with a $49.2 million grant from the Annenberg Foundation.[3] It was one of six such projects that received funding that year or the year before. Other Challenges were established in New York, Philadelphia, Los Angeles, and the San Francisco Bay area. A national network of rural schools also received a grant. Since 1995, additional projects were begun in other cities. As a condition of funding, all projects were required to raise a two-to-one match of additional money or in-kind contributions. In addition, each had to commission and support its own local evaluation. The Consortium on Chicago School Research conducted the Chicago study referred to as the Chicago Annenberg Research Project.

The Chicago Challenge grew out of the city's 1988 school decentralization reform, which shifted substantial authority for local school governance from the Chicago Public Schools (CPS) central administration to local school communities. The Challenge was based on the premise that taking reform beyond school governance meant allowing teachers, parents, and communities to rethink and restructure public schools. The Challenge reflected a particular view of democratic localism and community organizing that placed great faith in the ability of local schools, in partnership with parents and their communities, to define their own problems, challenge their own assumptions, identify their own goals for improvement, and develop their own strategies to achieve them. This was very different from "old reform" that prescribed goals and strategies and attempted to improve schools from the "top down." The Challenge eschewed establishing common goals and designating particular programs or strategies to achieve them. It followed the principles of the national Annenberg Challenge, a group associated with the Annenberg Institute that coordinated, monitored, and supported the work of the different local Challenges. The Annenberg Institute described these principles in 1998 as follows:

> An abiding tenet of the Annenberg Challenge since its inception, one that distinguishes it from other major school reform initiatives, is its embrace of pluralism. Believing that there is no magic bullet, no single panacea, for fixing what ails our nation's most troubled schools, the Challenge has eschewed privileging one reform strategy over another. Rather, like all pluralist efforts, the Challenge accommodates an array of theories, in this case about how change occurs in schools and in the systems of which they are a part. And

[3] For a more detailed description of the establishment and early organizational history of the Challenge, see Shipps and Sconzert with Swyers (1999).

> like all pluralist efforts, its constituent elements are characterized by both similarities and differences.[4]

Consistent with these principles, the Chicago Challenge was organized and operated much like a foundation that provided financial support to a large number of locally defined and developed improvement initiatives. In addition to money, the Challenge sought to promote local school improvement by connecting grant recipients to schools with similar problems and interests and to External Partners in networks of mutual support and assistance. Although the Challenge provided school leaders and External Partners some guidance for developing their funding proposals and hosted some professional development and workshop activities, it believed that the primary source of support for local improvement activity would come from the relationships among the schools and Partners that worked together. It did not develop a strong central program of technical assistance.

Goals of the Challenge

The goals of the Chicago Challenge were broad and diffuse and evolved over the course of the initiative. The proposal that brought the 1995 grant from the Annenberg Foundation laid out the overall goal of the Chicago Challenge this way:

> The goal of the Annenberg Challenge in Chicago is to increase student learning and achievement in Chicago schools. The Challenge will be the catalyst for a dramatic increase in [the] renewal of active and effective instruction, classroom change, and school reorganization at a significant number of schools.

The proposal laid out a number of outcomes that would be achieved. It claimed that participating schools would be "dramatically restructured" with respect to the size of student enrollment, time for student learning, and teacher professional development. Teachers would become leaders in developing curricular and instructional innovation. Local School Councils (LSCs), the school-level parent and community-based governing bodies established through the 1988 reform, would grow in their knowledge of effective practices. As a result, student academic achievement would improve and students' social and emotional development would be enhanced. Overall, the Challenge would further energize the 1988 reform movement in Chicago.

Initially, the Challenge sought to focus local school improvement activity by encouraging its grantees to address several basic problems of school organization. "Time, size, and isolation" were seen as impediments to improving teaching and

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[4] Annenberg Institute for School Reform (1998).

student learning. These organizational problems are discussed below. Midway through its work (at the same time the school system was drawing attention to student academic achievement and performance on standardized tests), the Challenge reasserted its initial goals of improving instruction and student learning. It also encouraged "whole school change," that is, schoolwide improvement rather than improvement aimed at only individuals or small groups within schools.

In addition, the Chicago Challenge sought to influence the course of school reform in the city. This goal was promoted by the national Annenberg Challenge across all the local Challenges and was embraced by local organizers of the Chicago Challenge, most of whom were school reform advocates and community organizers who had been involved with the development of the 1988 school decentralization reform.

Strategy for Promoting School Improvement

The Challenge intended to build upon Chicago's 1988 decentralization reform and extend the changes that were achieved in school-level governance to other areas of school improvement and student learning. Its primary strategy was to create networks of schools with common interests and needs and to link them to individuals and organizations that would serve as External Partners. This strategy followed a logic that schools would find more direction and support for improvement if they worked together and with an External Partner than if they worked alone. Partners were to perform a number of different functions. They were to serve as fiduciary agents of Annenberg grants. They were to bring human, material, intellectual, and occasionally political resources to support local school improvement. They were to create focus and sustain imperative to develop local leadership and help schools in their networks support each other. Partners were also encouraged by the Challenge to bring additional financial resources to local school improvement efforts. Initially, the Challenge saw networks as the main agents for local school improvement. Over time, as networks struggled to develop, External Partners became more and more central to the Challenge's strategy.[5]

As noted above, the Chicago Challenge did not articulate specific goals for individual school development, nor did it specify any particular activities or processes to follow. Rather, it believed that educators, parents, and community members could and should identify their own ways to solve local problems and improve their schools. The Challenge initially encouraged schools to focus their efforts on addressing three basic problems of school organization that were seen as obstacles to

[5] For more information about Annenberg External Partners and their work, see Newmann and Sconzert (2000) and Sconzert, Wenzel, and Smylie (2003).

improvement: (a) the lack of time for effective teaching, student learning, and teacher professional development; (b) the large size of school enrollments and instructional groups hindering the development of personalized, supportive adult-student relationships; and (c) schools' isolation from parents and communities, which reduced their responsiveness to local needs and their accountability to their most immediate constituents. Isolation was later extended to include teachers' isolation from one another, which could limit opportunities for teacher learning and development, innovation, and professional accountability.

In making its first network grants, the Challenge encouraged schools to address one or more of these organizational problems. Thereafter, it encouraged schools and External Partners to focus more specifically on teaching and student academic learning, teacher professional development, and whole school change.[6] Schools and External Partners that received funding were asked to demonstrate how their Annenberg-supported activities might lead to improvement in student learning. Later, the Challenge accepted grant applications by invitation only and did not renew the funding of several particularly weak networks. In its last two years, the Challenge concentrated a substantial amount of its remaining resources on a group of selected "Breakthrough Schools." The Breakthrough School initiative is described later in this section.

Breadth and Depth of Support

The Chicago Challenge made two types of grants. It distributed small amounts of money in one-year planning grants to schools and External Partners to develop networks and school improvement plans. Additionally, schools and Partners could apply for implementation grants that provided larger sums of money to support school improvement activity. Implementation grants usually supported several years of activity and could be renewed. Due to the large number of schools that received implementation grants, and because of their amount relative to planning grants, this research project focused only on schools that were members of networks receiving implementation grants.

Beginning in 1995, the Challenge made implementation grants to 45 External Partners and their networks of schools. The size of networks ranged from three to 15 schools. The average network consisted of four to five schools. Through the networks, the Challenge funded a large number of elementary, middle, and high

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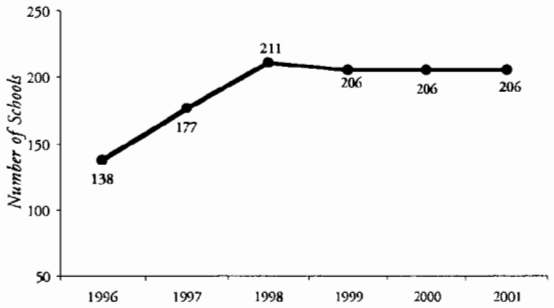
[6] These developments are examined in more detail in other reports of the Chicago Annenberg Research Project. See Newmann and Sconzert (2000); Shipps and Sconzert with Swyers (1999); and Smylie et al. (1998).

schools—as many as 211, or about 40 percent of all schools in the Chicago public school system. Approximately 90 percent were elementary schools. The Challenge awarded most of its implementation grants in two major waves. Thirty-four networks received initial funding at the end of 1995; the remaining networks first received funding in 1997.[7] The total number of schools receiving funds rose from 138 in 1996 to 211 in 1998. From 1999 through 2001, the last year of school and network funding, the Challenge supported about 206 schools (see Figure 1).

Figure 1. Number of Schools in Chicago Annenberg Implementation Networks, 1996 to 2001



Overall, Annenberg schools resembled schools across the system. As a group, those schools that received grants in the first wave of funding differed somewhat from the system as a whole in that their enrollments were slightly larger and had somewhat larger proportions of low-income and low-achieving students. Also, a slightly larger proportion of Annenberg schools than schools citywide had enrollments that were more than 85 percent African-American or more than 85 percent African-American and Latino. By the 1998–99 school year, as a result of the inclusion of schools funded in the second wave, these differences all but disappeared. The average enrollment size, level of academic achievement, racial and ethnic composition, and percentage of low-income students (those eligible for federal free and reduced-price lunch programs) in Annenberg elementary schools were virtually identical to the system as a whole (see Table 1).[8]

[7] From the Chicago Challenge's directories of grants and project records.
[8] We present school characteristics for the 1998–99 school year because the networks and schools funded at that time remained the Challenge's core grantees through 2001.

Table 1. Characteristics of Chicago Annenberg Elementary Schools and Elementary Schools Citywide, 1998–1999

	ANNENBERG SCHOOLS	SCHOOLS CITYWIDE
Average student enrollment	696	706
Low income	85%	85%
English language learner	18%	18%
Racial/ethnic composition:		
African-American	53%	54%
Latino	33%	34%
White	10%	9%
Asian/Pacific Islander	3%	4%
Native American	<1%	<1%
1993 Eighth grade graduates who:		
Graduated from CPS high school	40%	40%
Dropped out	35%	36%
Left CPS	25%	24%
Students in grades three through eight scoring at or above national norms on the ITBS:		
Reading	36%	35%
Mathematics	43%	42%

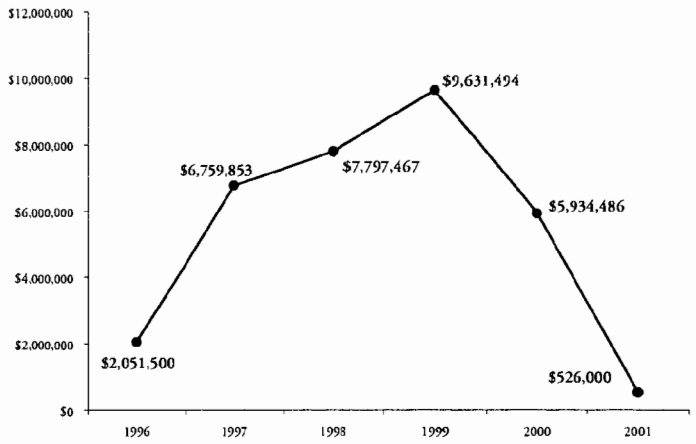
The Challenge supported relationships between schools and a large and diverse group of External Partners. Of the 45 External Partners working with Annenberg schools, about 35 percent were Chicago-area colleges and universities; 23 percent were arts and cultural institutions; and 28 percent were education reform and education services organizations. The remaining 14 percent of the Challenge's External Partners were neighborhood and community-based organizations. Almost two-thirds of all External Partners had some experience working with schools on long-term improvement projects, but one-third had no such experience. The names of Chicago Annenberg External Partners and the numbers of schools in their networks are listed in Appendix A.

Annenberg grants supported a wide range of school improvement activity. About 55 percent of the networks focused primarily on improving curriculum and instruction. Sixteen percent worked to improve student learning climate and social services for students and families. Another 13 percent were concerned primarily with developing parent and community support. The remaining 16 percent of Annenberg networks adopted more comprehensive foci to improve a number of areas concurrently, including curriculum and instruction, teacher professional community, school leadership, student learning climate, and parent and community support.

Within these general categories were a number of specific initiatives such as parent education programs, literacy programs, integration of arts and technology into the curriculum, health/science education, creating small schools, middle school restructuring, principal and teacher leadership development, and strengthening school-community ties.

Figure 2 shows the total amount of financial support provided by the Challenge through implementation grants.

Figure 2. Total amount of Annenberg Funds to Support School Improvement through Implementation Grants, 1996 to 2001



As indicated in the figure, the total amount of funding grew considerably between 1995 and 1999. This growth was associated not only with an increase in the number of schools that the Challenge supported, but also with an increase in the average amount of funding per school. In 1999, at its peak, the Challenge distributed $9.6 million to support local school improvement activities. Between 1999 and 2000, however, the total amount of money distributed through implementation grants was reduced by almost 40 percent. By 2001, it was reduced further to less than one-tenth of the amount provided in 2000. These reductions in total funding occurred even as the Challenge continued to support more than 200 schools, albeit at rapidly diminishing levels.

To get some sense of the implications of this decline in total funding, it is instructive to examine levels of average per school funding. Of course, different networks received different amounts of money and individual schools received varying amounts of money within and across their networks. Moreover, it is difficult without detailed analyses of network budgets to determine how much money was used by External Partners to cover their own costs, to purchase goods and services for

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schools, or to give directly to schools. Initial budget requirements set by the Challenge limited Partners to spend only 10 percent of any total grant to cover their own expenses. Later, however, the Challenge recognized that some Partners required more money to be effective and it altered this requirement to permit larger percentages of grants to be used by partners to cover their own expenses.[9]

Keeping this in mind, a rough measure of average annual per school funding was calculated based on the total amount of implementation grants awarded and the total number of schools within networks that received those grants. As shown in Figure 3, the average funding per school grew between 1996 and 1999 from about $15,000 to $47,000. Afterwards, this amount dropped considerably; from about $47,000 in 1999, to $29,000 in 2000, to about $2,600 in 2001, leaving schools and Partners on average with almost no financial support.

Even at its highest level, the average amount of per school funding made up only a small percentage of a typical elementary school's budget. In 1999, $47,000 represented about 1.2 percent of the annual operating budgets of the elementary schools we studied in our field research.[10] This percentage does not take into account other grants these schools might have obtained, in which case the Annenberg proportion of the budget would have been even smaller. To look at it another way, the funds provided by the Challenge in 1999—the peak year of network funding—to support an average size network of five schools amounted, in practical terms, to about enough to provide salaries, benefits, and support to two professional staff members.

Figure 3. Average Annenberg Funding Per School, 1996 to 2001

[9] Newmann and Sconzert (2000).
[10] Among Annenberg schools, the average annual budget was approximately $3,810,000; see Newmann and Sconzert (2000).

In addition to funding, the Challenge provided different forms of professional support to its schools and External Partners. In 1997, it sponsored workshops to help schools and Partners develop stronger school improvement plans and proposals for Challenge funding. Some schools and Partners received direct coaching on their program and proposal development. The Challenge also held workshops that year on the themes of time, size, and isolation, and on its vision of successful school improvement. External Partners from a few successful networks served as trainers and facilitators at these workshops. Also in 1997, in an effort to promote communication among schools and Partners, the Challenge printed the first of several directories listing its implementation networks and their member schools and External Partners. The directories also contained descriptions of the networks' primary activities.

Later on, the Challenge sponsored another strand of workshops to provide networks with opportunities to share ideas and engage in joint problem solving. These workshops were also designed to bolster commitment to local improvement efforts. In addition, it sponsored presentations by outside speakers, some of whom were national figures in school reform. And finally, the Challenge organized fairs for schools and External Partners to display their work and celebrate their accomplishments.

Providing these and other support activities was primarily the responsibility of one member of the Challenge staff, the Program Director. A Grants Manager and the Challenge's Executive Director joined the Program Director in this effort. Both the Program Director and the Grants Manager had some, but not extensive, experience in school development. The Executive Director was hired from the local foundation community. His primary experience had been in grant making and community development.[11]

Breakthrough Schools

In 1999, the Challenge identified 18 schools to receive sustained funding during its last two years to further promote their improvement and encourage them to serve as models and sources of support to other schools. The Challenge's objective was to "[deepen] its work with schools that have demonstrated a readiness for reform." The

[11] The entire Challenge staff consisted of an Executive Director who was hired in October 1995; an Office Administrator, who was hired in spring 1996; and a Program Director, Grants Manager, and Financial Officer, each of whom was hired in summer 1996. Between April and December 1997, the staff expanded to include a Director of Development, whose responsibility it was to help raise matching funds; a Communications Director and Assistant, who were to develop communication strategies and work with the local media; a Clerical Assistant, and a Data Manager. All told, relatively few staff resources were dedicated to provide professional support to schools and External Partners.

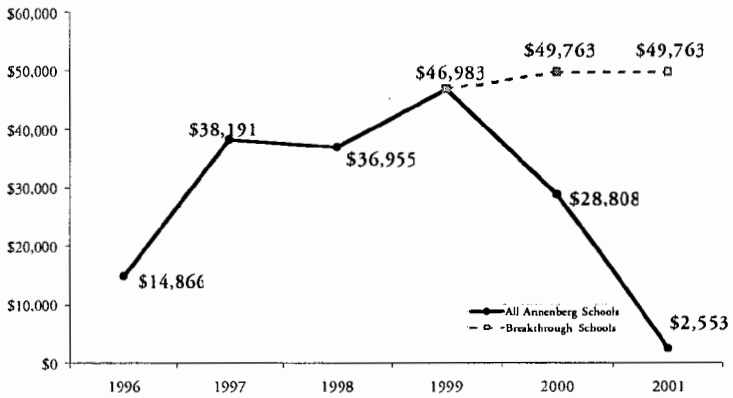
Challenge staff nominated schools for Breakthrough status relying on network progress reports, school visits, and records of school participation in Challenge activities. The Chicago School Reform Collaborative and the Donors Forum Education Group provided additional information.[12] Among their specific criteria was that schools be models of comprehensive, focused reform and be able to show evidence of gains in student achievement. Schools also had to be examples of strong teacher professional learning communities and strong school leadership. Moreover, they had to have had a strong record of participation in Challenge-sponsored activities.

To become Breakthrough Schools, nominated schools had to make written requests to the Challenge. In their requests, schools had to indicate how they met the selection criteria and outline plans to deepen and extend their improvement efforts. Most schools proposed to use resources from the Challenge to deepen their commitment to teacher professional development, curriculum development, and student social support and learning climate. Breakthrough Schools were selected by Challenge staff in December 1999 and announced to the public in February 2000.

As a group, Breakthrough Schools were similar to other Annenberg schools in size, student achievement, and demographic characteristics; however, they received substantially more funding during the Challenge's last two years. While other Annenberg schools' average funding dropped precipitously during this period to almost nothing, Breakthrough Schools were awarded nearly $100,000 or approximately $50,000 a year to support improvement activity (see Figure 4). It is important to note that Breakthrough funding went directly to the schools, not to the schools through their External Partners. As such, Breakthrough Schools had greater discretion over a somewhat larger sum of money than other Annenberg schools.

[12] Chicago Annenberg Challenge (1999).

Figure 4. Average Annenberg Funding per School, Breakthrough and All Annenberg Schools, 1996 to 2001



In addition to two more years of sustained funding, Breakthrough Schools received ongoing professional support from the Challenge. For example, in February 2000, the Challenge organized a workshop for Breakthrough School principals on how to read and interpret individual school reports of teacher and student survey data prepared by the Consortium to assist with school improvement planning (these surveys are described later in this part of the report). Another workshop involved teaching faculty how to assess their classroom assignments in terms of the intellectual demands those assignments make on students. Other workshops aimed to help Breakthrough Schools write better grant proposals to support future improvement activities and communicate their accomplishments to the media and the larger community. Overall, by the end of the Challenge, the differences in funding and professional support provided to Breakthrough Schools stood in stark contrast to the funding and support provided to the other Annenberg schools.

Relationship of the Challenge to the Chicago School System

Recall that the Chicago Challenge was established to work "along side" of the Chicago public school system. Although it was designed to support local school improvement within the system and influence the direction of Chicago's reform policy, it was never intended to be part of the system itself. Therefore, to understand the Challenge, it is important to understand Chicago's reform agenda. Figure 5 juxtaposes the Challenge's development with that of key school reform initiatives

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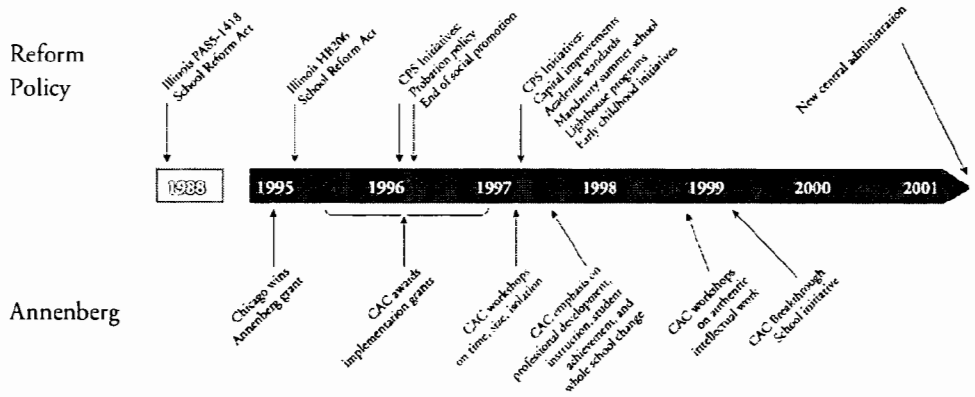
developed by CPS and the Illinois General Assembly.[13] This figure is not meant to be all-encompassing, only to depict key events that describe each.

The Chicago Challenge was designed according to many of the principles of democratic localism and grassroots action that defined Chicago's 1988 decentralization reform (Illinois PA85-1418 School Reform Act). It sought to extend the work of what is considered Phase I of Chicago school reform from governance to other areas of school improvement. It is important to note that when the Challenge was designed, it was assumed that the then current central administration would be in place for the foreseeable future and that decentralization and local school governance would be the foundation for school reform for some time to come.

Six months after the Challenge was established, everything changed. The Illinois legislature ushered in Phase II of reform when it passed an amendment to the 1988 school reform bill, the Illinois HB206 School Reform Act. This amendment restructured the CPS central administration around a corporate-style management team that included a Chief Executive Officer in place of the superintendent and a five-member Reform Board of Trustees appointed by the Mayor. The amendment established greater accountability within the system by clarifying and extending the authority of the CEO to intervene in nonimproving schools.

[13] For more detail on school reform in Chicago, see Bryk et al. (1998a); Hess (1991, 1993); and Shipps, Kahne, and Smylie (1999). For a detailed description of the influence of Chicago school reform on the development of the Chicago Annenberg Challenge, see Shipps and Sconzert with Swyers (1999).

Figure 5. Key Events in the Chicago Annenberg Challenge and in Chicago School Reform Policy, 1988 to 2001



As the Chicago Challenge began awarding its first implementation grants, the new central administration introduced two major initiatives to bring centralized, high-stakes accountability into the system. It placed schools with fewer than 15 percent of students scoring at or above national norms on the Iowa Tests of Basic Skills (ITBS) on academic probation and assigned each a probation partner and a probation manager to direct school improvement efforts. Schools on probation that failed to improve their test scores over a period of time could be reconstituted. The administration also developed a new policy to end social promotion. Students in the third, sixth, and eighth grades were required to meet specified cut-off scores on the ITBS in order to advance to the next grade level. If they failed to meet these benchmarks, they had to attend mandatory summer school and, if they failed again to achieve the cutoff scores at the end of the summer, they were retained at grade level.

A year later, the administration developed new systemwide goals and standards for student achievement. It began to create lesson plans keyed to these standards and curriculum-specific examinations for high school graduation. A major capital improvement initiative was begun to build new schools, repair and renovate existing facilities, and alleviate overcrowding. CPS established the Lighthouse program to provide after-school academic, recreational, and social learning opportunities for students, and began to place new emphasis on early childhood education.

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Against the backdrop of centralized initiatives and high-stakes test-driven accountability, the Challenge was encouraging its schools and External Partners to address the organizational issues of time, size, and isolation. Later, as more and more attention was placed on student academic achievement and test score performance, the Challenge encouraged its grantees to intensify their focus on teaching, learning, and whole school change in general and intellectually challenging instruction and teacher professional development in particular. Developed to build upon and extend decentralized school reform in Chicago, the Challenge began to experience conflict with the school system's reform initiatives emphasizing uniform performance standards and centrally imposed sanctions.[14] The ground had shifted, and the Challenge found itself eclipsed by a highly visible central administration, the Mayor's office, and a business community and local media that were largely supportive of the new administration's initiatives. According to the Challenge's Executive Director, the Challenge was "not the elephant in the town."[15]

There were, of course, areas where the school system's initiatives and the Challenge's efforts were compatible and mutually reinforcing. An earlier Chicago Annenberg Research Project report provided some examples where they supported each other.[16] For instance, the system's capital improvement efforts were instrumental in improving learning climates in several of the schools we studied.

Nevertheless, the Challenge promoted a reform agenda that often collided with specific system policies, which created tensions and dilemmas for principals and teachers at the school and classroom levels. Nowhere was this more sharply pronounced than in the interaction between high-stakes standardized testing and efforts to improve instruction. Early field research documented examples of schools where high-stakes testing, coupled with the system's probation and student retention policies, played a crucial role in catalyzing a press for accountability and a perceived need for change.[17] These policies moved some schools from complacency into action. At the same time, the field research identified examples of other schools in which high-stakes testing pushed teachers and principals in low-achieving schools to focus on the quickest means of administrative compliance that was at hand—test preparation—and to abandon or push aside at least for a while efforts to achieve more ambitious, long-term instructional improvement.

Structurally and politically, the Challenge had difficulty developing a close and productive working relationship with the CPS central administration. The

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[14] Shipps and Sconzert with Smylie (1999).
[15] ibid.
[16] Wenzel et al. (2001).
[17] ibid.

relationship was tenuous at best; for the most part it was strained and at times it was antagonistic. Top system administrators did not fully trust the Challenge's leadership, whom they associated with the "failed" efforts of decentralization reform. These administrators were uncomfortable with their inability to control the largest independent reform initiative operating within the system and its substantial resources. And, although the Challenge's leadership sought to cultivate a working relationship with the CPS central administration, it also made no secret of its intent to influence the system, sometimes using the local media to expose flaws it perceived in CPS policies and practices. Indeed, a number of persons associated with the development and operation of the Challenge were openly critical of the system's leadership and its initiatives.

In spring 2001, the system's Chief Executive Officer, who was appointed in 1995, resigned and a new central administration was appointed. The new administration focused more attention and resources on instructional improvement, creating new initiatives in reading, teacher professional development, and leadership development. These initiatives signaled a new direction, a Phase III of school reform in Chicago. Ironically, just as the reform agendas of the system and the Challenge began to converge, the Challenge reached the end of its operation. Several implications of the Challenge's relationship with CPS and its reform agenda are explored at the end of this report.

How the Study Was Conducted

The research on which this report is based was organized around an elaborated conceptual framework of school development and a multi-method research design. This framework, the Model of Essential Supports for Student Learning, identifies areas of school organization and practice that have been shown both in the literature and in other research performed by the Consortium on Chicago School Research to promote student learning.

The research design was composed of four related strands of inquiry: (a) longitudinal field research in a sample of Annenberg elementary schools; (b) documentation of the Chicago Annenberg Challenge as a reform initiative and as an organization; (c) analyses of systemwide teacher, student, and principal survey data; and (d) analyses of standardized test scores. Field research was used to document improvement in specific areas of school organization and practice and to gather evidence of how improvement was achieved. It was also used to document the Challenge's support of local school improvement. To this micro-level work was added a scaffold of survey research and analyses of student standardized test scores.

These macro-level analyses were conducted to identify patterns of improvement in the Essential Supports and student outcomes across Annenberg schools as a whole. They were also used to compare patterns of improvement and student outcomes in Annenberg schools to patterns across demographically similar non-Annenberg schools. Detailed information about the research methodology can be found in the appendices.

Both field research and survey data analyses were used to answer the first central question addressed by this report—Did the Chicago Annenberg Challenge promote improvement of the schools it supported? Analyses of survey data and student test scores were used to answer the second central question—Did the Challenge promote improvement in student achievement and nonacademic outcomes in those schools? Field research and descriptive survey data were used to address the third question—What factors might explain improvement or the lack thereof among Annenberg schools? Finally, findings from all strands of inquiry were used to address the fourth question—What can we learn from the Challenge's experience about promoting school improvement?

Model of School Development

School improvement can mean many different things. Unlike the more general concept of change, to say that a school has improved implies that it has changed in some positive, valued direction. However, there are any number of positive, valued directions for school change that might be considered improvement. Not articulating what those directions are may render the study of school improvement ambiguous and without much meaning. Therefore, it was important to define school improvement at the beginning of the research to determine how improvement by that definition may have occurred.

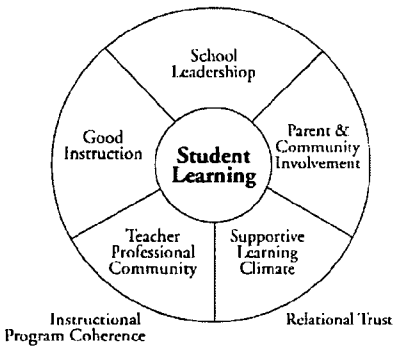
The definition of school improvement used in the Chicago Annenberg Research Project proceeded from the goal of increasing student academic learning. The type of student academic learning with which the project was primarily concerned included the acquisition of basic knowledge and skills, but went further to include deeper understanding of subject matter and students' ability to produce "authentic" intellectual work.[18] This involves the development of cognitive capacities that allow students to work with existing knowledge and to create new knowledge to analyze and solve real-world problems, manage personal affairs, and become economically productive and responsible members of society. Following from the goal of increasing this type of student academic learning, school improvement was defined in terms of

[18] Newmann, Bryk, and Lopez (1998). See also National Research Council (2000) and Newmann and Associates (1996).

those aspects of school organization and practice that, when strengthened, would most likely promote such learning among students.

The Model of Essential Supports identifies seven areas of school organization and practice that support such intellectually ambitious academic learning: (a) high-quality instruction; (b) supportive student learning climate; (c) school leadership; (d) teacher professional community; (e) parent and community involvement; (f) relational trust; and (g) instructional program coherence (see Figure 6).

Figure 6. Model of Essential Supports for Student Learning



According to the model, schools are said to have improved when they have developed from lower to higher (or weaker to stronger) states on one or more of the Essential Supports. When schools are said to have failed to improve, they have made no progress from lower to higher states on the supports. Finally, when schools are said to have worsened or regressed, they have fallen from higher to lower states of development. Each of the Essential Supports and their states of development are described in more detail in Part Two of this report. Specific indicators of high and low states of development of each are presented in Appendix B.

The model specifies that each support, when developed, may serve to promote student academic learning. Implicit in the model is a logical "ordering" of the supports in their relationship to one another and to student learning. This ordering, which reflects the literature on academically effective schools, suggests that student academic achievement is most likely to be promoted by developing those supports most proximal to students' learning—high-quality instruction and supportive student learning climate.[19] Although the other supports in the model may contribute in some direct ways to improving student academic learning, their influence is more likely to be indirect, providing the organizational conditions necessary to develop and

[19] See Good and Brophy (1997) and Wang, Haertel, and Walberg (1993).

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support instruction and learning climate. For example, even though school leadership and teacher professional community may both play an important role in improving student academic learning, that role may be more indirect than direct through their respective and related influences on the development of instruction and learning climate. Likewise, the two "overarching" supports in the model—relational trust and instructional program coherence—may also influence student academic learning indirectly, providing the social and structural bonding to hold together the other organizational and practice supports and direct them toward improving student learning.

Such a logical ordering suggests that without developing quality instruction and a supportive student learning climate, it is unlikely that a school would be able to achieve substantial, sustained improvement in student academic learning. It also suggests that it would be unlikely that a school could achieve much in the way of developing quality instruction and student learning climate without antecedent or concurrent development of the elements of school organization required to facilitate high-quality instruction and a supportive student learning climate. This suggests the possibility that a school may show signs of improvement in developing the organizational supports of leadership, professional community, parent and community involvement, relational trust, and program coherence that are arguable antecedents to quality instruction and supportive student learning climates but not yet show signs of improvement in the latter two supports. Likewise, a school may show signs of initial development of the Essential Supports, including quality instruction and student learning climate, without those supports having developed sufficiently and for a long enough time to result in improved student achievement.

The Model of Essential Supports was selected for this research for several reasons. First, it has strong support in the empirical literature on academically effective schools and school improvement and is being validated by ongoing analyses at the Consortium on Chicago School Research.[20] Second, the model is well established in Chicago public schools. It had served as a template for local school improvement planning for several years prior to the Challenge and had been adopted by CPS as a model for principal leadership development. Third, and most importantly for this study, the model was consistent with and inclusive of the wide range of local school improvement goals and activities supported by the Chicago Annenberg Challenge.[21]

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[20] See Bryk et al. (forthcoming); Designs for Change (1993); Newmann et al. (1998); Newmann, Bryk, and Nagaoka (2001); and Wenzel et al. (2001).
[21] Chicago Annenberg Challenge (2000) and Hallett et al. (1995).

Longitudinal School-Level Field Research

At the center of this study was longitudinal school-level field research conducted from the 1996–97 school year through 2000–01. The initial field research sample consisted of 23 elementary, middle, and high schools in 10 Annenberg networks. Due to the importance of networks in the Challenge's initial strategy, field research schools were selected on the basis of their participation in certain networks that were chosen because they represented different school improvement emphases (e.g., curriculum and instruction and parent and community involvement) and had different types of External Partners (e.g., universities, community organizations, and cultural institutions). Consideration was also given to select some networks that were newly formed and networks that were built on well-established relationships between schools and the External Partners.

Once the 10 networks were chosen, two or three schools from each were identified to serve as research sites. One to two of these schools were identified because of their promise for working well with their External Partners and succeeding in their efforts to develop. An additional school was chosen because of indications that it might struggle to succeed. The intention was to create a purposive sample of schools that would provide points of comparison and contrast to understand reasons for more and less successful improvement. School selections were informed by previously collected Consortium survey data and by assessments from the External Partners of the networks that were sampled.

Field research schools were sampled in two stages. The first group of schools was selected in fall 1996 from the networks that received implementation grants during the Challenge's first round of grant making. The second group was selected in fall 1997 from networks that received implementation grants in the second round. Field data were collected from all 23 schools in this initial sample in the 1996–97 or 1997–98 school years, depending on when the school entered the Challenge, and then again in the 1998–99 school year. After that year, the sample was reduced to 14 elementary schools. Among the nine schools dropped from the study, several chose not to continue in the project. For others, there was such little school improvement activity that subsequent data collection activity would have yielded very little useful information. From 1999-00 through 2000-01, data collection proceeded in these 14 schools. During these two years, two of these 14 schools failed to provide adequate data for cross-school comparisons. Due to lack of data from these two schools, we focused our qualitative analysis of school development on the 12 elementary schools from which full longitudinal data were obtained from the 1996-97 or 1997-98 school year through 2000-01.

The final research sample of 12 elementary schools was quite similar in characteristics to the initial full sample. Half were in networks from each round of initial funding (either in 1996 or 1997). Like the initial field research sample of 23 schools, the schools in the final sample were generally typical of schools across the Challenge and the system as a whole, although their average student enrollment was somewhat larger (see Tables 1 and 2).

Several types of data were collected from each field research school by a lead researcher (typically a university faculty member or advanced doctoral student) and a research assistant. These data were collected during either the 1996–97 or 1997–98 school years (depending on when the school's network first received funding) and in both 1998–99 and 2000–01. Data included (a) classroom observations of six language arts teachers and six mathematics teachers, two each from the third, sixth, and eighth grades; (b) classroom observations of two or three additional teachers involved with specific Annenberg initiatives; (c) samples of instructional assignments and student work in reading/writing and mathematics from the observed classrooms; (d) interviews with each observed teacher, the principal, the school's External Partner and coordinator, the LSC chair, an LSC teacher representative, a member of the school's Professional Personnel Advisory Committee, and the teacher union representative; (e) observations of meetings and events associated with the school's Annenberg activities and other major school improvement initiatives; and (f) documents pertaining to school improvement and to Annenberg network membership and activity.

Table 2. Characteristics of First Sample of Twelve Field Research Schools, 1998–1999

	FIELD RESEARCH SCHOOLS
Average student enrollment	888
Low-income	89%
English language learners	21%
Racial/ethnic composition:	
African-American	50%
Latino	41%
White	7%
Asian/Pacific Islander	<1%
Native American	0%
	FIELD RESEARCH SCHOOLS
1993 8th grade graduates who:	
Graduated from a CPS high school	39%
Dropped out	39%
Left CPS	22%
Percent of students in grades 3 through 8 scoring at or above national norms on the ITBS:	
Reading	32%
Mathematics	37%

Field researchers were responsible for documenting the development of each Essential Support in their schools, as well as the activities in which schools engaged to get better. Interviews were audio taped and transcribed. Observation notes, documents, and other materials were organized and archived. Researchers wrote structured descriptive case reports of their schools' development at three points in the project—1996–97 or 1997–98, 1998–99, and 2000–01—and wrote vignettes that described schools' efforts to get better. Cases and vignettes of all field research schools were read and coded independently by three research analysts. Discrepancies in coding were discussed and reconciled by the analysts through consensus procedures. Using this process, field research schools were classified as "developing" or "nondeveloping" and specific areas of development were categorized. These designations and the themes and patterns of school development that were identified across the sample were presented back to field researchers for validation. Analysts identified specific examples of school development and activities to promote that development to illustrate themes and patterns in both the broader field research data and findings from survey data. These examples were also shared with and confirmed by field researchers. See Appendix C for additional information about the field research methodology.

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Documentation of the Chicago Annenberg Challenge

Study of the Chicago Annenberg Challenge as both a large-scale reform and an organization relied heavily on documents produced by the Challenge itself, including those associated with its founding, its requests for proposals, meeting notes, records of grant making, and correspondence. In addition, between June 1996 and 1998, a member of the research project staff observed nearly all the Challenge's formal meetings and events and then observed samples of meetings and events through 2001. School-level descriptive data and Challenge grant records were used to identify patterns of decision making.

In addition, research project staff formally interviewed and spoke regularly with the Challenge's Executive Director, Program Director, and Grants Manager. Members of the Challenge's Board of Directors and members of the Chicago School Reform Collaborative, a group that helped organize and manage the Challenge in its first year, were also interviewed. In 1997, 70 organizational leaders from seven sectors in the Challenge's institutional environment were interviewed about the Chicago Annenberg initiative and school reform in Chicago. These sectors included business, community, foundation, government, higher education, labor, and media. Finally, 19, or about 45 percent of External Partners were interviewed in 1997, 1999, and 2001. Together, these interviews provided perspectives on the Challenge as a reform and an organization from both "inside" and "outside" the Challenge.

Surveys of Teachers, Students, and Principals

This study used survey data from teachers and students across the system to map the development of the Essential Supports among Annenberg schools and to compare that development to development found in demographically similar non-Annenberg schools. Student surveys were used to assess student social and psychological outcomes. The Consortium administered these surveys in the spring of 1994, 1997, 1999, and 2001 (survey samples are described in Appendix D). Surveys from 1994 and 1997 established baseline data and the 1999 and 2001 surveys provided data to track changes. Rasch measures were developed from individual survey items as indicators of various elements of the Essential Supports. Appendix E contains full descriptions of these measures.

Hierarchical linear models were used to track changes in the Essential Supports and student outcome measures over time from baseline years, and to assess differences between (a) Annenberg and non-Annenberg schools and (b) Breakthrough Schools and other Annenberg schools. These analyses controlled for a number of school characteristics including school racial and ethnic composition,

school level of achievement, school size, and percent of low-income students (see Appendix D). Tests were also made of network effects on school development. It seemed reasonable to assume that schools in networks that focused primarily on one area of school development might be more likely to show changes in that area than schools in networks that focused on other areas. In 1999, the year with the most overall change in Annenberg schools, we tested for network-level differences by primary network focus. No statistically significant differences among network foci were found, suggesting perhaps greater within-network than between-network variation in development. Therefore, the study's focus shifted from looking for network-level effects to examine school development across all Annenberg schools.

There are numerous complexities in trying to create a single indicator of school development or making general statements about the overall development of a school or a group of schools. A school may develop on one or more of the Essential Supports but not on others. Moreover, a school may develop on some aspects of a particular support but not others. For example, a school may have a strong and active parent group, but its principal may lack the ability to involve it effectively in the life of the school. A school may increase professional development opportunities for teachers but at the same time experience erosion in the overall quality of the professional development and a decline in teacher participation. A school may make great strides in developing a strong, caring, personal student learning climate, but make little progress in raising expectations for student achievement or improving the quality of classroom instruction. A school may have an excellent relationship with its External Partner, but frustrate the Partner's work by adopting contradictoty and competing improvement initiatives. And so on.

In order to deal with such possibilities, we examined change in each of the Essential Supports and change in different aspects of the same support separately. For instance, rather than considering change in teacher professional community as a single construct, change was examined with respect to each dimension of professional community (e.g., teacher collaboration, collective responsibility for student success, teacher innovation, and teacher commitment). The assumption was that if most or all aspects of professional community were found to have changed in a similar direction with statistical significance, some general conclusion about overall development of professional community could be drawn.

The survey data provided two baseline points—spring 1994 and spring 1997—from which to assess development of Annenberg schools through spring 2001. Spring 1994 data formed a baseline point prior to the establishment of the Challenge. Spring 1997 data formed a baseline point aligned with the first full school year of implementation grant funding. For the vast majority of measures for which there are 1997 data, there are also 1994 data. In order to show long-term change

across Annenberg schools, 1994 was chosen as the primary baseline point for analysis. For the few measures for which 1994 data do not exist, 1997 was used as the baseline point. Analyses examined overall patterns of change between 1994 and 2001 and intermediate patterns of change between 1997 and 1999 and between 1999 and 2001. It is important to note that in 1994, there were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on any measure of the Essential Supports. Unless otherwise noted, differences are considered statistically significant if they occur at the 0.01 level ($p < 0.01$); that is, if there is less than a 1 percent likelihood of them occurring by chance.[22]

Systemwide principal survey data were used to examine Annenberg principals' experiences with and perceptions of the Challenge as an organization, their schools' External Partners, and the support each provided. Data from principal surveys were also used to describe the role that the Challenge played in Annenberg schools and the level of their schools' participation in Annenberg activities. Principal surveys were administered in spring 1997, 1999, and 2001.

Analyses of ITBS Scores

ITBS scores were used as the primary indicator of student academic achievement and were analyzed in several different ways. Yearly rates of gain in Grade Level Equivalents (GEs) were used to map trends in reading and mathematics achievement at and across grade levels in Annenberg schools. Annual GE gains from 1994 through 2001 were calculated in both reading and mathematics for students in Annenberg schools in grades three through eight. GE gains from the same period were also calculated for the same grades in demographically similar non-Annenberg schools. In this way, gains in Annenberg schools could be compared to gains in schools that did not participate in the Challenge. In order to assess achievement trends in Breakthrough Schools, GE gains in reading and mathematics were calculated and compared for students in grades three through eight in both Breakthrough and other Annenberg schools. Rather than looking at simple trends in average test scores, academic achievement was assessed using rates of gain. This was done on the assumption that if the Challenge was successful in improving academic achievement, one might expect to see an accelerating and growing difference between Annenberg and non-Annenberg schools in the size of gains over time.

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[22] Given the number of statistical tests that were performed, this p-value was used to compensate for the possibility of Type 2 errors. A 0.01 p-value is more conservative than a 0.05 value, but still liberal enough to not miss important differences.

GE gains are a familiar and useful indicator to identify trends in academic achievement, but a more rigorous indicator was used to test the statistical significance of differences in achievement between Annenberg and non-Annenberg schools and between Breakthrough and non-Breakthrough Annenberg schools. These comparisons used an index of academic productivity developed by the Consortium.[23] This index measures the extent to which schools extend, sustain, or fail to sustain student learning achieved at previous grade levels over time. This index is built using gains in the ITBS scores of students who are enrolled in a school for at least one full academic year and helps account for the effects of student mobility on school-level achievement. The index takes into account students' past academic achievement, as measured by their ITBS score the previous year, and it takes into account effects of different ITBS test forms. The index measures achievement gains in both reading and mathematics in grades three through eight from 1992 through 2001.

Regression analyses were used to compare different groups of schools on the productivity index. These analyses used school group membership—Annenberg versus non-Annenberg and Breakthrough versus other Annenberg—as the key independent variable and the productivity index as the dependent variable. These analyses controlled for the size, neighborhood socioeconomic level, and racial and ethnic composition of the school, among other variables. They determined whether student achievement differed depending on whether a school was or was not an Annenberg school, or whether it was or was not a Breakthrough school. Unless otherwise noted, if differences between Annenberg and non-Annenberg schools or between Breakthrough and other Annenberg schools had occurred at the 0.01 level ($p < 0.01$); that is, if there was less than a 1 percent likelihood of them occurring by chance, it was concluded that there were statistically significant differences between the groups of schools being compared.[24] More information about the productivity index and these analyses is contained in Appendix F and Appendix G.

Considerations

There are at least three issues concerning aspects of this research methodology that should be considered. The first concerns self-report data collected through survey questionnaires and interviews. Such data may be subject to two types of problems that challenge validity—the difficulty that respondents may have representing a particular phenomenon accurately, and the possibility that because of self-interest, respondents may be positively or negatively biased in their perceptions and reports.

[23] For more information about the development of the productivity index, see Bryk et al. (1998b).
[24] As discussed in the next section, differences between Breakthrough and other Annenberg schools that occur at the 0.05 level are reported as part of a broader pattern of findings.

Three strategies were used to reduce the potential for these problems.[25] A pattern-matching strategy was used whereby findings, particularly those from survey data, were examined to determine whether they were consistent with what is already known about schools and school change from existing theoretical and empirical literature. In addition, data from different sources about the same phenomena were "triangulated" for consistency. For example, data from surveys were compared to data from field research and documents and interview data were compared to documentary and observational data. Finally, findings were presented to and verified by the field researchers, those persons most familiar with the schools being studied and in the best position to identify biases and inaccuracies in self-reported data.

A second issue was that of disentangling the influence of the Challenge on school change from other sources of potential influence. As noted, Annenberg schools were like many other CPS schools in that they were involved in multiple improvement projects. Some worked simultaneously with several external organizations in addition to their Annenberg External Partners. Some of the sources of greatest potential influence on school change were CPS policies, particularly the high-stakes testing and probation policies. In 1999, 54 of Annenberg's 206 elementary schools, or 26 percent, were on academic probation because of low standardized test scores. Systemwide that year, 91 elementary schools, or 16 percent of all elementary schools were on probation. Schools on academic probation were required to have a probation partner to help them improve. Of the 54 Annenberg schools on probation, about 20 worked with Annenberg External Partners who also served as their probation partners. The remaining 34 Annenberg schools on probation had different Annenberg and probation partners. These schools represented only 16 percent of all Annenberg schools and, because this proportion was relatively small, the issue of entanglement of Annenberg and probation partner influences is probably not very significant. Moreover, because of the large number of schools receiving Annenberg support and because of their similarity to schools across the system, non-Annenberg sources of influence are likely to have been distributed similarly across Annenberg and non-Annenberg schools.

Still, there are several aspects of the research design and methodology that help to strengthen conclusions about an "Annenberg effect." Using school achievement level as one of many statistical controls helped account for the effects of probation on both Annenberg and non-Annenberg schools. In addition, the field research revealed much about the influence of the Challenge and its External Partners compared to other sources of influence, including CPS policies. Such distinctions are documented and discussed in several places in this report.

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[25] See Merriam (1998); Stake (1995); and Yin (1989).

A third issue concerns that of the significance of the research findings. Some of the statistically significant changes and differences between groups of schools are quite small. On the one hand, because the statistically significant differences that are described in this report are based on averages of hundreds of schools and thousands of teachers and students, even the smallest non-chance differences should be considered real and meaningful. On the other hand, it can be argued that even though they may be statistically significant, small non-chance differences may not be very meaningful or educationally significant. There is ongoing debate about this matter in the literature.[26] Nonetheless, it is important to consider whether small, statistically significant differences across a very large number of schools are educationally significant because of the difficulty and length of time it takes to change so many schools, or whether these differences are on average so small that for all practical purposes they mean very little in the daily experiences of individual schools.

[26] See Berliner (1987).

Part Two: Findings

Our research findings are presented in four sections. The first two concern the Challenge's "bottom line" improvement in student academic achievement and non-academic student outcomes—and how Chicago Annenberg schools developed in ways that might promote student learning. Both show how changes among Annenberg schools compare to changes among demographically similar schools that did not participate in the Challenge. The third section presents findings on student outcomes and school development in the Breakthrough Schools. We conclude with an in-depth look at improving and non-improving Annenberg schools to understand the factors that make individual local school improvement successful. Details of the statistical findings presented here are contained in Appendices G and H.

Student Outcomes

As described in Part One, our primary measure of student academic achievement was rates of gain on the reading and math portions of the ITBS. In addition, four social and psychological student outcomes were examined: (a) academic engagement in school, (b) sense of self-efficacy, (c) classroom behavior, and (d) social competence. Academic engagement refers to students' interest and participation in learning and whether they work hard to do their best in school. Sense of self-efficacy refers to students' confidence in their own academic abilities and their perceptions of their chance for success on even the most difficult work. Classroom behavior is the extent to which students in a classroom respect each other, work well together, and help each other learn in addition to the degree of student disruption of classroom activity. Finally, social competence refers to students' sense that they listen well to what others have to say; share, help, and work well with each other; and help resolve arguments. Data from the Consortium's 1994, 1997, 1999, and 2001 student surveys were used

to examine changes in these outcomes and to test for differences between Annenberg and demographically similar non-Annenberg schools.

Achievement on the ITBS

Analyses of ITBS scores reveal that overall, student achievement in Annenberg schools rose between 1996 and 2001 (see Appendix G). During this period, reading achievement rose an average of 1.01 GEs across grades three through eight. Math achievement rose an average of 0.95 GEs. These increases are consistent with those reported for the system as a whole.[27]

Although student achievement increased in Annenberg schools, the rate or size of gains did not markedly improve. Across grade levels, the size of one-year gains in GEs remained constant or fluctuated only slightly. This pattern held true for both reading and math achievement, though overall gains in reading were slightly larger than gains in math. Some differences in the size of gains were found at different grade levels. In reading, average GE gains were lower in the third and sixth grades than in other grade levels; in math, average GE gains were lower in the third and seventh grades. These are consistent with the rates of gain across the system as a whole.[28]

Findings from the third and sixth grades illustrate trends in student achievement gains in Annenberg schools. GE gains in third-grade reading held relatively constant between 1996 and 2001 (see Figure 7). These slight fluctuations are not noteworthy considering the different ITBS test forms used during this period. This pattern is also present in third-grade math and sixth-grade reading, though the size of sixth-grade GE gains were generally larger than third-grade gains (see Figures 8 and 9). Sixth-grade math gains followed the same pattern of no net gain but slight fluctuation (see Figure 10).

Analyses using the productivity index reveal that achievement trends in Annenberg schools did not differ from those in demographically similar non-Annenberg schools. There were no statistically significant differences in reading or math at any grade level in any year between 1995 and 2001. Although Annenberg schools appeared to outperform non-Annenberg schools in some years at particular grade levels, the reverse appeared to occur in other years. None of these differences were statistically significant.

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[27] Rosenkranz (2002).
[28] ibid.

Figure 7. Grade Equivalent Gains on the ITBS in Annenberg and Demographically Similar Non-Annenberg Schools: Third-Grade Reading, 1994 to 2001

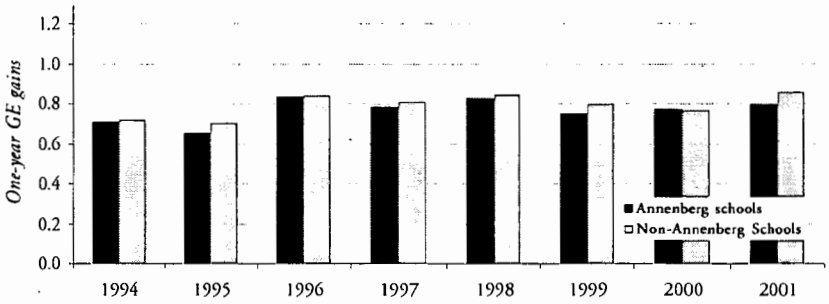


Figure 8. Grade Equivalent Gains on the ITBS in Annenberg and Demographically Similar Non-Annenberg Schools: Third-Grade Math, 1994 to 2001

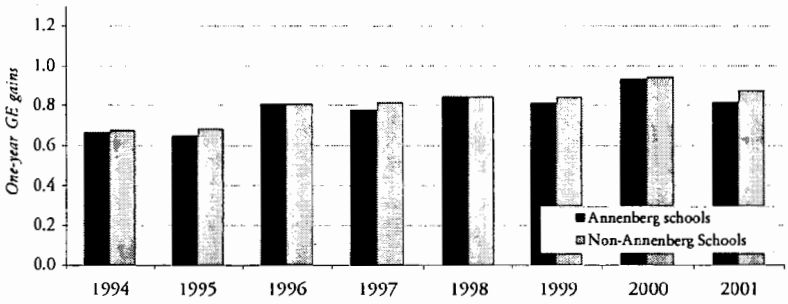


Figure 9. Grade Equivalent Gains on the ITBS in Annenberg and Demographically Similar Non-Annenberg Schools: Sixth-Grade Reading, 1994 to 2001

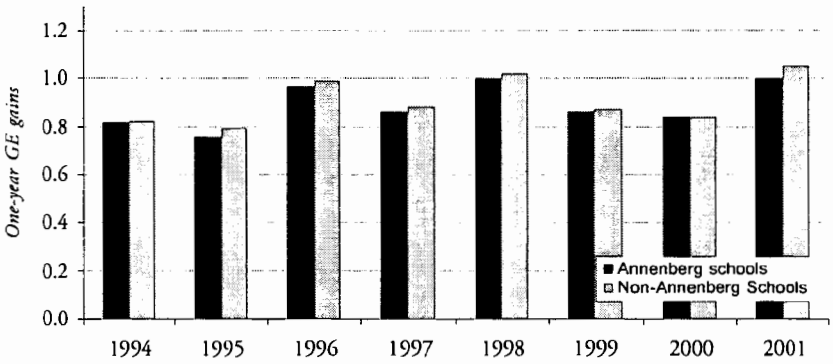
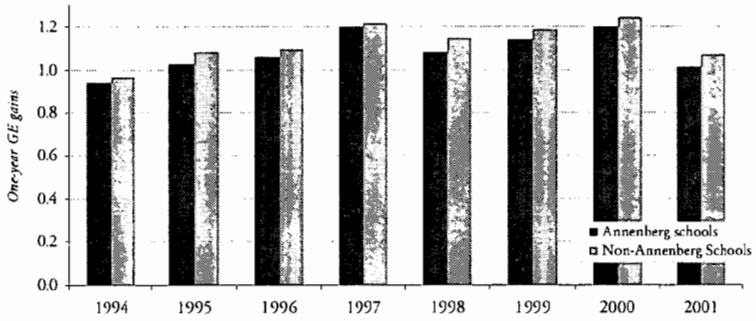


Figure 10. Grade Equivalent Gains on the ITBS in Annenberg and Demographically Similar Non-Annenberg Schools: Sixth-Grade Math, 1994 to 2001



Social and Psychological Outcomes

Trends in different student social and psychological outcomes in Annenberg schools were mixed. Student academic engagement improved while students' sense of self-efficacy, classroom behavior, and social competence weakened. Like changes in academic achievement, changes in social and psychological outcomes among Annenberg schools were similar to changes in demographically similar non-Annenberg schools; there were no statistically significant differences on any outcome.

Table 3 groups student outcome measures according to whether they improved or weakened between the baseline year of 1994 or 1997 (depending upon when data were first available) and 2001 as defined by substantive categories of the measures (e.g., limited, moderate; see Appendix D). Changes are shown in terms of (a) measure categories; (b) differences in means on the 10-point Rasch scale used to construct each measure; and (c) standardized change unit differences, which show differences in terms of standard deviations in the baseline year (see Appendix H). Finally, the table shows how Annenberg schools, on average, compare to demographically similar non-Annenberg schools on each outcome. Line graphs based on standardized change unit differences from the baseline year also illustrate the trends.

Table 3. Student Social and Psychological Outcomes in Chicago Annenberg Schools, 1994 or 1997 to 2001: Summary of Findings

	1994 OR 1997	2001	DIFFERENCES IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Student Academic Engagement	Limited	Moderate	+ 0.08	+ 0.31	≅
Weakened					
Student Sense of Self-Efficacy	High	High	- 0.08	- 0.30	≅
Student Classroom Behavior	Moderately positive	Moderately positive	- 0.11	- 0.50	≅
Student Social Competence	Moderate	Moderate	- 0.22	- 1.05	≅

Note: Measures are considered improved or weakened if the difference in means between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

Student Academic Engagement. Engagement in Annenberg schools rose between 1994 and 1997, then declined slightly between 1997 and 1999, and remained steady between 1999 and 2001 (see Figure 11). Overall, student academic engagement in Annenberg schools was greater in 2001 than in 1994, although the difference was quite small. Still, the net difference did move the average level in Annenberg schools from the very high end of the measure's "limited" category to the very low end of "moderate" category. Students were somewhat more likely in 2001 than in 1994 to report that they worked hard to do their best, that the topics they studied were interesting, that they were not often bored in class, and that they were interested in what was going on in class. For several years, student academic engagement in Annenberg schools was slightly greater than engagement in demographically similar non-Annenberg schools. None of these differences were statistically significant, however.

Student Sense of Self-Efficacy. In 1997, students' sense of self-efficacy in Annenberg schools was "high" but not "very high." That year, students were likely to report that they cared if they got bad grades in school, felt they could do better, and believed they could do a good job if they had enough time. They were also likely to report that they could complete the hardest work they were assigned if they tried and that they were certain they could master the skills taught in class. They were mixed in whether they thought they could understand all class work even if they tried hard.

Levels on this measure in Annenberg schools fell between 1997 and 1999, but rose slightly between 1999 and 2001 (see Figure 12). Despite this improvement, they remained lower in 2001 than in 1997. There were no statistically significant differences in levels of students' sense of self-efficacy between Annenberg and demographically similar non-Annenberg schools. The very slight advantages to Annenberg schools in 1997 and 1999 were not significant and disappeared by 2001.

Figure 11. Student Academic Engagement: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

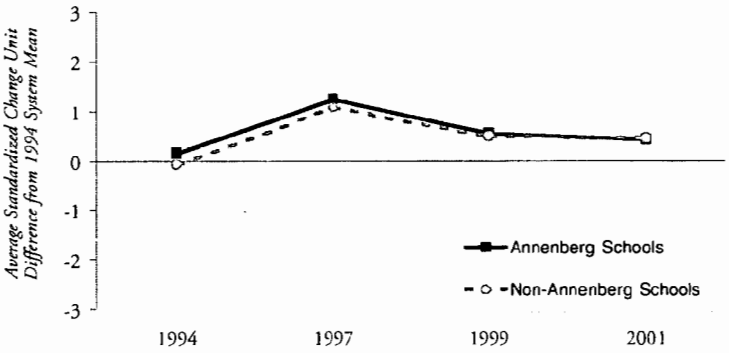
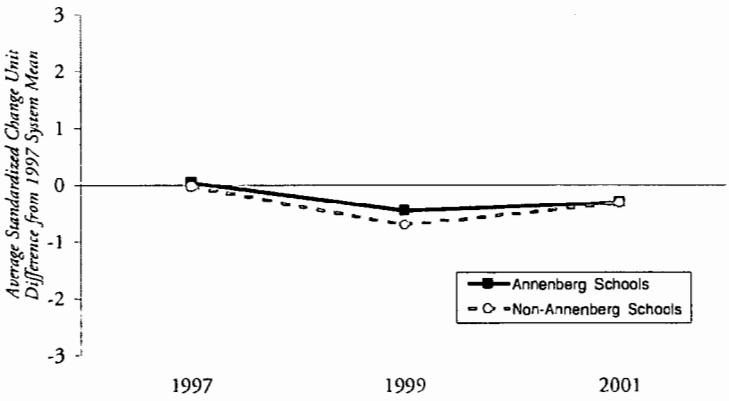


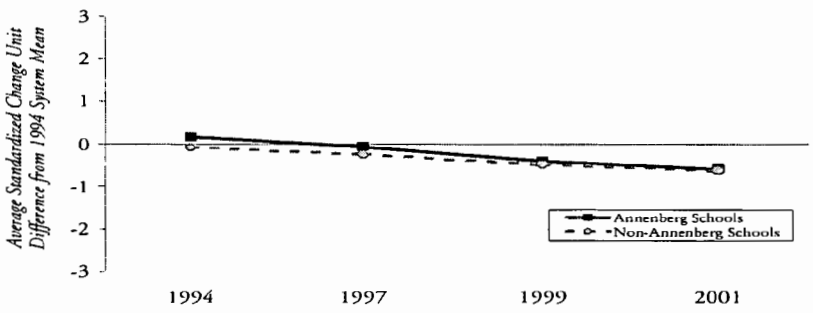
Figure 12. Student Sense of Self-Efficacy: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



Student Classroom Behavior. Student classroom behavior in Annenberg schools declined between 1994 and 2001 at a small but steady rate, although it stayed within the "moderately positive" category (see Figure 13). In 2001, students in Annenberg schools were somewhat less inclined than in 1994 to respect each other, work well

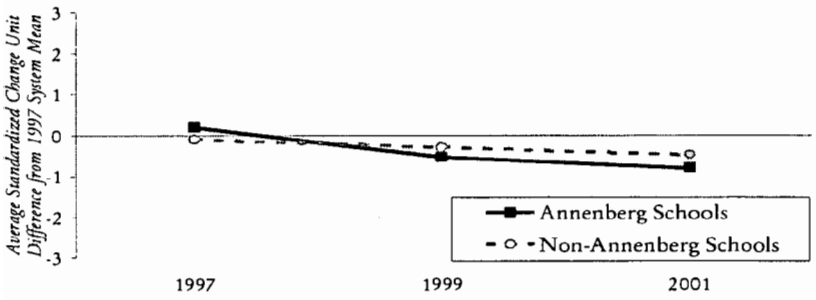
together, and help each other learn. They were somewhat less likely to report that students who do well in school are not made fun of; that students work together to solve problems; and that they get along well, care about each other, and treat each other with respect. They were also somewhat more likely to indicate that students look out just for themselves and like to put others down. They were mixed in their reports that students do not disrupt class, however. Annenberg schools were no different from demographically similar non-Annenberg schools on this measure.

Figure 13. Student Classroom Behavior: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001



Student Social Competence. In 1997, student social competence among Annenberg schools could be described as "moderate" (see Figure 14). That is, students were likely to report that they were good at helping people, taking turns, working with other students, listening carefully to what others say, and found it easy to make suggestions without being bossy. Students were mixed in their reports that they could always find a way to help others end arguments. Levels on this measure declined slightly by 2001, which mirrored a decline in demographically similar non-Annenberg schools. There were no statistically significant differences between these groups of schools on this outcome.

Figure 14. Student Social Competence: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



School Development

Although there was little improvement and no overall differences in student academic and non-academic outcomes between Annenberg and demographically similar non-Annenberg schools, it is nonetheless important to examine trends in school development. Following the Challenge's logic and the logic inherent in the Model of Essential Supports, one would expect that before improvement in student outcomes can occur, schools need to develop in ways that would promote that improvement. Therefore, it is important to see whether Annenberg schools as a group developed in ways that would lay such a foundation.

This section presents findings concerning the development of Annenberg schools on each of the Essential Supports. In addition to our analyses of trends in the survey data and comparisons between Annenberg and demographically similar non-Annenberg schools, we provide examples of change in each Support from our field research to illustrate the overall patterns of development across Annenberg schools.

First are findings about the development of instruction and student learning climate, the two supports most proximal to student learning in school. Next are findings about the development of school leadership, teacher professional community, and parent and community involvement, those supports that provide the organizational foundation for teaching and learning. We conclude with findings concerning relational trust and instructional program coherence, the two overarching Supports.

In preview, analyses indicate that as a group, Annenberg schools improved on almost one-half of the Essential Supports. Development was particularly strong in some measures of instruction and student learning climate. There was a consistent pattern among school leadership, teacher professional community, and professional development—most development on the measures of these Supports occurred between the baseline year and 1999, but much of this progress eroded by 2001. Overall, there was almost no difference in patterns of development between Annenberg and demographically similar non-Annenberg schools. In 1999, there were small differences that favored Annenberg schools but, by 2001, these disappeared with virtually no exception. At the end of the Challenge, there were essentially no statistically significant differences between Annenberg and non-Annenberg schools on measures of the Essential Supports.

It should be noted that the analyses revealed some very large standardized change unit differences in several of the Essential Supports from year to year, including some of more than two standard deviations. Although these findings may seem quite improbable, several factors should be considered when interpreting them. Measures of the Essential Supports are constructed on 10-point scales and the distribution of responses on these scales is often very narrow. On a 10-point scale, the standard deviations of measures at the school level are relatively small, indicating little variation across schools (indeed most variations in these measures are within schools). Taking into account the range of the scales and the size of the standard deviations, a standardized change unit difference of two standard deviations may represent only a one-point or 10 percent difference on a particular measure. A 10 percent difference might be a very reasonable amount of change to occur during a seven-year period. In addition, when one considers the substantive categories that define a measure's different levels, a one-point difference on a 10-point scale may mean relatively small movement within a category (e.g., "limited"), but not movement from one category to another (e.g., from "limited" to "moderate").

High-Quality Classroom Instruction

The Model of Essential Supports defines high-quality classroom instruction by three basic elements.[29] The first is student exposure to subject matter. In high-quality instruction, subject matter is introduced at a steady, challenging pace and coordinated within and across grade levels. Teachers may teach basic skills, but they seldom rely on repetition and review. They introduce new and more intellectually

[29] See Delpit (1998); Elmore and Burney (1997); Good and Brophy (1997); Newmann and Associates (1996); and Smith, Lee, and Newmann (2001).

rigorous concepts in a manner that is appropriately challenging. The second is how teachers engage students in subject matter, or the intellectual demands they make in the classroom. In high-quality instruction, teachers make frequent use of intellectually challenging assignments that require students to study a topic in depth, produce new knowledge and understanding, communicate and explain to others what they have learned, and draw connections to problems and situations beyond school. The third element concerns the instructional methods teachers use to engage their students in intellectually demanding ways. The Model of Essential Supports focuses on two types of instructional methods. The first, didactic instruction, refers to the use of whole-class presentation, recitation, and individual student work to transmit and promote the acquisition of specific knowledge and skills. The second, interactive instruction, refers to the use of interactive, problem-oriented, differentiated strategies to promote analysis, application, and production of knowledge. A combination of the two, with a relatively strong emphasis on interactive practices, characterizes high-quality instruction. Finally, high-quality instruction is supported by adequate time for teaching and learning and by strong curricular and instructional materials.

Low-quality instruction is characterized by slow introduction of new subject matter; frequent repetition, review, and reteaching; and lack of coordination within and across grade levels. Teachers rarely expose their students to intellectually challenging subject matter and require little more than the acquisition of discrete pieces of knowledge and skills. Students engage subject matter superficially and are not often asked to apply, analyze, or evaluate it. Students are not required to communicate, explain, or support their work, or to connect it to a problem or situation beyond school. Teachers rely primarily on didactic teaching methods and make little use of interactive instruction. Curricular and instructional materials are weak. Instructional time is not well preserved, nor is it used to full advantage.

Development across Annenberg Schools

We examined four measures associated with these elements of high-quality instruction: (a) demand for authentic intellectual work; (b) teachers' emphasis; (c) use of interactive instructional practices; and (d) use of didactic instructional practices. The first measure assesses the challenge with which teachers engage students. The second focuses on student work with subject matter through writing. The last two assess teachers' use of different types of instructional methods to engage students in intellectually demanding ways. Overall, between 1997 and 2001, instruction in Annenberg schools improved on three of the four measures (see Table 4). Teachers' demand for intellectual work, emphasis on writing, and use of interactive practices were all greater in 2001 than in 1997. Teachers' use of didactic

practices did not increase. On all but teachers' use of didactic practices, there were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools. Teachers' use of didactic practices was lower in Annenberg schools in both 1997 and 2001.

Table 4. Development of Instruction in Chicago Annenberg Schools, 1997 to 2001: Summary of Findings

	1994 OR 1997	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Demand for Authentic Intellectual Work	Low	High	+ 0.33	+2.54	≅
Writing Emphasis	Moderate	Fairly intensive	+ 0.89	+ 2.28	≅
Interactive Instruction	Regularly	Regularly	+ 0.39	+ 2.60	≅
No Net Change					
Didactic Instruction	Infrequent	Infrequent	+ 0.04	+ 0.17	-

Note: Measures are considered improved or weakened if the difference in means change between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

Demand for Authentic Intellectual Work. Demand for authentic intellectual work rose steadily among Annenberg schools between 1997 and 2001 (see Figure 15). It rose from the high end of the "low" category to the low end of the "high" category of the measure. This means that in 1997, on average, teachers in Annenberg schools asked students to elaborate their ideas and organize and synthesize information less than once a week; spent between 5 percent and 35 percent of their class time synthesizing ideas from reading, differentiating fact from opinion, and drawing inferences; and more than 50 percent of their time analyzing or interpreting literature. On average, between 10 and 50 percent of teachers' lessons in Annenberg schools dealt with a topic in-depth and asked students to produce original work. In 2001, on average, teachers in Annenberg schools asked students to elaborate their ideas and organize and synthesize information once or twice a week; spent between 35 and 50 percent of their class time on synthesizing ideas from reading, differentiating fact from opinion, and drawing inferences; and between 50 and 75 percent of their time analyzing and interpreting literature. On average, between 50 and 75 percent of lessons dealt with studying a topic in depth and having students produce original work. There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on this measure.

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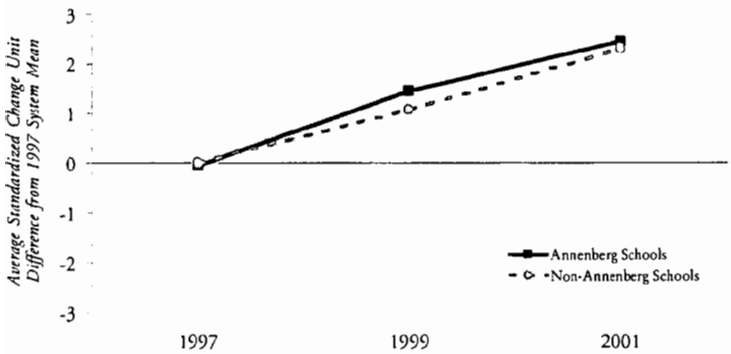
Figure 15. Demand for Authentic Intellectual Work: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



Writing Emphasis. In Annenberg schools, teachers' emphasis on writing rose slightly between 1997 and 1999 and then rose substantially between 1999 and 2001 (see Figure 16). This increase was coincident with the introduction of the new Illinois Standards Achievement Test (ISAT) that contained a new, more intensive focus on writing. In 1997, emphasis on writing was "moderate." Teachers typically had students write a one-page assignment once or twice a semester and one or two paragraphs once or twice a week. They did not typically ask students to write anything longer, but did have students revise and edit their writing once or twice a month. By 2001, emphasis on writing was "fairly intensive." Teachers were more likely to have students write one to two paragraphs nearly every day, one page once or twice a month, and one to three pages once or twice a semester. They were more likely to have students revise and edit their written work once or twice a week. There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools.

Interactive Instruction. Teachers in Annenberg schools increased their use of interactive teaching methods between 1997 and 2001 (see Figure 17). Nonetheless, their use was "regular" as opposed to "frequent." By 2001, teachers were somewhat more likely to assign projects of one week's duration to students once or twice a month, have students discuss what they read in small groups, and use cooperative learning groups at least once or twice a week. They were somewhat more likely to consider student participation in class to be very important in their judgment of student learning. There were no statistically significant differences between Annenberg and non-Annenberg schools on this measure. Although Annenberg teachers exhibited slightly greater use of interactive practices in 1999 and 2001, these differences were not statistically significant.

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Didactic Instruction. Finally, in Annenberg schools, teachers' use of didactic practices remained steady and at relatively low levels between 1997 and 2001 (see Figure 18). In both 1997 and 2001, Annenberg teachers' use of didactic instruction was "infrequent." This means that teachers tended to use highly structured call and response exercises or had students memorize facts less than once or twice a week. They lectured students for more than half a lesson period less than once or twice a month, although they may have had students read aloud as often as once or twice a week. In 1997 and 2001, Annenberg teachers made significantly less use of didactic methods than teachers in demographically similar non-Annenberg schools. In 1999, however, they made only somewhat less use of these methods and that difference was not statistically significant.

Figure 16. Writing Emphasis: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001

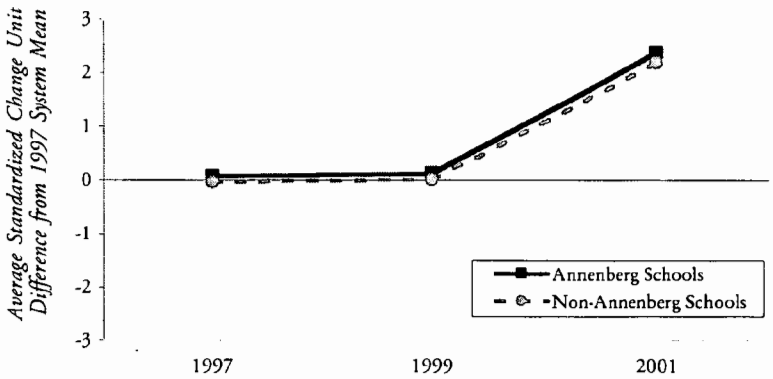


Figure 17. Interactive Instruction: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001

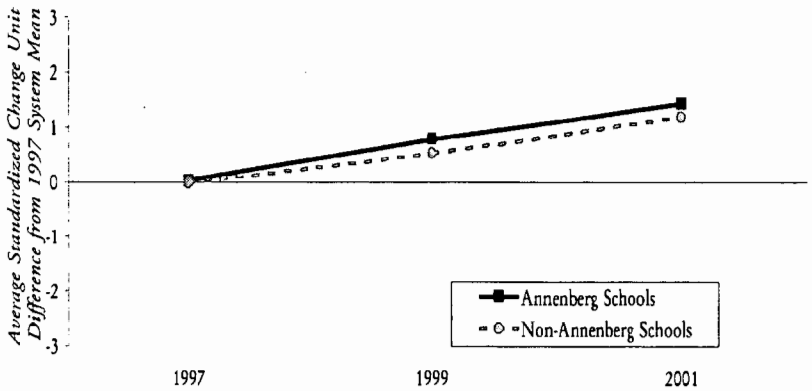
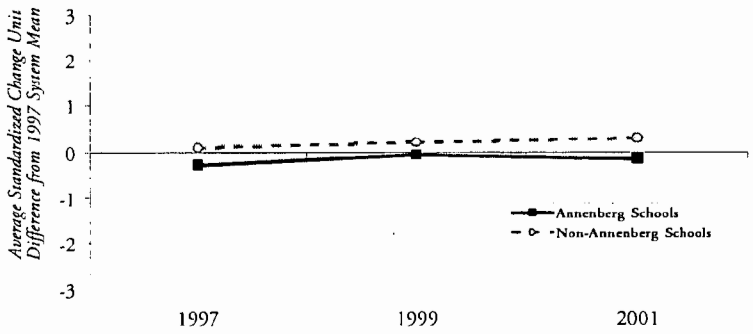


Figure 18. Didactic Instruction: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



Examples from the Field

As noted in an earlier Chicago Annenberg Research Project report, the most prevalent school-level change in instruction we observed in our field research was an increased effort to prepare students for standardized tests.[30] In 2001, all but two of the 12 schools in our sample were spending greater amounts of time and effort teaching students how to take timed multiple-choice exams. We did observe teachers in some schools working individually or in small groups to increase their use of interactive teaching strategies, raise the intellectual demand of their assignments, and coordinate subject matter among their classrooms. Unfortunately, there were very few examples of schoolwide efforts to improve instruction in these ways.

Rigoberta Menchu Elementary School experienced many of the instructional trends that are present in the survey data.[31] For several years prior to the Challenge, Menchu was working with its Annenberg External Partner to implement a comprehensive literacy program to improve classroom instruction and student achievement. Although it differed somewhat at the primary and intermediate grade levels, this program helped teachers develop instructional strategies that called for a balance between skills practice, literature-based activities, writing across the curriculum, and addressing multiple learning styles. The External Partner and most teachers and administrators at Menchu agreed that these strategies would strengthen the overall quality of instruction at the school.

Classroom observations, instructional artifacts, and interviews indicate that instruction improved at Menchu between 1996 and 1999. Teachers began to make subject matter and instructional assignments more intellectually challenging for

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[30] Wenzel et al. (2001).
[31] Pseudonyms are used to maintain the anonymity of the field research sites.

students. They worked to strengthen the link between classroom instruction and students' experiences outside of school. They introduced new content at a faster pace and reduced the amount of review and repetition. Teachers also increased their use of interactive teaching methods by introducing literature circles and small group collaborative writing projects. During the 1997-98 school year, Menchu's External Partner introduced student assessments tailored to the new literacy curriculum that would help teachers do a better job identifying individual student's learning needs. In interviews, teachers reported that they incorporated more and more elements of the literacy program into their everyday teaching. Classroom observations corroborated these reports.

Instructional improvement can be fragile, however, and Menchu's experience illustrates this. In 2001, while some teachers were still teaching in ways that were consistent with the new literacy program, the schoolwide improvement in instruction that occurred between 1996 and 1999 had eroded. Menchu lost to retirement and job transfers a substantial number of teachers who were among the strongest implementers of the literacy initiative. Their replacements were unfamiliar with the program and, on the whole, did not use the instructional practices it promoted. Moreover, the influx of new teachers coupled with reductions in the literacy program's funding made it increasingly difficult for the school's curriculum coordinators to provide adequate professional development and implementation support. The External Partner had to reduce the time it spent at Menchu and became less available to teachers. With less support and increased demands from a growing number of high-need students in their classrooms, Menchu teachers found it increasingly difficult to experiment with and implement new instructional strategies. At the end of the field research, instruction at Menchu looked much the same as it did in 1996.

Supportive Student Learning Climate

A strong, supportive student learning climate is characterized by a number of factors that include high expectations and press for student achievement and strong social support for learning from teachers, parents, and peers.[32] In a strong, supportive learning climate, students feel their teachers know them personally and care about them as individuals. They count on teachers to notice if they are having academic or personal problems and give extra help. Students feel that their peers think school and

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[32] See Bryk, Lee, and Holland (1993); Carnegie Council on Adolescent Development (1989); Coleman (1988); Dorsch (1998); King and Mathers (1997); Lee et al. (1999); Marks, Doane, and Secada (1996); McDill, Natriello, and Pallas (1986); Noddings (1998); Raudenbush (1984); Sebring et al. (1996); Shouse (1996); and Sizer (1984 and 1992).

learning are important. They have a sense of being physically and psychologically safe in their schools and classrooms. There are few disciplinary problems and those that occur are handled firmly and fairly. Teachers and students treat each other with respect and trust. A strong student learning climate is supported by efforts to develop and sustain a schoolwide focus on teaching and learning and optimize instructional time.

Weak student learning climates lack focus on academic learning. Students are not pressed toward high achievement and they receive little support from teachers, parents, and peers. Students do not necessarily feel that their teachers know them personally or care about them as individuals. They may not feel that they can trust their teachers to be fair or notice when they have problems. In weak learning climates, students may not feel physically or psychologically safe. Instructional time may be interrupted frequently and discipline problems may detract from teaching and student learning.

Development across Annenberg Schools

Four measures were used to map the development of student learning climate across Annenberg schools: (a) classroom personalism; (b) safety; (c) press toward academic achievement; and (d) peer support for academic work. Overall, between 1994 and 2001, Annenberg schools as a group improved on two indicators of learning climate: classroom personalism and school safety (see Table 5). These were among the strongest areas of development across all of the Essential Supports. At the same time, peer support for academic work declined across Annenberg schools and levels of press toward academic achievement were the same in 2001 as in 1994. In all but one measure of classroom instruction, there were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on these measures of learning climate.

Table 5. Development of Student-Centered Learning Climate in Chicago Annenberg Schools, 1994 or 1997 to 2001, Summary of Findings

	1994 OR 1997	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Classroom Personalism	Considerable	Considerable	+ 0.84	+ 3.23	≅
Safety	Somewhat safe	Mostly safe	+ 1.10	+ 1.90	≅
No Net Change					
Press toward Academic Achievement	Moderate	Moderate	+ 0.03	0.14	≅
Weakened					
Peer Support for Academic Work	Moderate	Moderate	- 0.37	-1.19	≅

Note: Measures are considered improved or weakened if the difference in means between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

Classroom Personalism. Students' perceptions of the care, concern, and attention they received from their teachers were stronger in 2001 than in 1994 (see Figure 19). In 1994, students reported "considerable" but not "strong" levels of personalism. That is, they agreed or strongly agreed that their teachers believed they could do well in school. They agreed but did not strongly agree that their teachers were willing to give extra help, noticed if they were having trouble learning something, helped them catch up if they fell behind, and really listened to what they had to say. Students were mixed in whether they agreed or disagreed that their teachers related subject matter to their personal interests. In 2001, students' reports of personalism were higher in the "considerable" category of the measure. There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on this measure.

Safety. Students' sense of safety in and around Annenberg schools rose between 1994 and 1997 and remained relatively constant between 1997 and 2001 (see Figure 20). In 1994, students considered Annenberg schools "somewhat safe." By 2001, they considered them "mostly safe." This means that in 1994, students felt only somewhat or mostly safe in their classrooms, in the hallways and bathrooms of their schools, and traveling between home and school, and they felt only somewhat safe in the area around their schools. In 2001, students were more likely to report that they felt very safe in their classrooms and mostly or very safe elsewhere in their schools, in the area around their schools, and traveling between home and school. There were no

differences between Annenberg and demographically similar non-Annenberg schools on this measure.

Press toward Academic Achievement. Unlike classroom personalism and school safety, press toward academic achievement in Annenberg schools was much the same in 2001 as it was in 1994 (see Figure 21). It declined between 1997 and 1999, but then increased between 1999 and 2001 to roughly 1994 levels. In both 1994 and 2001, students reported experiencing "moderate" as opposed to "high" levels of press. This means that students agreed, although not always strongly, that their teachers expected them to do well in school, praised them when they worked hard, did not think they were dumb if they asked about things they did not understand, and expected them to finish their homework and do extra work. There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on this measure.

Peer Support for Academic Work. Finally, in contrast to the trend in classroom personalism, peer support for academic work declined steadily in Annenberg schools between 1994 and 1999, and then leveled out between 1999 and 2001 (see Figure 22). Between 1994 and 2001, peer support fell from the high end of the "moderate" category of the measure to the low end. Moderate peer support means that students report that most but not all of their peers try hard to get good grades, attend all of their classes, pay attention in class, and think homework is important. There were no statistically significant differences between Annenberg and non-Annenberg schools on this measure.

Figure 19. Classroom Personalism: Average Standardized Change Unit Differences from the 1994 System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

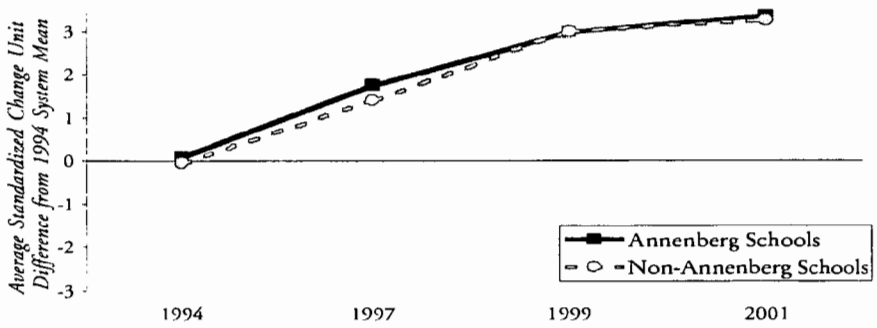


Figure 20. Safety: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

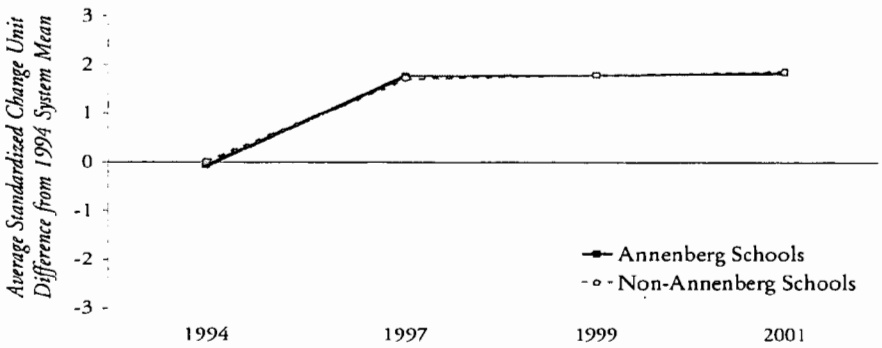


Figure 21. Press toward Academic Achievement: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

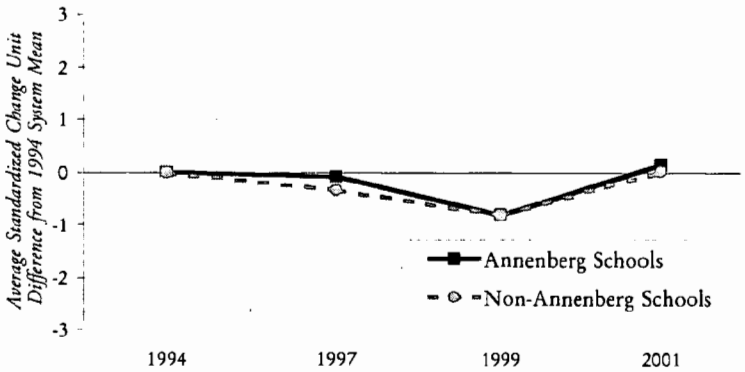
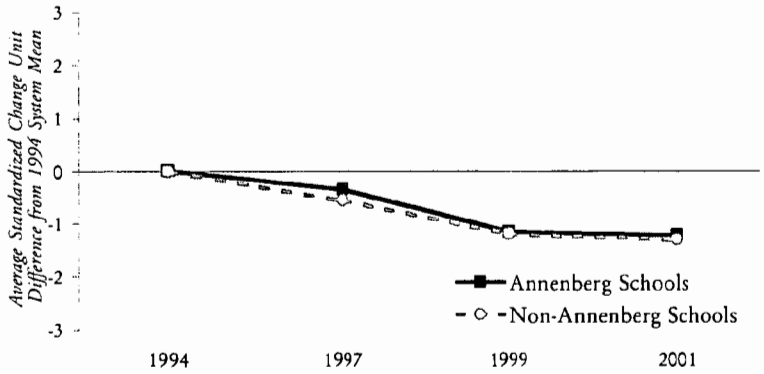


Figure 22. Peer Support for Academic Work: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001



Examples from the Field

An earlier Annenberg research project report described several field research sites that made substantial efforts to improve their physical environments to foster more supportive student learning climates.[33] At other sites, school staff worked to increase safety and reduce behavioral problems, tried to develop more personalized relationships between students and adults, and provided greater recognition of student work and academic success. Between 1999 and 2001, many of the field research schools continued to work to improve student learning climate. Some found that newly hired teachers brought renewed enthusiasm for teaching and learning. Others took advantage of CPS-funded capital improvements and rearranged classrooms and other learning spaces to promote communication among teachers and create environments that were more conducive for teaching and learning. At the same time, other field research schools did little to improve their learning climates. They remained disorganized and chaotic places where neither teachers nor students felt well supported in their work. These schools failed to make even the most basic changes in their physical facilities or scheduling to improve their learning climates.

Oscar Arias Sanchez Elementary School made substantial strides in developing a stronger, more supportive student learning climate. Building repairs and renovations dramatically improved space and aesthetics. In 1997, Sanchez suffered from severe overcrowding. Every available space was used for instruction—classes were held in

[33] Wenzel et al. (2001).

the cafeteria, gymnasium, and even closets. Science, art, and other special classes had to move from room to room throughout the day. Moreover, the school was disorganized and noisy and the daily schedule often changed at the last minute. In 1999, an addition to the building created much needed instructional space. Teachers received permanent classrooms and the noise level was greatly reduced. Moreover, a new custodial staff spruced up the appearance of the building. Walls were freshly painted and teachers began to decorate the halls and classrooms with student work. With order established in the hallways, teachers and the principal turned their attention to protecting instructional time from interruptions. Indeed, after the addition was completed, both teachers and students were observed to be more enthusiastic and invested in the school. They were better able to focus on teaching and learning.

Between 1999 and 2001, the principal and teachers at Sanchez continued their work to improve the school's learning climate. Building space was reorganized to place teachers of the same grade level closer to each other. With increased opportunities for interaction, teachers reported that it was easier to get to know their students personally. They also reported greater opportunity to learn about school resources to help struggling students succeed. In addition, more frequent communication between teachers and administrators helped Sanchez adapt its instructional program and support services to improve student conduct and learning.

Strong School Leadership

According to the Model of Essential Supports, strong school leadership is based on a clear mission and vision for the school.[34] It is broadly based and inclusive. It involves the principal, faculty and staff, parents, and LSC members. The principal and other administrators communicate well with teachers and involve them in school-level decision making. Teachers work with colleagues and administrators to formulate plans for school development, particularly those related to instructional improvement. The principal takes an active role in instruction and its development by recruiting and retaining effective staff members; encouraging teacher professional development, experimentation, and innovation; and reducing classroom interruption. Strong leadership communicates effectively with the school community. It is strategic and accepts responsibility for fair enforcement of policies, program implementation, and for enacting the school's vision of the future. School management is efficient and effective.

On the other hand, consolidated principal power and authoritarian decision making characterize weak school leadership. It fails to articulate a clear vision for the

school and does little to communicate goals and plans for development. It does not focus on instruction and there is little accountability. School management is chaotic and unpredictable. The principal fails to support teachers, neither helping them in their professional development nor protecting them from interruptions to their work.

Development across Annenberg Schools

Four measures were used to map changes in school leadership across Annenberg schools: (a) inclusive leadership; (b) teacher influence in decision making; (c) joint problem solving; and (d) principal instructional leadership. Overall, teacher influence in decision making increased in Annenberg schools between 1994 and 2001 (see Table 6). At the same time, levels of inclusive leadership, which includes parent and community involvement, declined. Principal instructional leadership and levels of joint problem solving were much the same in Annenberg schools in 2001 as in 1994. As described in more detail below, a few statistically significant differences were found between Annenberg and demographically similar non-Annenberg schools on several measures of school leadership, but only in 1997 and 1999. These initial improvements in Annenberg schools disappeared after 1999. In 2001, there were no differences between Annenberg and demographically similar non-Annenberg schools on any dimension of school leadership.

Table 6. Development of Leadership in Chicago Annenberg Schools, 1994 to 2001: Summary of Findings

	1994	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Teacher Influence in Decision Making	Moderate	Moderate	+ 0.21	+ 0.33	≅
No Net Change					
Principal Instructional Leadership	Strong	Strong	-0.04	- 0.04	≅
Joint Problem Solving	Strong	Strong	- 0.14	- 0.15	≅
Weakened					
Inclusive Leadership	Positive	Positive	- 0.29	- 0.34	≅

Note: Measures are considered improved or weakened if the difference in means between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

[34] See Blumberg and Greenfield (1980); Bryk et al. (1998a); Chubb and Moe (1990); Lightfoot (1983); Lipsitz (1984); Newmann and Wehlage (1995); and Sebring and Bryk (2000).

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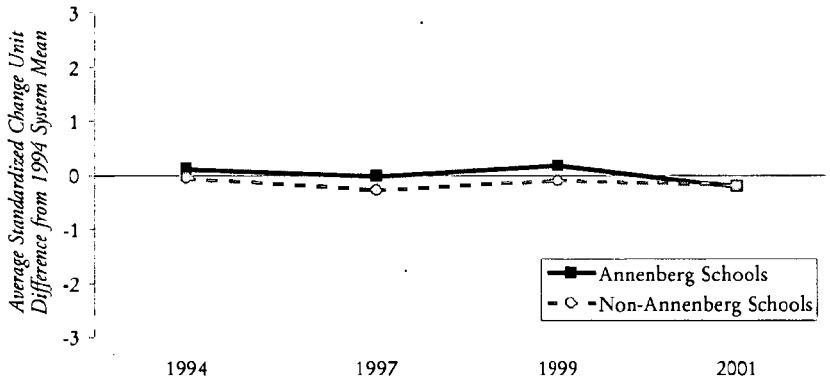
Inclusive Leadership. In 1994, Annenberg schools as a whole had "positive" levels of inclusive leadership. That is, teachers across Annenberg schools were likely to agree or strongly agree that their principals promoted parent and community involvement in school and they tended to agree, though not strongly, that their principals worked to create a sense of community in their schools and were committed to shared decision making. Levels of inclusive leadership in Annenberg schools declined slightly from 1994 to 1997, rose between 1997 and 1999, but fell again after 1999 (see Figure 23). By 2001, inclusive leadership was lower across Annenberg schools than in 1994 although it remained within the "positive" category of the measure. While inclusive leadership was greater in Annenberg schools than in demographically similar non-Annenberg schools in 1999, there were no statistically significant differences between the two groups by 2001.

Teacher Influence in Decision Making. This was the only measure of leadership that was stronger among Annenberg schools in 2001 than in 1994. This difference existed despite losses between 1999 and 2001 of initial improvement that occurred between 1994 and 1999 (see Figure 24). In 1994, the level of teacher influence in Annenberg schools was "moderate." Teachers reported that they had some or a great deal of influence in determining instructional materials for their classes. They tended to agree that they were comfortable voicing their concerns and were involved in making important decisions at their schools. They reported having some influence over establishing curricular programs and setting standards for student behavior, but they reported having a little or only some influence over their teaching assignments, their schools' use of discretionary funds, and the hiring of principals and other school personnel. In 2001, teacher influence was slightly greater than influence in 1994 but still remained "moderate." While teacher influence was stronger in Annenberg schools than in non-Annenberg schools in 1997 and 1999, there were no statistically significant differences between these groups of schools on this measure in 2001.

Figure 23. Inclusive Leadership: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001



Joint Problem Solving. In 1997, joint problem solving in Annenberg schools could be described as "strong." Overall, teachers tended to agree that other teachers in their schools did not dismiss or ignore problems, did a good job talking through differences in opinions, and expressed their personal views openly. Also, teachers tended to agree that their schools have good processes for resolving conflicts and use faculty meetings for problem solving. Levels on this measure in Annenberg schools held steady between 1997 and 2001 with fluctuations that were not statistically significant (see Figure 25). Overall, joint problem solving in Annenberg schools in 2001 was much the same as it was in 1997. It did not rise to "very strong" where teachers would be more likely to strongly agree that these practices existed in their schools. Differences between Annenberg and demographically similar non-Annenberg schools were statistically significant in 1997 and 1999 but not in 2001.

Figure 24. Teacher Influence in Decision Making: Average Effect Size Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

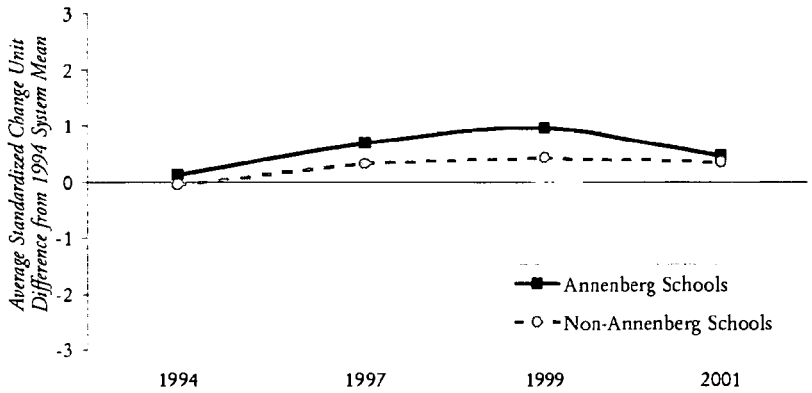
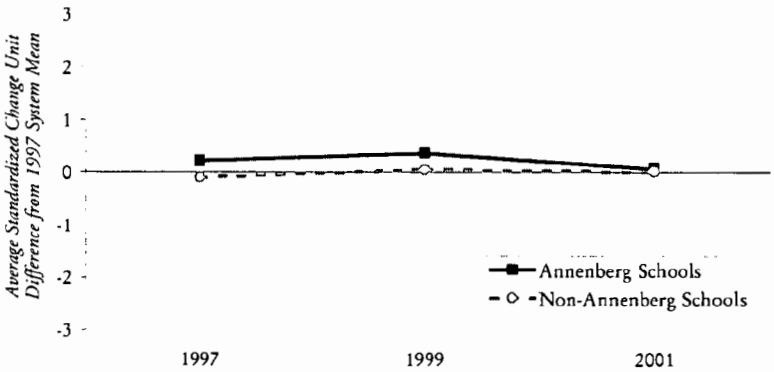
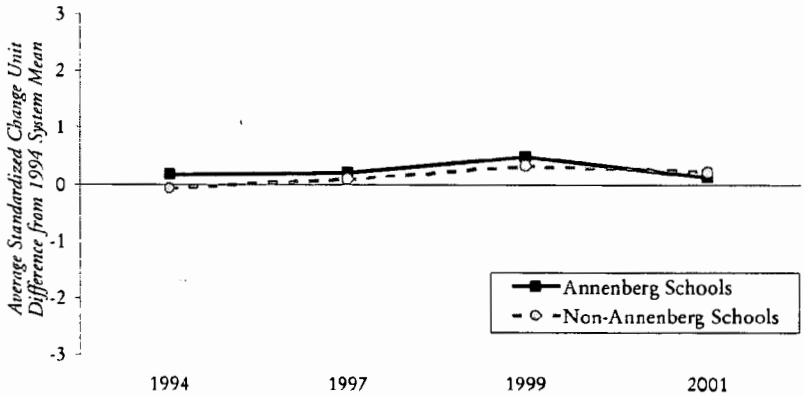


Figure 25. Joint Problem Solving: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



Principal Instructional Leadership. In 1994, instructional leadership in Annenberg schools was "strong" according to the measure. Teachers were likely to agree but not strongly agree that their principals made expectations for teaching clear; set high standards for both teaching and student learning; communicated a clear vision for the school; pressed them to implement what they learned in professional development activities; understood how students learn; and tracked student academic progress. Instructional leadership in Annenberg schools rose slightly from 1997 to 1999 but fell by 2001 to about its 1994 levels (see Figure 26). The increase between 1997 and 1999 and the decline between 1999 and 2001 were statistically significant, but levels of instructional leadership in 2001 and 1994 were statistically equivalent; both were within the "strong" category. There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on this measure in any year.

Figure 26. Principal Instructional Leadership: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001



Examples from the Field

Field research conducted between 1996 and 1999 found many examples of improvement in school leadership. Increases in teacher participation in grade- and school-level decision making were documented. So too were greater emphases on instructional improvement in school-level planning and decision making. In a number of sites, teachers became more involved in school- and grade-level program development, especially in establishing goals for more intellectually ambitious teaching and learning. A number of principals worked to involve parents and other members of their school communities in school leadership.

By 2001, several field research schools built upon or sustained earlier improvement in leadership. Others failed to develop at all. In a third group, leadership that was initially improving had become problematic. For example, in one school, a new principal reversed the progress the previous administration had made. In several others, tension arose between teachers and principals over participation in and control over decision making. In these schools, teachers' expectations for involvement began to conflict with the principals' sense of accountability for school performance and their belief that they needed to take back control of some decisions.

The example of Renee Cassin Elementary School shows how strong principal leadership supported school development in some ways and undermined it in others. In 1997, Cassin was under the threat of academic probation because of its persistently low ITBS scores. When the new principal was hired that year, he took a number of decisive actions. He reviewed all programs and outside organizations operating at the school, eliminated those that served only a few students or did not focus on improving classroom instruction, and retained those that provided professional development and instructional support. He obtained new instructional materials for teachers and counseled teachers he felt were ineffective to move to a different school. He also worked to create stronger relationships between parents and teachers.

In 1999, teachers at Cassin reported that the principal encouraged them to participate in professional development. He provided money and time for them to attend local and national conferences. He restructured the school day so that the whole staff could meet on Friday afternoons twice a month and established two common planning periods each week for grade-level meetings. Teachers believed that these efforts helped strengthen instructional program coherence at Cassin and develop the school's professional community. In 2001, however, several weaknesses in the principal's leadership had begun to undermine much of the progress that had been made. Teachers had become less supportive of the principal, characterizing his leadership as authoritative and even authoritarian. Although he spoke about involving teachers in decision making and school improvement planning, he

admitted that he made most of the important decisions at the school. The direct and consolidated nature of his leadership and fallout from several contentious decisions had begun to frustrate the faculty and had led several of the school's more productive teachers to resign or transfer to other schools.

Strong Professional Community

Teacher professional community refers to the quality of working relationships among teachers and other staff members at a school and the social and normative resources these relationships provide. In strong professional communities, teachers have a clear and common vision for the future and a shared sense of the school's mission and goals.[35] They have a common language and similar beliefs and values. Teachers are deeply committed to high-quality instruction; they share responsibility and accountability for their students' success and for achieving the school's goals. Teachers in strong professional communities are highly collaborative. They exchange information about what they have learned from professional experience and research and engage in reflective conversation about their own practices and assumptions. In strong professional communities, there is a clear disposition toward ongoing learning and innovation. Members do not always agree on everything, but because of high levels of trust, disagreement is most often constructive rather than destructive.

In weak professional communities, teachers work in relative isolation from one another. They may be cordial and interact socially, but they rarely share information, discuss problems, or collaborate. Teachers in weak professional communities do not feel accountable to colleagues or to the school as a whole. They do not share a vision for the future nor do they agree on a set of goals for school development. They lack a common language and are guided by norms of autonomy and privacy. Disagreements are rarely channeled in productive directions. At best, they remain unresolved in a state of détente with teachers agreeing to disagree.

Development across Annenberg Schools

Six measures were used to trace changes in teacher professional community in Annenberg schools: (a) peer collaboration; (b) focus on student learning; (c) orientation toward innovation; (d) collective responsibility; (e) reflective dialogue; and (f) teacher commitment to school. Overall, in 1994, teacher professional

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[35] Bryk et al. (1998a); Darling Hammond (1990); DuFour and Eaker (1998); Lieberman (1995); Little (1999); Louis, Kruse, and Associates (1995); Newmann and Wehlage (1995); and Rosenholtz (1989).

community in Annenberg schools could be described as reasonably strong, with the exception of teacher orientation toward innovation (see Table 7).

Table 7. Development of Teacher Professional Community in Chicago Annenberg Schools, 1994 to 2001: Summary of Findings

	1994	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Peer Collaboration	Significant	Significant	+ 0.32	+ 0.34	≅
Focus on Student Learning	Focused	Focused	+ 0.11	+ 0.13	≅
Orientation toward Innovation	Limited	Limited	+ 0.09	+ 0.11	≅
No Net Change					
Collective Responsibility	Strong	Strong	0.00	0.00	≅
Reflective Dialogue	Regularly	Regularly	+ 0.02	+ 0.05	≅
Weakened					
Teacher Commitment to School	Strong	Strong	- 0.34	- 0.33	≅

Note: Measures are considered improved or weakened if the difference in means change between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

Between 1994 and 2001, peer collaboration, focus on student learning, and orientation toward innovation improved. Levels of teachers' collective responsibility and reflective dialogue were much the same in 2001 as they were in 1994. Finally, teacher commitment in Annenberg schools weakened between 1994 and 2001. The findings are more complicated than these overall differences suggest, however. Annenberg schools as a group improved on the majority of these measures between 1994 and 1999, but most of these initial improvements were lost. In 2001, there were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools in teacher professional community.

Peer Collaboration. Levels on this measure in Annenberg schools rose between 1994 and 1999 but fell between 1999 and 2001 (see Figure 27). In 1994, peer collaboration in Annenberg schools was "significant" according to the measure. That is, teachers agreed or strongly agreed that other teachers in their schools were cordial.

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They agreed but did not strongly agree that collaborative efforts made their schools run well, that teachers coordinated instruction across grades, and that teachers designed the instructional program together. In 2001, while somewhat stronger, peer collaboration remained "significant." It did not rise to the "extensive" category of the measure where teachers would more strongly agree that these types of interactions occurred in their schools. Between 1994 and 1999, peer collaboration rose at a greater rate in Annenberg schools than in demographically similar non-Annenberg schools. Between 1999 and 2001, however, levels fell to roughly the same level as for non-Annenberg schools. Although the difference between Annenberg and non-Annenberg schools approached statistical significance in 1999, it was not significant in any year.

Focus on Student Learning. Like peer collaboration, focus on student learning increased slightly between 1994 and 1999 but then declined by 2001 so it was only slightly stronger than in 1994 (see Figure 28). In both 1994 and 2001, teachers in Annenberg schools were likely to agree but not strongly agree that their schools maximized instructional time, set high standards for student academic performance, had well-defined learning expectations for students, and made decisions based on what was best for students. Like peer collaboration, focus on student learning in Annenberg schools appeared to develop somewhat more strongly than in demographically similar non-Annenberg schools. And like peer collaboration, any advantage that might have been held by Annenberg schools on this measure disappeared by 2001. There were no statistically significant differences between Annenberg and non-Annenberg schools in any year on this measure.

Orientation toward Innovation. Levels on this measure in Annenberg schools were relatively weaker than peer collaboration and focus on student learning. In 1994, orientation toward innovation was within the "limited" category of the measure. That year, Annenberg teachers reported that only about half of their colleagues really tried to improve their teaching. Some agreed while others disagreed that teachers at their schools were continually learning, that they were encouraged to grow, and that they had a "can do" attitude. They reported that only some tried new ideas or took risks to improve their instruction. Levels on this measure in Annenberg schools improved slightly between 1994 and 2001 although they weakened thereafter and remained "limited" in 2001 (see Figure 29). Orientation toward innovation was slightly stronger in Annenberg schools than in demographically similar non-Annenberg schools, particularly in 1999; however, these differences were not statistically significant.

Collective Responsibility and Reflective Dialogue. In 1994, collective responsibility in Annenberg schools was considered "fairly strong." That is, teachers reported that most of their colleagues felt responsible to ensure that all students learn, that they set high standards for themselves, and that they help students with their self-control. Further, teachers reported that about half or most of their peers took responsibility for school improvement, helped discipline students, helped each other, and felt responsible when students failed. In 1994, reflective dialogue in Annenberg schools occurred "regularly" according to our measure. That is, teachers agreed, but did not strongly agree, that they talked informally with one another about instruction and shared and discussed student work and assumptions about student learning. They agreed but did not strongly agree that they had conversations more than once or twice a month about how students learn best and how to manage student behavior. In addition, they reported having conversations about developing new curriculum and school goals between one to three times a month. Neither collective responsibility for student learning nor reflective dialogue changed between 1994 and 2001 among Annenberg schools (see Figures 30 and 31). For Annenberg schools, collective responsibility remained "fairly strong" and reflective dialogue continued to occur "regularly." There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on either of these measures in any year.

Teacher Commitment to School. In 1994, teacher commitment in Annenberg schools was "strong." This means that teachers agreed or strongly agreed that they felt loyal to their schools. They agreed but did not strongly agree that they looked forward to school each day, that they would recommend the school to other parents, and that they would not want to work at another school. Teacher commitment in Annenberg schools declined between 1994 and 2001, especially after 1999 (see Figure 32). Despite this decline, levels of commitment remained in the "strong" category in 2001. Teacher commitment in Annenberg schools rose slightly between 1994 and 1999 while it declined in demographically similar non-Annenberg schools. And it appears that it was slightly lower in non-Annenberg schools in 2001, although this difference was not statistically significant.

Figure 27. Peer Collaboration: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

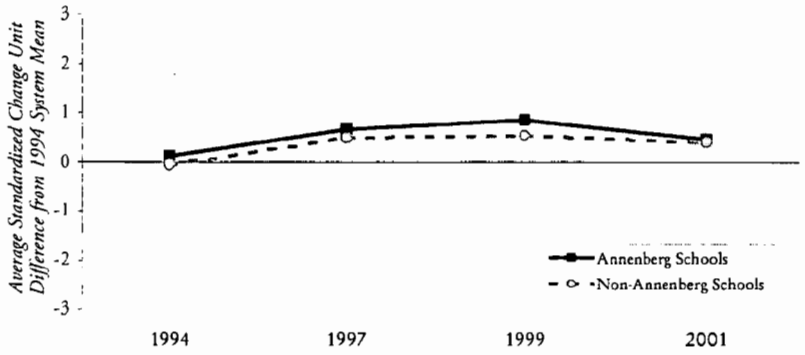


Figure 28. Focus on Student Learning: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

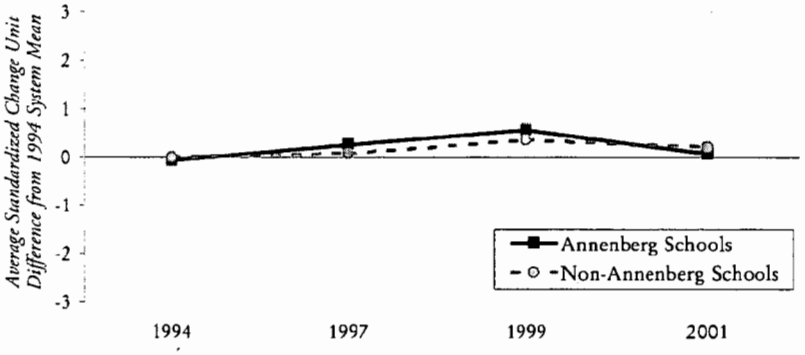


Figure 29. Orientation toward Innovation: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

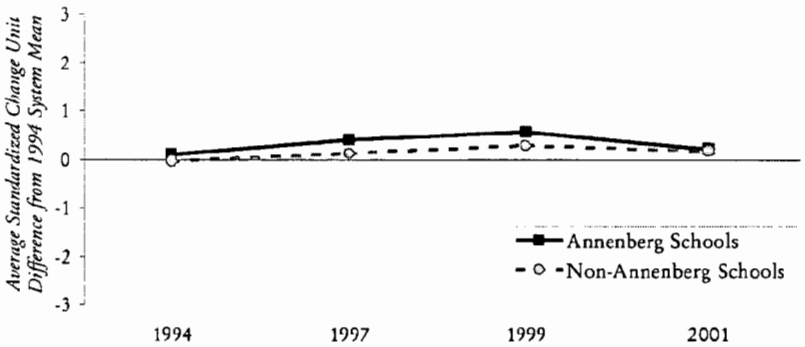


Figure 30. Collective Responsibility: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

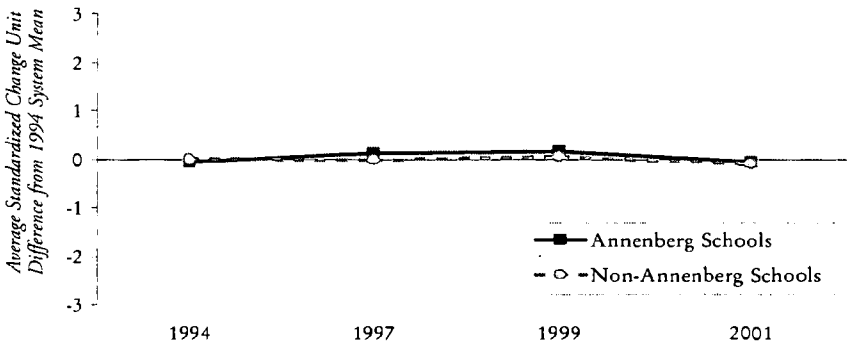


Figure 31. Reflective Dialogue: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

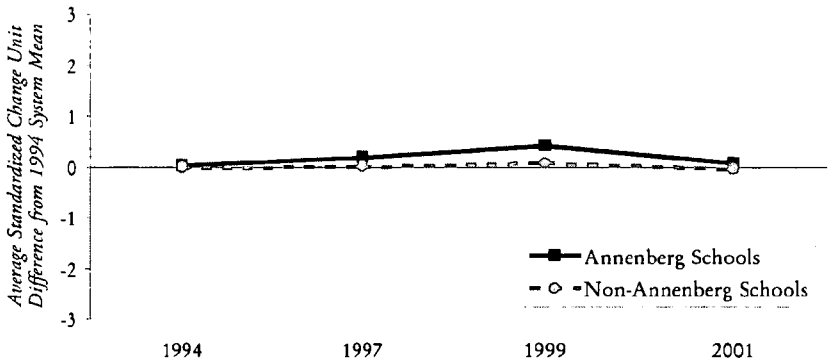
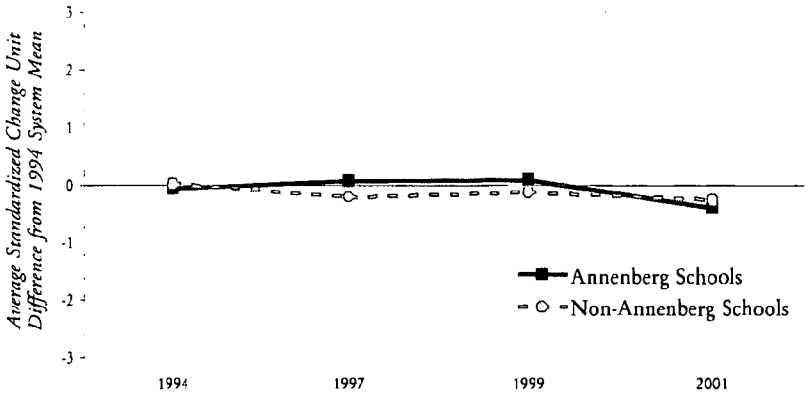


Figure 32. Teacher Commitment to School: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001



Examples from the Field

Between 1997 and 1999, more field research schools worked to develop teacher professional community than any other Essential Support and more succeeded in this area than in any other. In several schools, groups of teachers began to work together more closely to analyze their classroom practices and address issues of student learning. Growing numbers learned to talk effectively with one another about improving instruction and began to develop a shared language to do so. As a result, teachers' exposure to different instructional practices increased.

Between 1999 and 2001, most field research schools maintained their improvements in professional community. One strengthened it further as its teachers grew even more experienced in working together. For four of the field research schools, however, professional communities weakened and began to fall apart. At these schools, this coincided with the emergence of consolidated principal leadership and decision making. Teachers grew increasingly frustrated by their principals and by their declining involvement and influence. Some stopped meeting altogether, feeling less supported in their efforts and less committed to their school and its improvement. Such changes are illustrated well in the case of Nelson Mandela Elementary School.

In 1997, teachers at Mandela were quite cordial to one another, although very few spent time working together. Even though the principal called whole school faculty meetings several times a year, teachers did not meet regularly to discuss their work. Beginning in 1997, however, a small group began to work with their Annenberg External Partner to increase teacher collaboration and promote teacher learning and development.

By the next school year, there were marked differences in the working relationships among teachers who participated in the Annenberg initiative. These teachers consistently took advantage of their regularly scheduled common planning time and more readily identified themselves as a team. They frequently used their time together to share their experiences from their professional development, giving short presentations about what they learned at conferences and discussing specific pedagogical issues such as literature circles, thematic units, or how to implement advisory periods. Other teachers began to emulate their example and started to interact in more collaborative and reflective ways. Several who did not work with the External Partner expressed an interest in working together more like a school-within-a-school. The principal also said that he would like departments to function more like teams. As one school administrator observed, "Many of the ideas the Annenberg teachers have adopted, the whole school is adopting them." By 1999, Mandela had made considerable progress in developing a strong schoolwide teacher professional

community, but by 2001, it had all but disappeared. The principal never fully embraced the Annenberg initiative at the school and he left Mandela for another position in 2000. This created a void of administrative support for teacher teaming and collaborative work. Moreover, the External Partner's funding was reduced and its presence in the school decreased. In the end, teachers returned to working in cordial isolation from one another.

Parent and Community Involvement

In schools with strong parent and community support, parents participate in school activities and contribute in significant ways to achieving school goals.[36] They support their children's learning at home and are viewed as a crucial resource. There is trust between parents and the school, which is characterized by mutual respect and confidence in each other's abilities. Schools with strong parent and community support aggressively promote that support. Teachers cultivate ties with parents and the surrounding community. They visit students' homes and attend neighborhood events. Teachers are knowledgeable about community and cultural issues that concern students and their families.

For schools with weak parent and community support, parent involvement is not a priority. Consequently, parents seldom help the school achieve its goals and may not support student learning at home. Trust, respect, and confidence between parents and the school may be weak. The school is largely disconnected from the surrounding community and does not take advantage of the support parents and community organizations might provide.

Development across Annenberg Schools

Change in parent and community involvement was tracked in terms of six measures: (a) teacher outreach to parents; (b) parent involvement in school; (c) teachers' use of community resources; (d) teachers' ties to the community; (e) teachers' knowledge of student culture; and (f) human and social resources in the community (see Table 8). Overall, only two measures of parent and community involvement improved among Annenberg schools between 1994 and 2001—teacher outreach to parents and parent involvement in school. There was virtually no difference between the baseline years and 2001 in any other measure among Annenberg schools, despite some initial improvement in teachers' use of community resources and human and social

[36] See Clark (1983); Delpit (1998); Epstein (1995); Epstein and Dauber (1991); Furstenberg et al. (1999); Lareau (1989); and Tyack (1992).

resources in the community. Like most other measures of the Essential Supports, there were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools in any year.

Teacher Outreach to Parents. In 1994, teacher outreach to parents was "significant." That is, teachers were likely to agree but not strongly agree that parents were greeted warmly when they visited the school, that teachers tried to understand parents' problems, that the principal encouraged teachers to communicate with parents, and that the school welcomed parent feedback. Teachers' reactions were mixed on whether their schools worked at communicating with parents about advancing the school mission and helping children learn. They were likely to disagree that parents were invited into classrooms and that they worked closely with parents. In Annenberg schools, teachers' outreach to parents was greater in 2001 than in 1994 although it declined between 1999 and 2001, remaining in the "significant" category (see Figure 33). Trends in Annenberg schools mirrored those in demographically similar non-Annenberg schools; there were no statistically significant differences between these groups in any year.

Table 8. Development of Parent and Community Involvement in Chicago Annenberg Schools, 1994 or 1997 to 2001: Summary of Findings

	1994 OR 1997	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Teacher Outreach to Parents	Significant	Significant	+ 0.51	+ 0.70	≅
Parent Involvement in School	Moderate	Moderate	+ 0.18	+ 0.20	≅
No Net Change					
Teachers' Use of Community Resources	Occasional	Occasional	+ 0.07	+ 0.20	≅
Teachers' Ties to the Community	Slight	Slight	- 0.08	- 0.13	≅
Teachers' Knowledge of Student Culture	Significant	Significant	- 0.04	- 0.06	≅
Human/Social Resources in the Community	Some	Some	+ 0.03	+ 0.10	≅

Note: Measures are considered improved or weakened if the difference in means between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

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Parent Involvement in School. In 1994, parent involvement in Annenberg schools was "moderate." Teachers in Annenberg schools were likely to report that most or nearly all parents picked up their children's report cards and attended school events and parent-teacher conferences. Teachers were likely to report that some to about half of parents attended special schoolwide events and helped raise funds for the school. They were likely to report that only some parents volunteered to work in classrooms. Parent involvement in Annenberg schools rose gradually between 1994 and 1999 and then declined between 1999 and 2001, remaining in the measure's "moderate" category (see Figure 34). Still, it was greater in 2001 than in 1994. There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools in any year.

Teachers' Use of Community Resources. Across Annenberg schools in 1997, teachers' use of community resources in their teaching was "occasional" rather than "frequent" or "extensive." Teachers in Annenberg schools were likely to report that they used people and events from the community as an example and told students about community agencies only once to four times that school year. They consulted with community members to better understand students and collected materials from community businesses for class only once or twice. They took students on field trips or brought in guest speakers from the community only once, twice, or never that year. Teachers' use of community resources increased in Annenberg schools between 1997 and 1999 but then declined between 1999 and 2001, resulting in no net change (see Figure 35). Although it appears that Annenberg schools increased at a greater rate than non-Annenberg schools, the differences between the two groups were not statistically significant in any year.

Teachers' Ties to the Community. In Annenberg schools in 1997, teachers' ties to their schools' communities were "slight." While teachers were likely to report that they had friends who lived in their schools' communities, they shopped there only once or twice a month. They reported that they attended recreational activities in their schools' communities two or three times a month but attended the same religious services as their students and visited their students' homes less than once a month. In Annenberg schools, the levels of teachers' ties to the community did not change between 1997 and 2001 and they showed no statistically significant difference from those in demographically similar non-Annenberg schools (see Figure 36).

Teachers' Knowledge of Student Culture. In Annenberg schools in 1997, teachers' knowledge of their students' cultures was "significant." Teachers were likely to report that most of their colleagues at their schools were aware of community issues. They were likely to report that about half or most talked with students about their lives and cultures and that about half tried to learn about students' cultural

backgrounds. This remained unchanged between 1997 and 2001 (see Figure 37). There were no statistically significant differences between Annenberg and non-Annenberg schools on this measure.

Human and Social Resources in the Community. In 1997, there were "some" supportive human and social resources in the communities of students attending Annenberg schools. These students were likely to agree or strongly agree that people in their neighborhoods cared about what happened there. They tended to agree but not strongly agree that the parks were safe for young people to play at during the day, that adults in the neighborhood knew who the local children were, and that they could look up to the adults in their community. Students were mixed on whether adults in their neighborhoods made sure the neighborhood children were safe, that they could trust people living in their neighborhood, and that community members addressed problems in the neighborhood rather than ignoring them. Levels on this measure increased across Annenberg schools between 1997 and 1999 but declined between 1999 and 2001, resulting in no net change (see Figure 38). There were no statistically significant differences between Annenberg and non-Annenberg schools on this measure.

Figure 33. Teacher Outreach to Parents: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

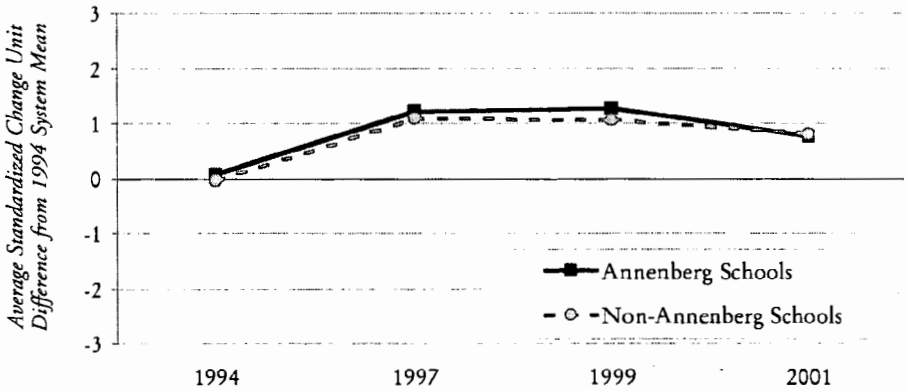


Figure 34. Parent Involvement in School: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

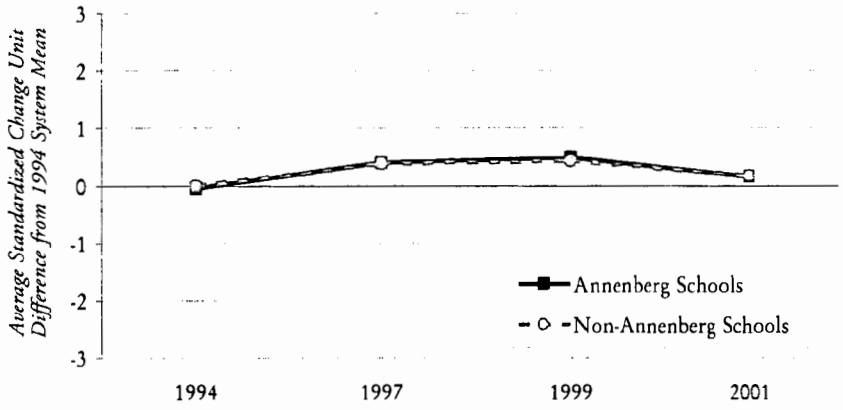


Figure 35. Teachers' Use of Community Resources: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001

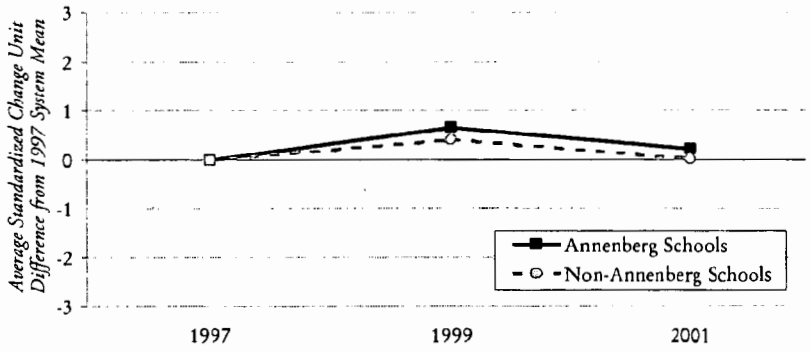


Figure 36. Teachers Ties to the Community: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001

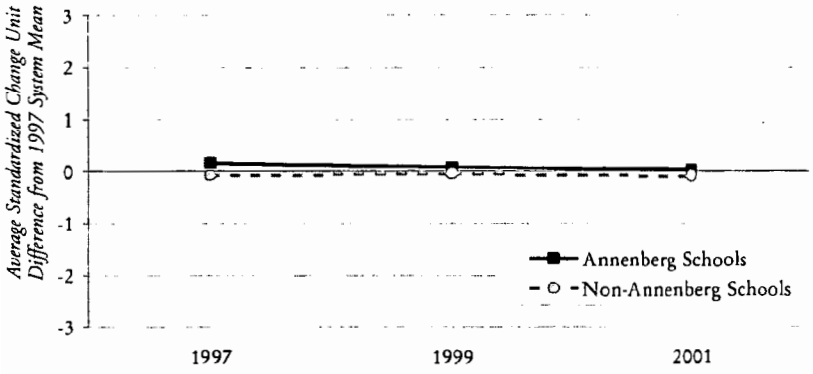


Figure 37. Teachers' Knowledge of Student Culture: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001

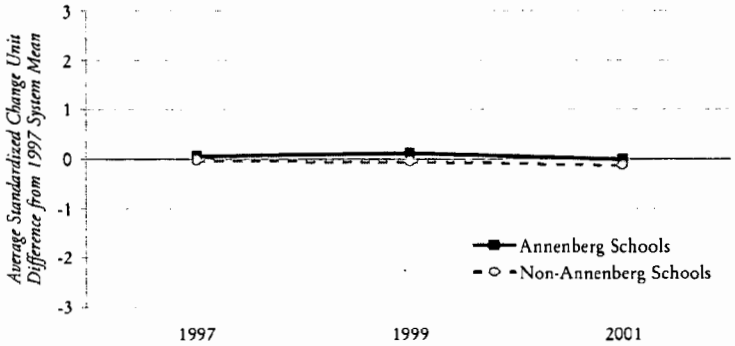
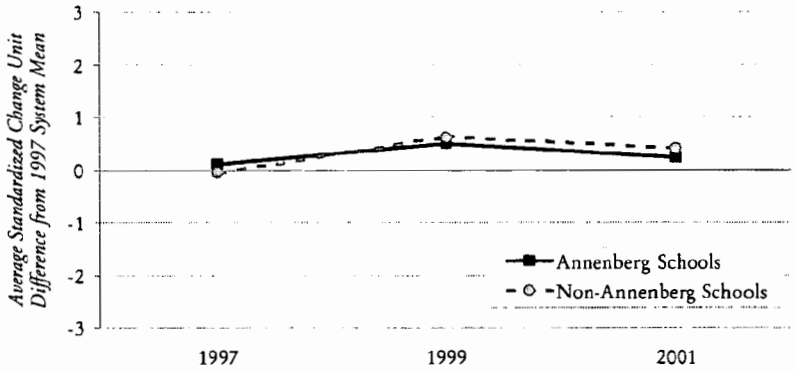


Figure 38. Human and Social Resources in the Community: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



Examples from the Field

Compared to the number of field research schools that improved their leadership and teacher professional community, fewer strengthened their relationships with parents and the community. There were several, however, that did strengthen these relationships by establishing new parent education programs, seeking assistance from community organizations, and helping their students gain greater access to community services. Rigoberta Menchu Elementary School was one such school.

With two parent coordinators on staff, an estimated 30 parent volunteers a day, and eight active parent groups, Menchu devoted substantial attention to cultivating parent and community involvement and support. The school invited parents to workshops on a variety of topics from how to help children learn to how to prepare

income tax forms. Several parent groups worked on encouraging students and parents to read at home.

Between 1997 and 1999, Menchu increased these efforts. Staff developed new strategies to promote parent involvement and support. According to an LSC representative, the school helped parents gather materials to create a lending library of videotapes and books about parental concerns, gangs, drugs, puberty, and how to support children's academic growth. In 1997, a parent and community coordinator worked with the school's Annenberg External Partner to establish the Parent Leadership Circle. This committee increased coordination and reduced overlap in work among the different parent groups. As a result, they became better organized and more autonomous and one of the coordinators was able to work with parents on increasing student attendance.

Menchu also made substantial efforts to help its students take greater advantage of community resources. The school's staff established relationships with community health organizations so that students might receive preventative health care services like immunizations and physical examinations more readily.

Relational Trust

Relational trust is one of two overarching Supports in the Model of Essential Supports. It refers to shared confidence in the abilities and integrity of others, mutual respect, and personal regard. Strong relational trust is crucial for school development.[37] In schools with strong relational trust, teachers feel that their principal respects and supports them, looks out for their welfare, and has confidence in their expertise. They, in turn, respect their principals as educators. In high-trust schools, teachers and parents respect and support each other. Students feel that their teachers care about them, listen to their ideas, and keep their promises. Moreover, teachers trust and respect each other, communicate openly, and support colleagues who lead development efforts.

In schools with weak relational trust, members of the school community hold little respect for and have little confidence in others. Teachers do not necessarily believe that their principal trusts and supports them or looks out for their welfare. There is little mutual respect and support among parents and teachers, students and teachers, or among teachers themselves.

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[37] See Bryk and Schneider (1996, 2002); Sebring et al. (1995); and Smylie and Hart (1999).

Development across Annenberg Schools

Four measures were used to examine the development of relational trust in Annenberg schools: (a) teacher-principal trust; (b) teacher-teacher trust; (c) teacher-parent trust; and (d) teacher-student trust (see Table 9). Overall, relational trust in Annenberg schools strengthened between 1994 and 2001. Only teacher-student trust failed to improve. Nonetheless, there were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on any measure of trust.

Table 9. Development of Relational Trust in Chicago Annenberg Schools, 1994 or 1997 to 2001: Summary of Findings

	1994 OR 1997	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Teacher-Principal Trust	Strong	Strong	+ 0.11	+ 0.13	≅
Teacher-Teacher Trust	Minimal	Minimal	+ 0.25	+ 0.40	≅
Teacher-Parent Trust	Minimal	Strong	+ 0.17	+ 0.22	≅
No Net Change					
Teacher-Student Trust	Strong	Strong	- 0.05	- 0.02	≅

Note: Measures are considered improved or weakened if the difference in means between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

Teacher-Principal Trust. In 1994, teacher-principal trust in Annenberg schools was "strong." Teachers in these schools were likely to report that they felt somewhat or to a great extent respected by their principals. They were likely to agree but not strongly agree that they respected their principals as educators; that their principals took an interest in their professional development, had confidence in their expertise, that their principals placed students' needs before their own personal needs, were effective managers, and looked out for the welfare of their teachers. Similarly, teachers were likely to agree but not strongly agree that they trusted their principals and felt they could discuss their worries with them. Teacher-principal trust in Annenberg schools rose slightly between 1994 and 2001 but remained in the "strong" category of the measure (see Figure 39). This reflected the development of teacher-principal trust in non-Annenberg schools. There were no statistically significant differences between the two groups on this measure in any year.

Teacher-Teacher Trust. There is a similar pattern in the development of teacher-teacher trust (see Figure 40). Unlike teacher-principal trust, however, levels on this measure in Annenberg schools were "minimal" in 1994. That year, teachers were likely to report that they felt respected by only some of the other teachers at their schools. They agreed but did not strongly agree that teachers in their schools respected colleagues who were experts at their craft, that teachers took the lead in school improvement efforts, or that they could discuss their worries with other teachers. They were mixed on whether the teachers at their schools trusted each other. None to only some reported that teachers in their schools cared about each other. Teacher-teacher trust in Annenberg schools increased between 1994 and 2001 and moved toward the high end of the "minimal" category of the measure. There were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools on this measure in any year.

Teacher-Parent Trust. In 1994, teacher-parent trust in Annenberg was "minimal." Teachers were likely to report that they respected and felt respected by parents only to some extent. They were likely to agree but not strongly agree that talking with parents helped them understand students better. Some agreed while others disagreed that there was no conflict between parents and teachers and that parents were partners in educating children. Teachers were likely to report that none or only some of the parents at their schools supported their teaching efforts and did their best to help their children learn. None to some of teachers felt good about the overall support they received from parents. Teacher-parent trust in Annenberg schools strengthened between 1994 and 1999 but weakened between 1999 and 2001 (see Figure 41). Still, in 2001, teacher-parent trust in Annenberg schools was slightly stronger than in 1994 and the increase was enough to move the average level to the low end of the "strong" category of the measure. In 2001, teachers were more likely to be positive about the above relationships and more likely to report that greater numbers of parents supported their efforts and helped children learn. There were no differences between Annenberg and demographically similar non-Annenberg schools on this measure in any year.

Teacher-Student Trust. In 1997, teacher-student trust in Annenberg schools was "strong." Students were likely to agree but not strongly agree that their teachers had a good reason for telling them not to do something, that their teachers cared about them and what they think, and that their teachers did not get mad when they made mistakes. They were also likely to report that their teachers always tried to be fair, made them feel safe and comfortable, and could be trusted. Some students agreed while others disagreed that their teachers did not punish them without them knowing what happened and that their teachers kept their promises. Students assessed teacher-student trust in much the same way in 2001 (see Figure 42). Slight year-to-year differences were not statistically different. Overall, there were no

differences between Annenberg and demographically similar non-Annenberg schools on this measure in any year.

Figure 39. Teacher-Principal Trust: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

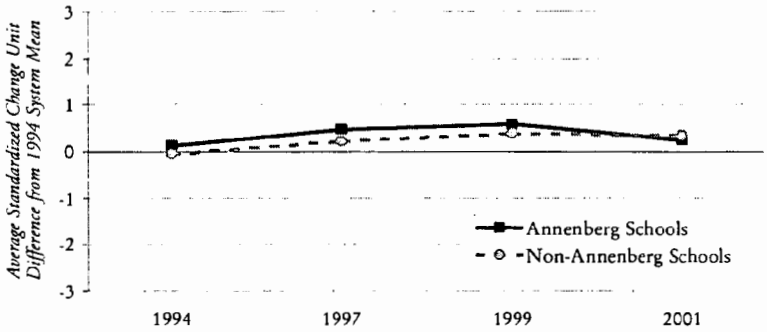


Figure 40. Teacher-Teacher Trust: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

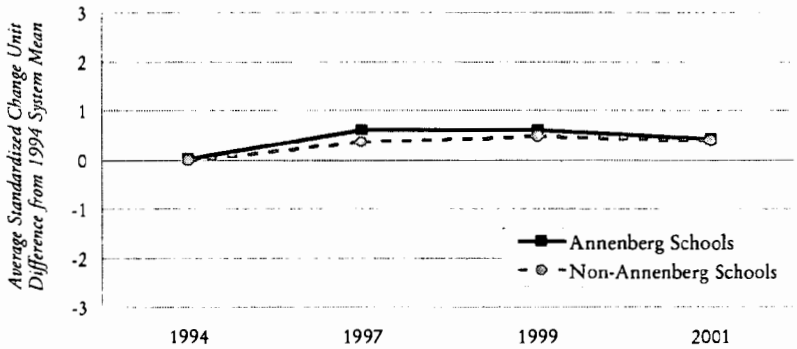


Figure 41. Teacher-Parent Trust: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001

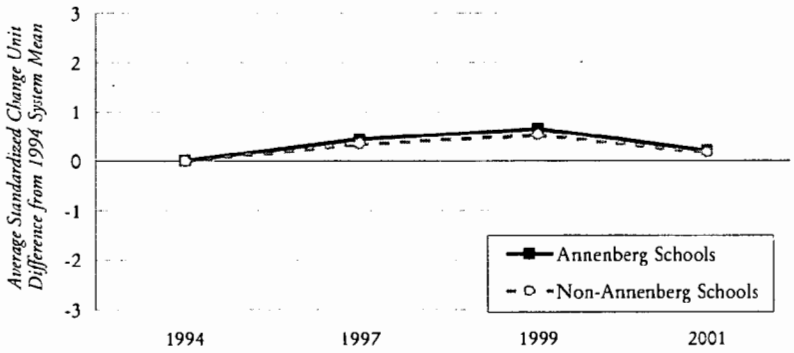
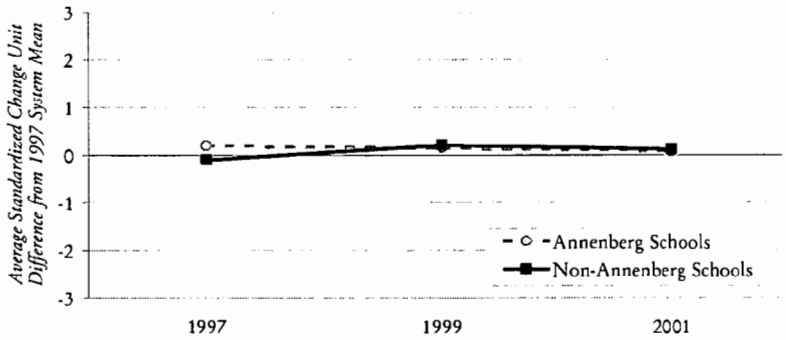


Figure 42. Student-Teacher Trust: Average Standardized Change Unit Differences from 1997 School System Average for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



Examples from the Field

Relational trust among teachers, students, and parents grew stronger in several field research schools. In other schools, teachers developed more trusting relationships with each other and with their principals. In several, teachers became more comfortable working with staff members charged with implementing new curricula and teaching strategies. At the same time, there were several instances where staff turnover or behavior that betrayed expectations compromised growing trust relationships.

Oscar Arias Sanchez Elementary School is an example of how difficult it can be to develop and sustain trust relationships. At the beginning of the field research,

teachers at Sanchez were not very comfortable inviting each other into their classrooms, nor were they comfortable discussing their teaching. Through the efforts of an in-house literacy coordinator, trust relationships among teachers began to develop. As these relationships grew, teachers became more willing to collaborate on the school's literacy initiative and join in professional development activity.

The literacy coordinator sought to build her relationships with teachers slowly. At first, she provided only the assistance that teachers requested. This way, she laid a foundation of trust for the work that followed. The coordinator viewed herself as a resource and a service provider. Because of her dependability, patience, and support, greater numbers of teachers began to seek her assistance and share their problems with her. Through their interactions with the coordinator, teachers began to open up and speak more frequently with one another about their classroom teaching.

Over time, several factors began to undermine the trust the coordinator had begun to establish among teachers. Due to cuts in funding that supported her position, she had to reduce the amount of time she spent working with teachers. Without the coordinator's regular involvement in their day-to-day work, some teachers began to withdraw from collegial activity back into their classrooms. At the same time, growing tensions between teachers and the principal began to undermine the coordinator's work. Some teachers questioned whether the coordinator was working for their interests or for the principal's. Despite these problems, the coordinator continued to work with a small group of teachers at the school and to deepen relationships among them. At the end of the field research, she remained optimistic that her progress would continue and that the trust relationships, while suffering some setbacks, would also continue to grow.

Instructional Program Coherence

School instructional program coherence is the second of the Model's overarching Supports. It is defined by interrelated programs for students and staff that are guided by a common framework and pursued over a sustained period.[38] Strong program coherence is present when this common framework directs all aspects of student learning and governs the working environment of the school. Curriculum, instructional strategies, and student assessments are coordinated among grade-level teachers and across the school, showing a progression of more complex aspects of subject matter and intellectual challenge from one grade to the next. Key student support services such as tutoring, remedial instruction, parent education, and

[38] See Newmann et al. (2001b).

opportunities for parent involvement are aligned with the framework and administrators and teachers hold each other accountable for its implementation. The school makes the framework the focus of its professional development efforts and allocates resources to its continued development.

Schools with weak instructional program coherence lack a common framework. Their programs are fragmented and pull faculty and staff in different directions. There is little coordination among teachers within and across grade levels and student support programs do not necessarily promote the school's instructional efforts. Faculty recruitment, hiring, accountability systems, and professional development are disconnected from any particular instructional focus. Different improvement initiatives may each address discrete problems, but there is little coordination among them to move the whole school forward.

Development across Annenberg Schools

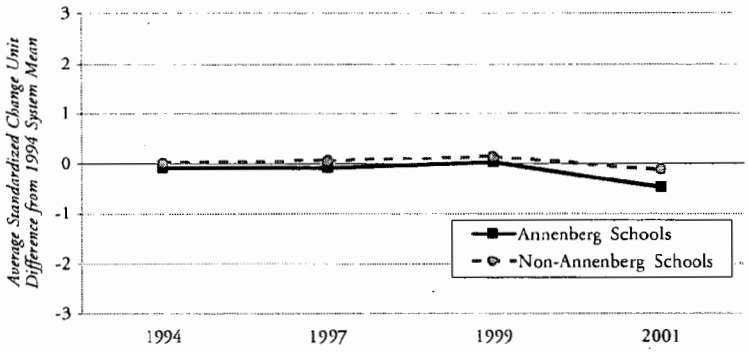
Instructional program coherence in Annenberg schools was "moderate" in 1994 (see Table 10). Teachers were likely to agree but not strongly agree that they could see continuity from one program to the next at their schools, that their schools followed-up on the new programs they started, that curriculum and instruction were well coordinated across grades, and that curriculum and instruction were consistent among teachers at the same grade level. They were likely to agree that special programs do not just come and go and that their schools do not have too many programs to keep track of. They were also likely to agree that the coordination and focus of instruction had changed for the better in the past two years. In 2001, however, instructional program coherence was lower than in 1994, falling to the lower end of the measure's "moderate" category. This decline occurred between 1999 and 2001 (see Figure 43). Levels of coherence were much the same in Annenberg schools and in demographically similar non-Annenberg schools between 1994 and 1999. In 2001, instructional program coherence in Annenberg schools had declined to a point significantly lower than coherence in non-Annenberg schools.

Table 10. Development of Instructional Program Coherence in Chicago Annenberg Schools, 1994 to 2001: Summary of Findings

	1994	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Weakened					
Instructional Program Coherence	Moderate	Moderate	-.0.27	- 0.40	-

Note: Measures are considered improved or weakened if the difference in means between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "=" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

Figure 43. Instructional Program Coherence: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001



Examples from the Field

Several field research schools worked specifically to increase the coherence of their instructional programs. Principals at these schools reduced the number of programs in their buildings, cutting ones that did not align well with the school's mission and goals for development. In other schools, principals worked with teachers to coordinate curriculum and instruction within and across grade levels and promote greater commonality in teachers' approach to instruction. These principals also supplied common curricular and instructional materials. Other schools did little to increase coherence; in fact, some increased program fragmentation by introducing new programs that had little to do with one another or with a central orienting focus.

Linus Carol Pauling School is an example of a school that strengthened its program coherence. The principal at Pauling worked actively to focus her teachers' attention on a common curricular and instructional framework. She promoted this framework by finding appropriate resources, involving teachers in decisions concerning the framework, and giving teachers some measure of instructional autonomy within its parameters.

In 1997 and 1998, Pauling housed many different academic programs and worked with an array of outside organizations. Although teachers thought many of these programs worked well, they also felt their number was overwhelming. By 1999, the principal had reduced Pauling's initiatives to the one promoted by the school's Annenberg External Partner, whose instructional philosophy matched the principal's and who had worked with a group of teachers at the school for several years prior to the Challenge. Between 1998 and 1999, Pauling's school improvement plan was revised substantially. Instead of cataloging many unrelated programs and activities, it promoted a single set of instructional practices. In 1999, the principal established a leadership team that involved more teachers in the decision-making process and, as a result, there was even greater commitment to the school's instructional approach. Between 1999 and 2001, program coherence continued to strengthen as the principal and teachers at Pauling became increasingly committed to this instructional approach. Concurrently, teachers began to discuss their teaching practices in a shared language and in increasingly sophisticated terms and to explore integrating new methods into their instructional repertoires.

In contrast, Andrei Sakharov Elementary School did little to achieve greater program coherence. From 1997 through 2001, Sakharov provided its teachers and students opportunities to participate in a variety of academic programs. From a university-supported mathematics curriculum, to at least three different reading initiatives, to arts projects, to several corporate-sponsored programs, to numerous opportunities for teachers to attend workshops and conferences, there was always something going on at the school. The principal was extremely entrepreneurial and was very successful at bringing in new funds and programs.

Although all the programs at Sakharov had potential for improving instruction and student learning, there were simply too many programs and too little coordination among them. Neither Sakharov's principal nor its Annenberg External Partner saw the many different programs as particularly problematic. Instead, they viewed them as offering opportunities to expose students to as much as possible and to offer teachers professional development and leadership opportunities. Regardless, teachers expressed frustration that they could not keep track of all the programs and that they lacked the time and effort to make any one work particularly well. One teacher observed, "There's a lot going on in this school, but in little vacuums." At

times, some of the programs conflicted with others in what they sought to accomplish. Teachers wanted some coherence and focus. In 1998, one teacher explained that having an overarching vision for the school would make it easier to organize the faculty's work in a common direction and bring in and orient new teachers. Moreover, Sakharov's school improvement plan was not used to guide decisions about which new programs the school would adopt. The LSC and teachers noted that the principal felt free to bring new initiatives into the school without their consultation. They observed that she often did so with great enthusiasm but with too little information and planning to implement them properly. Teachers described the principal's style as "She says 'yes' to everything" and "She just shoots from the hip."

Teacher Professional Development and Support for Change

In addition to these seven Essential Supports, we examined changes in teacher participation in professional development, the quality of the professional development they experienced, and the support they felt they received from their principals and colleagues for change in their schools. In other Consortium research, these measures are sometimes considered part of teacher professional community and school leadership. This report discusses these measures separately because they represent important change mechanisms that may promote improvement in a number of other Supports.

Teacher participation in professional development refers to the frequency with which teachers report that they participated in formal professional development activities during the course of a year. These include activities organized by teachers' own schools, networks of teachers from other schools, outside professional groups or organizations, college and university courses, CPS workshops, and activities sponsored by the Chicago Teachers Union. Quality of professional development is the extent to which professional development addresses students' needs; is sustained and coherently focused rather than short-term and unrelated; provides enough time to think carefully about, try, and evaluate new ideas; includes follow-up activities; is closely connected to schools' improvement plans; and provides teachers with opportunities to work with peers in their own and other schools.

Finally, support for change refers to the extent to which teachers believe that their principals and colleagues encourage them to take risks and try new instructional approaches. It also refers to the extent to which teachers perceive their schools as places where the faculty as a whole embraces improvement. The frequency with which teachers participate in high-quality professional development relates positively to a school's orientation toward improvement, teachers' classroom practices, the

implementation of change, and student academic achievement.[39] In addition, the literature indicates that the extent to which change is supported relates to risk-taking, experimentation, and improvement at the school and classroom levels.[40]

Overall, teacher participation in professional development activity was greater in 2001 than in 1994 (see Table 11). The quality of professional development experienced by teachers in Annenberg schools also improved. At the same time, support for change in Annenberg schools declined.

Table 11. Teacher Professional Development and Support for Change in Chicago Annenberg Schools, 1994 or 1997 to 2001: Summary of Findings

	1994 OR 1997	2001	DIFFERENCE IN MEANS	STANDARDIZED CHANGE UNIT DIFFERENCE	NON-ANNENBERG COMPARISON
Improved					
Teacher Participation in Professional Development	High	High	+ 0.15	+ 0.47	≅
Quality of Professional Development	High	High	+ 0.11	+ 0.26	≅
Weakened					
Support for Change	Moderate	Moderate	- 0.34	- 0.41	≅

Note: Measures are considered improved or weakened if the difference in means between 1994 or 1997 and 2001 is statistically significant at or beyond 0.01 ($p < 0.01$). Comparisons to non-Annenberg schools are for 2001. A "+" indicates that Annenberg schools were stronger than non-Annenberg schools on a particular measure ($p < 0.01$). A "≅" indicates that the two groups of schools were statistically equivalent. A "–" indicates that Annenberg schools were weaker than non-Annenberg schools on the measure ($p < 0.01$).

Teacher Participation in Professional Development. In Annenberg schools, teacher participation increased between 1994 and 2001 with most of that increase occurring between 1994 and 1999 (see Figure 44). In 2001, more than half the teachers in Annenberg schools reported attending professional development activities at their school or at CPS-sponsored forums. More than half reported participating in networks outside of their school and discussing curriculum and instruction with an outside group. Between 20 and 50 percent attended union-sponsored activities or took university or college courses. In demographically similar non-Annenberg schools, teacher participation in professional development declined slightly between 1994 and 1997 and then began to rise through 2001. In 1997 and 1999, it was

[39] Bryk et al. (forthcoming); Cohen and Hill (2000); Garet, Porter, Desimone, Birman, and Yoon (2002); Smylie et al. (2001); Sparks (1986); and Wiley and Yoon (1995).
[40] Fullan (2001); Hallinger and Heck (1996); Smylie, Conley, and Marks (2002).

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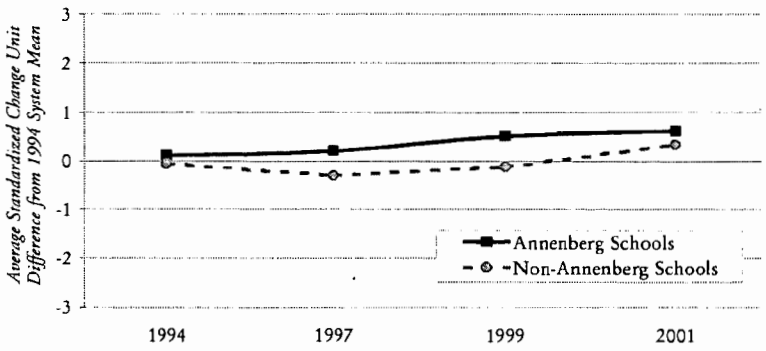
greater in Annenberg schools than in non-Annenberg schools. By 2001, however, there was no statistical difference between the two groups.

Quality of Professional Development. A similar pattern is present in the quality of professional development. In 1997, the average quality of professional development experienced by teachers in Annenberg schools was "high." This means that teachers were likely to agree but not strongly agree that their professional development was closely connected to their schools' improvement plans. They agreed that professional development provided them with opportunities to work with their colleagues and helped them understand their subject matter better. Their experiences were sustained and focused and included enough time to think about and judge new ideas. They found that their experiences addressed students' needs. Some agreed and others disagreed that their professional development gave them opportunities to work with teachers at other schools. The quality of professional development experienced by Annenberg teachers increased between 1997 and 2001, especially between 1997 and 1999 (see Figure 45). Nonetheless, it remained in the "high" category of the measure. Although it increased between 1997 and 1999 at a greater rate in Annenberg schools than in demographically similar non-Annenberg schools, this difference disappeared by 2001. None of the differences between the two groups were statistically significant in any year although the difference in 1999 approached significance.

Figure 44. Teacher Participation in Professional Development: Average Standardized Change Unit Differences from 1994 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1994 to 2001



Support for Change. In 1994, support for change in Annenberg schools was "moderate." Teachers reported that they agreed or strongly agreed that their principals were willing to let them make changes, encouraged them to try new methods, and provided strong support for the changes that were introduced. They agreed that the principal encouraged them to take risks and pursue adequate

professional development to support the changes they were making. In addition, teachers agreed that the changes were supported by and involved many teachers. Levels of this measure in Annenberg schools declined between 1997 and 2001 but remained within the "moderate" category (see Figure 46). In 1999, support for change had become significantly stronger in Annenberg schools than in demographically similar non-Annenberg schools. By 2001, however, it declined to a point where it was no different from non-Annenberg schools.

Figure 45. Quality of Professional Development: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001

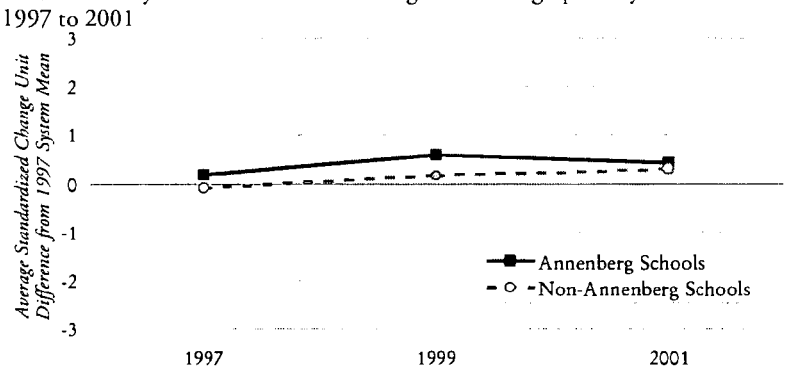
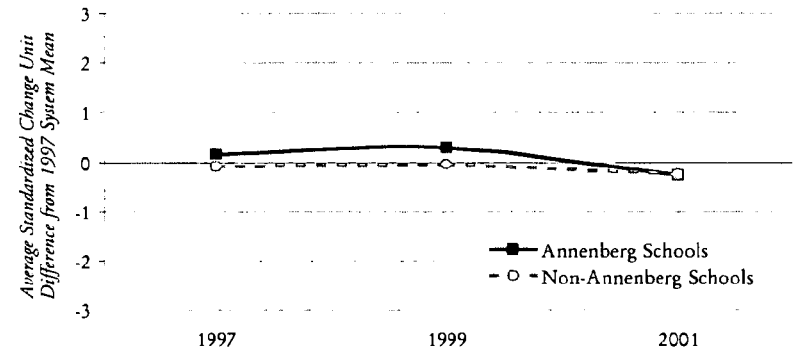


Figure 46. Support for Change: Average Standardized Change Unit Differences from 1997 School System Mean for Annenberg and Demographically Similar Non-Annenberg Schools, 1997 to 2001



Summary

In general, our findings on school development in Annenberg schools are mixed (see Table 12). As a group, schools participating in the Chicago Challenge were stronger on several measures of the Essential Supports in 2001 than they were in 1994 or 1997. At the same time, however, they failed to improve or grew weaker on other measures. The findings reveal no clear patterns of change among particular Essential Supports. That is, there were no Supports in which a predominant number of indicators were stronger or weaker in 2001 than in 1994 or 1997.

The findings also indicate that there were virtually no statistically significant differences in the development of the Essential Supports between Annenberg and demographically similar non-Annenberg schools. Recall that in 1994, Annenberg and non-Annenberg schools were similar on every measure of the Essential Supports. In 2001, there were only two measures for which there were statistically significant differences (see Table 13). Several measures of leadership and teacher professional community initially improved at a greater rate in Annenberg than demographically similar non-Annenberg schools. After 1999, however, these initial advantages disappeared and by 2001, there were no differences between the two groups on these measures.

Table 12. Summary of Changes in the Essential Supports in Annenberg Schools Between 1994 or 1997 and 2001

	ESSENTIAL SUPPORT
Improved	
Instruction	Demand for Authentic Intellectual Work Writing Emphasis Interactive Instruction
Learning Climate	Classroom Personalism Safety
Leadership	Teacher Influence in Decision Making
Teacher Professional Community	Peer Collaboration Focus on Student Learning Orientation toward Innovation
Parent-Community Involvement	Teacher Outreach to Parents Parent Involvement in School
Relational Trust	Teacher-Principal Trust Teacher-Teacher Trust Teacher-Parent Trust
Other	Teacher Participation in Professional Development Quality of Professional Development
No Net Change	
Instruction	Didactic Instruction
Learning Climate	Press toward Academic Achievement
Leadership	Inclusive Leadership Principal Instructional Leadership Joint Problem Solving
Teacher Professional Community	Collective Responsibility Reflective Dialogue
Parent-Community Involvement	Teachers' Use of Community Resources Teachers' Ties to the Community Teachers' Knowledge of Student Culture Human and Social Resources in the Community
Relational Trust	Teacher-Student Trust
Weakened	
Learning Climate	Peer Support for Academic Work
Teacher Professional Community	Teacher Commitment to School
Other	Instructional Program Coherence Principal-Teacher Support for Change

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Table 13. Summary of Differences Between Annenberg and Demographically Similar Non-Annenberg Schools on Measures of the Essential Supports, 2001

	ESSENTIAL SUPPORT
Annenberg Schools Stronger	Didactic Instruction
Annenberg Schools Weaker	Instructional Program Coherence

The Case of Breakthrough Schools

In 1999, the Chicago Challenge awarded new funding to 18 Breakthrough Schools from its 45 implementation networks with the expressed purpose of deepening development in those schools and helping them serve as models of development. Student outcomes and school development were examined among Breakthrough Schools between 1994 and 2001 and compared to student outcomes in other demographically similar Annenberg schools. These analyses controlled statistically for the same school characteristics and demographic variables as analyses for Annenberg schools as a whole.[41]

Student Outcomes

As reported earlier in this section, there were no statistically significant differences between Annenberg and demographically similar non-Annenberg schools in student academic achievement or in student social and psychological outcomes. Similarly, there were virtually no statistically significant differences between Breakthrough and other Annenberg schools in these student outcomes. ITBS trends in Breakthrough Schools mirrored trends in other Annenberg schools (see Appendix G). So too did trends in student academic engagement, classroom behavior, social competence, and self-efficacy (see Appendix H). Only on the measure of student academic engagement was there a statistically significant difference in 2001 between Breakthrough and other Annenberg schools, and that difference favored non-Breakthrough schools.

[41] Due to the small number of Breakthrough schools, these findings include differences occurring at the 0.05 level of statistical significance as well as the 0.01 level of significance.

School Development

There was only one statistically significant difference between Breakthrough Schools and other Annenberg schools on any measure of the Essential Supports in 1999, the year Breakthrough Schools were identified. That difference was in teachers' ties to the school community, a measure that was stronger for non-Breakthrough Annenberg schools. When compared in 2001, there were no significant differences between Breakthrough Schools and other Annenberg schools in instruction, student learning climate, parent and community involvement, or instructional program coherence. However, as a group, Breakthrough schools had become noticeably stronger than other Annenberg schools on most measures of teacher professional community and, to a lesser extent, stronger on measures of school leadership and relational trust (see Table 14 and Appendix H).

Table 14. Comparison of Breakthrough and Other Annenberg Schools on Measures of the Essential Supports, 2001

BREAKTHROUGH SCHOOLS STRONGER	
Leadership	Inclusive Leadership Joint Problem Solving Teacher Influence in Decision Making
Teacher Professional Community	Peer Collaboration Reflective Dialogue Focus on Student Learning Collective Responsibility Orientation toward Innovation Teacher Commitment to School
Relational Trust	Teacher-Principal Trust Teacher-Teacher Trust
Other	Quality of Teacher Professional Development
NO DIFFERENCE	
Instruction	All measures
Student Learning Climate	All measures
Leadership	Principal Instructional Leadership
Parent Community Involvement	All measures
Relational Trust	Teacher-Parent Trust Teacher-Student Trust
Other	Instructional Program Coherence Teacher Participation in Professional Development Support for Change

Trends in measures of teacher professional community indicate that Breakthrough Schools were slightly stronger than other Annenberg schools on measures of professional community in 1999, but these differences were not statistically significant (see Figures 47 through 52). By 2001, however, peer

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collaboration, focus on student learning, collective responsibility, reflective dialogue, orientation toward innovation, and teacher commitment to school were significantly stronger among these schools. These differences resulted from a continuous, albeit slight, upward trajectory among Breakthrough Schools and a downturn after 1999 among other Annenberg schools.

Figure 47. Peer Collaboration: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

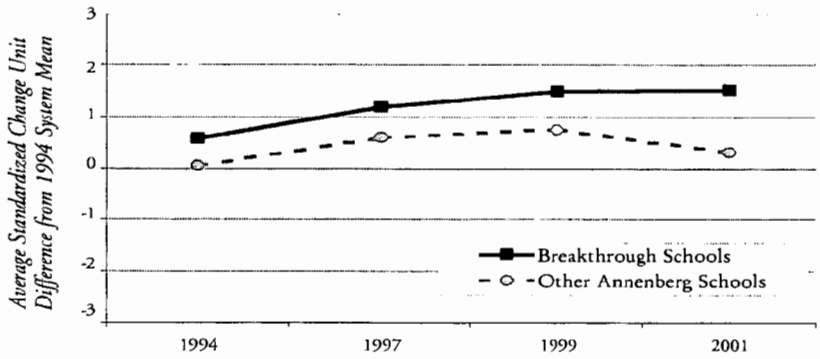


Figure 48. Reflective Dialogue: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

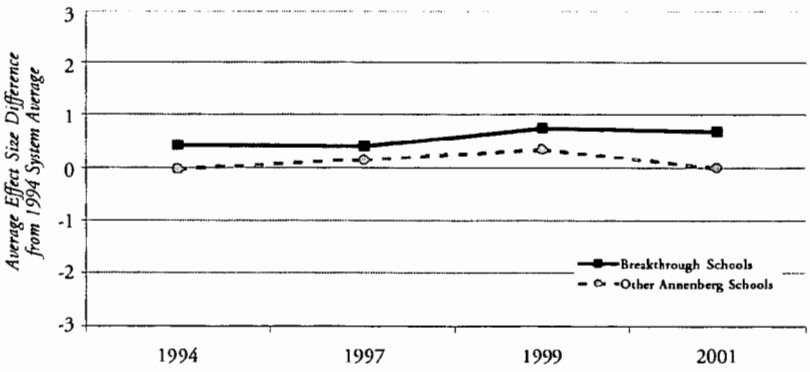


Figure 49. Focus on Student Learning: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

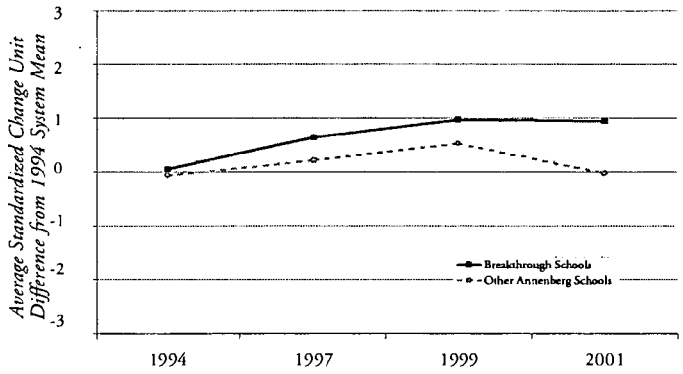


Figure 50. Collective Responsibility: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

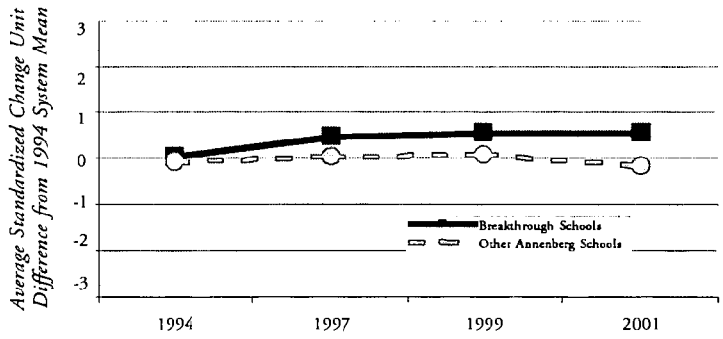


Figure 51. Orientation toward Innovation. Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

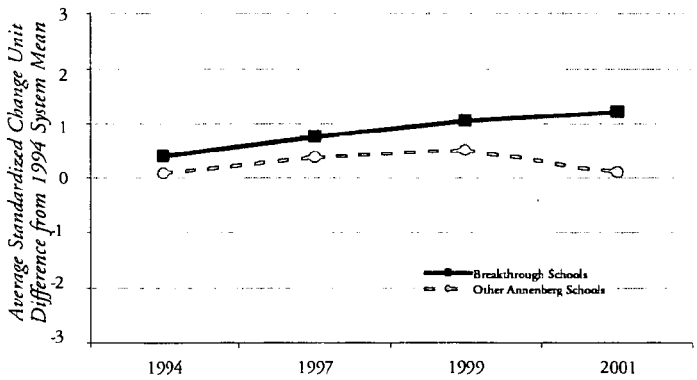
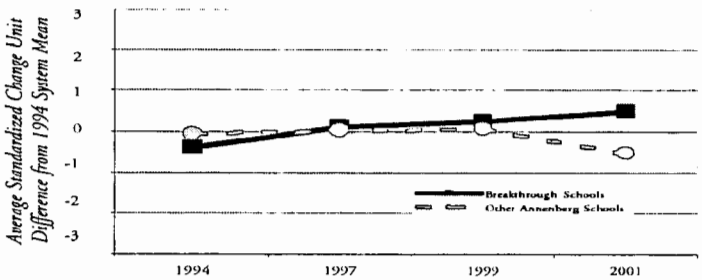


Figure 52. Teacher Commitment to School: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001



While not as pronounced as those for teacher professional community, similar differences were also found between Breakthrough and other Annenberg schools on several measures of school leadership (see Figures 53 through 55). In the baseline years and 1999, Breakthrough Schools were slightly stronger on measures of the inclusiveness of school leadership, joint problem solving, and teacher influence in decision making, though these differences were not statistically significant. In 2001, however, Breakthrough Schools were stronger on these measures. Like teacher professional community, differences in school leadership, with the exception of teacher influence in decision making, resulted from gradual improvement among Breakthrough Schools occurring at the same time that levels among other Annenberg schools were declining. For teacher influence, the 2001 difference occurred because the decline in this measure among Breakthrough Schools was not as steep as the decline among other Annenberg schools.

Figure 53. Inclusive Leadership: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

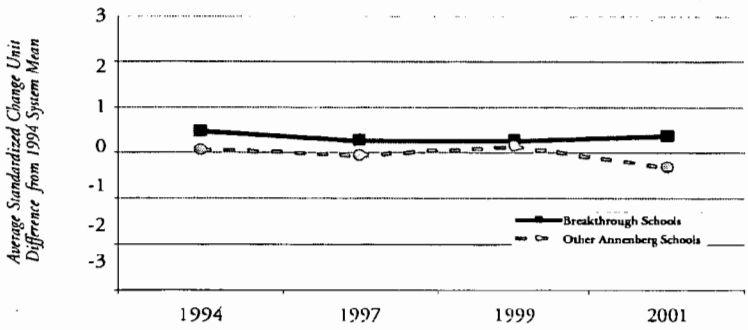


Figure 54. Joint Problem Solving: Average Standardized Change Unit Differences from 1997 School System Mean for Breakthrough and Other Annenberg Schools, 1997 to 2001

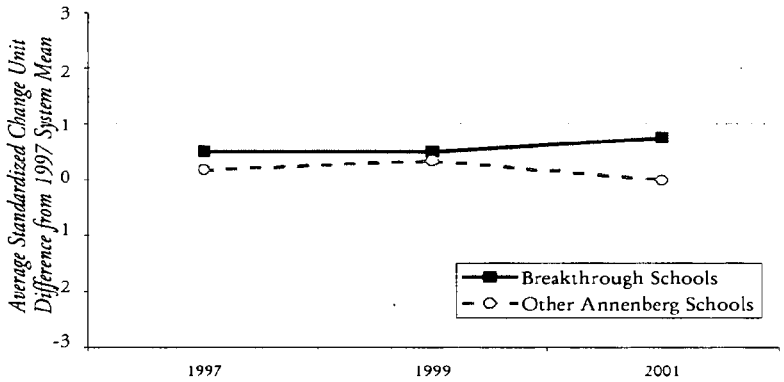
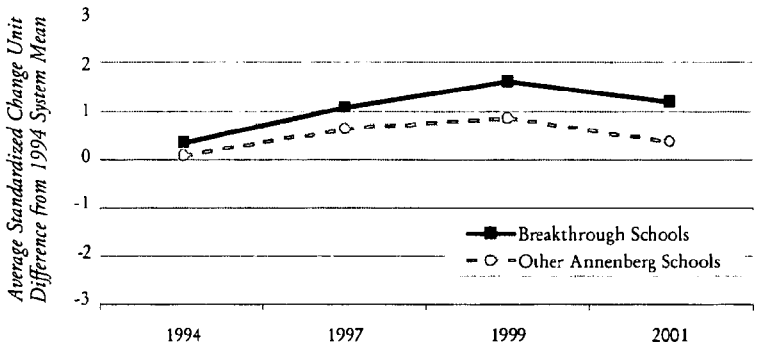


Figure 55. Teacher Influence in Decision Making: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001



Finally, Breakthrough Schools surpassed other Annenberg schools in development of teacher-principal trust and teacher-teacher trust (see Figures 56 and 57). Breakthrough Schools were slightly stronger on these measures than other Annenberg schools between 1994 and 1999, but these differences were not statistically significant. After 1999, Breakthrough Schools were able to sustain and build upon their initial levels of trust while levels of trust declined in other Annenberg schools. The same pattern was found with respect to the quality of teacher professional development. (see Figure 58).

The relative success of Breakthrough Schools is discussed in Part Three of this report.

Figure 56. Teacher-Principal Trust: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

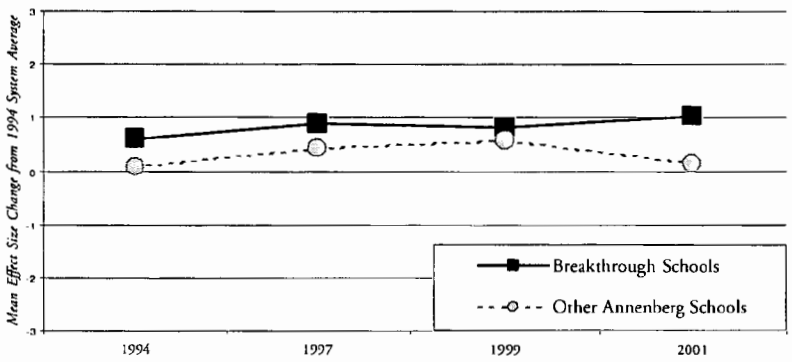


Figure 57. Teacher-Teacher Trust: Average Standardized Change Unit Differences from 1994 School System Mean for Breakthrough and Other Annenberg Schools, 1994 to 2001

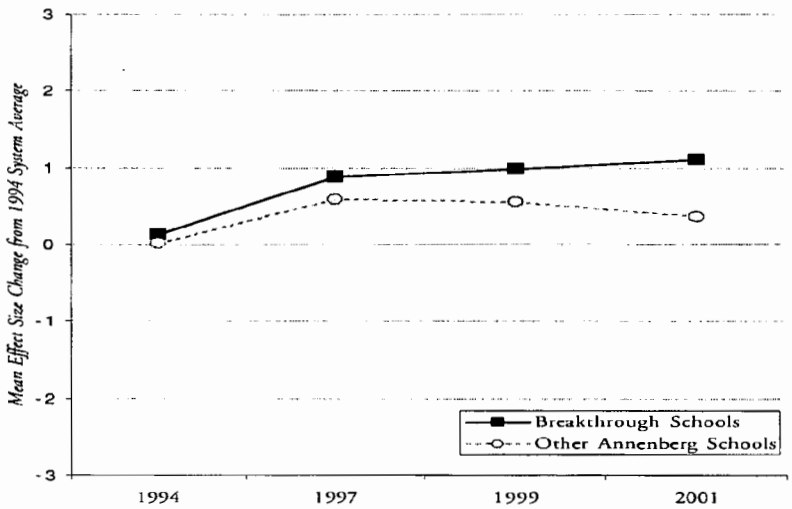
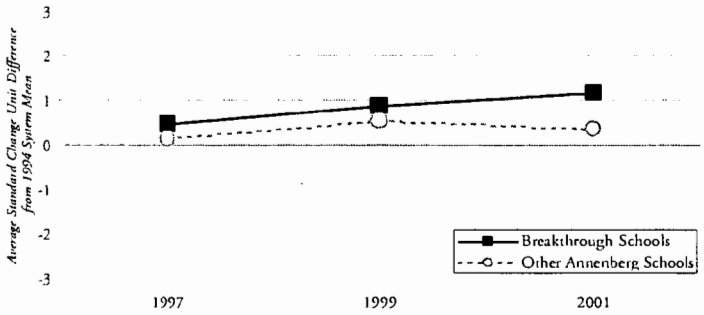


Figure 58. Quality of Teacher Professional Development: Average Standardized Change Unit Differences from 1997 School System Mean for Breakthrough and Other Annenberg Schools, 1997 to 2001



A Closer Look at What Makes School Improvement Successful

As described in Part One of this report, this study of the Chicago Annenberg Challenge included both macro and micro levels of inquiry. Comparative religion scholar Diana Eck provides another way to think about the design of our work in her discussion of how people view icons.[42] According to Eck, icons can be seen as "objects," entities in and of themselves that can be described and assessed. On the other hand, icons may also be considered "windows" through which people gain new insight and understanding.

The findings reported thus far consider the Chicago Challenge as an "object," a large-scale reform initiative to promote local school development whose work across a substantial number of schools can be documented and assessed. Analyses of citywide survey and standardized test-score data described and assessed trends in student outcome measures and indicators of school development among Annenberg schools, and those trends were compared to demographically similar non-Annenberg schools. Analyses of survey and test-score data also compared Breakthrough Schools to other Annenberg schools. Data from field research schools illustrated aspects of school development found in the analyses.

At the same time, the Challenge is also a "window" through which individual schools can be studied to better understand how school development may be

[42] Eck (1993).

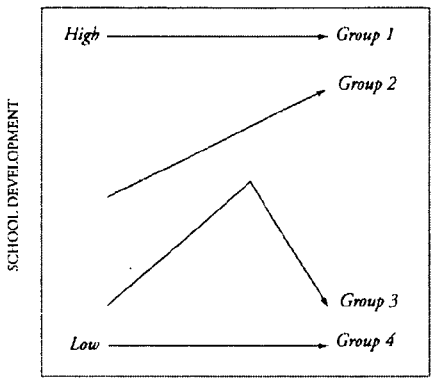
promoted or constrained. The field research was designed with this purpose in mind. This last section of findings presents a view of local school development through the "Annenberg window." This is not a view of school development as a function of a large-scale reform initiative; instead, it is a view of development from the perspective of individual schools and the work they do to get better. Data from longitudinal field research in 12 Annenberg elementary schools were analyzed to reveal emergent themes and patterns of activities and conditions that were associated with both successful and stagnant development. (See Part One and Appendix C for more information on the field research methodology.)

Unlike the previous section in which field research schools were referred to by pseudonyms, we refer to schools in this section by letter and group. We use letters and groups here in order to make more clear the presentation of cross-school findings. In addition, using letters and groups in this section serves to protect the confidentiality of our field research sites by minimizing the possibility that information from this section could be combined with information from the previous section to reveal school identities.

Promoting School Development

Four patterns of development were identified across the 12 field research schools during the five years of this study. These patterns are shown in Figure 56. This figure is a heuristic. The lines represent general directions of development; they do not indicate actual magnitudes of change nor relative differences in starting or ending points among the schools. The first pattern is illustrated by two schools—Group 1—that were relatively high on measures of the Essential Supports in 1997 and did not change in any appreciable way during the five-year study. Two other schools that developed continuously on one or more of the Essential Supports between 1997 and 2001—Group 2—illustrate the second pattern. Four schools that developed on one or more of the Essential Supports between 1997 and 1999 but then regressed between 1999 and 2001—Group 3—illustrate the third pattern. Four more schools that were quite low on indicators of the Essential Supports in 1997 and failed to develop in any appreciable way—Group 4—illustrate the last pattern.

Figure 59. Patterns of Development among Field Research Schools



The criterion for classifying schools into these groups was their development on one or more of the Essential Supports. We also identified general patterns of student achievement in terms of average changes in the percentages of students scoring at or above national norms in reading and mathematics on the ITBS between 1997 and 2001. This is not a particularly strong measure of achievement and our analysis did not control for school characteristics and demographic factors like the other achievement analyses in this report. The purpose here is simply to illustrate general relationships between different patterns of school development and student academic achievement as suggested by the logic of the Model of Essential Supports.

Following this logic, it would be expected that achievement in schools in Groups 1, 2, and 3 would be greater than achievement in schools in Group 4. It would also be expected that Group 2 schools, those that made continuous progress in development of the Essential Supports, would make the greatest improvement in achievement. As shown in Table 15, average improvement in Groups 1, 2, and 3 was greater than in Group 4. And as expected, Group 2 showed greater average improvement than Groups 1 and 3.

While these general relationships are what might be expected, they do not illustrate very well how achievement and school development are related. To examine these relationships in more detail, achievement in Group 2 was compared to achievement in Group 3 during two periods. The first was from 1997 to 1999, the second from 1999 to 2001. Group 3 improved on the Essential Supports during the first period and regressed during the second. Group 2 developed continuously during both. As shown in Table 16, improvement in average achievement in Group 2 was somewhat greater in the second period than in the first. On average, Group 3 improved academic achievement as it was developing the Essential Supports and average achievement declined slightly as those schools regressed in their development.

Table 15. Average Change in the Percentage of Students Scoring At or Above National Norms on the ITBS in Reading and Mathematics by School Development Group, 1997 to 2001

	READING	MATH
Group 1	+ 10.1	+ 7.3
Group 2	+ 18.0	+ 13.6
Group 3	+ 8.5	+ 10.0
Group 4	+ 5.8	+ 1.5

Table 16. Average Change in the Percentage of Students Scoring At or Above National Norms on the ITBS in Reading and Mathematics in Groups 2 and 3, 1997 to 1999 and 1999 to 2001.

	1997 TO 1999	1999 TO 2001
	Group 2	
Reading	+ 8.55	+ 9.45
Math	+ 5.90	+ 7.70
	Group 3	
Reading	+ 11.32	- 2.88
Math	+ 11.43	- 1.40

When examining the field research about schools' efforts to develop, four general findings emerged. First, higher levels of school development and continuous improvement were associated with coordinated or concerted attention to multiple Essential Supports. Second, higher levels of development and continuous improvement were associated with the use of multiple, reinforcing strategies for change. Third, higher levels of development and continuous improvement were associated with a strong base of external resources aligned with the school's development agenda. Finally, higher levels of development and continuous improvement were associated with strong, broad-based, and distributed leadership. Whether these findings were true for a school was, with few exceptions, associated with its group classification and pattern of development. In general, these findings were consistently true or more true than false of schools that were more highly developed on the Essential Supports or developed on the Supports over the course of the study. They were consistently not true of schools that were relatively weak in the Supports in 1997 and failed to develop. And they were true in 1999 but only partially true (i.e., only one or two were true) in 2001 for schools that developed between 1997 and 1999 and regressed thereafter. This suggests that the different aspects of a school development process work in conjunction and that if one or two fall away, development may be compromised.

These patterns of findings are summarized in Table 17. The columns in this table show the four groups of schools according to their patterns of development. The

rows are the major findings that distinguish groups of schools from each other. The cells within the table show the schools in each group and indicate with "+'s" and "-'s" whether a particular finding was true or more true than false about the school or whether the finding was false or more false than true about the school in a particular year. The table shows a combination of "+'s" and "-'s" for each school in each cell. The first "+" or "-" indicates whether the finding was true or (more true than false) or false (or more false than true) for that school in 1999. The second "+" or "-" indicates whether the finding was true or false for that school in 2001. For example, for School A (Group 1), the first finding was true for this school in both 1999 and 2001. For School E (Group 3) , the first finding was true for this school in 1999 but false in 2001.

Table 17. Relationships Between Patterns of School Development and Findings on School Development Processes

FINDINGS	GROUP 1 HIGHER INITIAL STATE, NO DEVELOPMENT	GROUP 2 ONGOING DEVELOPMENT	GROUP 3 INITIAL DEVELOPMENT THEN REGRESS	GROUP 4 LOW INITIAL STATE, NO DEVELOPMENT
School targets multiple Essential Supports in a concerted or coordinated manner.	School A + + School B - +	School C + + School D + +	School E + + School F + + School G + - School H + -	School I - - School J - - School K - - School L - -
School uses multiple, complementary change strategies.	School A + + School B + +	School C + + School D - +	School E + + School F + - School G + - School H + -	School I - - School J - - School K - - School L + -
School has strong, aligned base of external resources.	School A + + School B - +	School C + + School D + +	School E + - School F + - School G + - School H + -	School I - - School J - - School K - - School L + -
School develops strong distributive leadership.	School A + + School B + +	School C + + School D + +	School E + - School F + - School G + - School H + -	School I - - School J - - School K - - School L + -

Targeting Multiple Essential Supports

The first finding from this analysis indicates that school development is associated with a coordinated focus on multiple Essential Supports. In the most highly developed schools and in schools that developed continuously (Groups 1 and 2), change initiatives focused on development of several related Supports which created synergy to promote or sustain overall school development. When schools focused on a single Support, or when they focused on multiple Supports in an uncoordinated manner, little overall development occurred (Group 4). When schools shifted their

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focus from multiple Supports to only one, or when efforts lost momentum or coordination, initial improvement declined (Group 3).

Why would a school be more likely to develop by targeting multiple supports? As discussed earlier, and as other Consortium research suggests, the Essential Supports are not discrete, independent elements.[43] Rather, they operate as related parts of a system. The Supports that represent key organizational capacities—school leadership, professional community, and parent and community support—are crucial for developing and supporting school practices—student learning climate and quality instruction—that in turn are instrumental for promoting student learning. This logic is consistent with the discussion in the next section about the Challenge's overall reform strategies and with other literature showing that school development requires long, steady work not focused solely on the implementation of specific programs and policies, but on the broader, coherent development of school organization and practices.[44]

Field research documenting the first three years of the Chicago Challenge suggested that the success of efforts to develop learning climate and instruction is contingent on previous or concurrent development of school organizational capacity.[45] For example, strong leadership is necessary to create and sustain a well-paced, challenging, and coherent instructional program.[46] There must be a strong professional community of teachers who work together to coordinate the curriculum, achieve consistency in expectations for student learning, develop intellectually rigorous tasks, and engage students in those tasks. It is unlikely that such a professional community can thrive over time if school leadership does not help develop it and provide enough time and resources to get its work done. Overall then, focusing on one Essential Support may promote development of that particular support, but development is likely to be limited and difficult to sustain if there are weaknesses in others.

Two field research schools illustrate these points. School J's failure to develop other Essential Supports undermined its efforts to develop its instructional program. When this school began working with its Annenberg partner in 1997, it focused on raising the quality of reading instruction. Even though initial efforts were promising, weak school leadership and teacher professional community soon compromised them. School H made concerted efforts to develop multiple Essential Supports, albeit without much coordination or a clear overarching vision. Its Annenberg External

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[43] Bryk et al. (forthcoming).
[44] For example Elmore and McLaughlin (1988); Fullan (2001); and Louis and Miles (1990).
[45] Wenzel et al. (2001).
[46] See Newmann et al. (2001b).

Partner organized a group of teachers to develop professional community, promote professional development, and improve student learning climate and instruction. At the same time, the principal focused his energy on increasing student test scores, improving student discipline and safety, and promoting small group instruction. Although the Annenberg teachers and the principal focused on different areas of school development, their work converged around the promotion of small group instruction. These efforts helped School H develop between 1997 and 1999 but progress began to disintegrate between 1999 and 2001 as development efforts began to diverge and conflict. Teachers working to promote more small group instruction faced a principal who began to assert student discipline as the school's first priority. The principal quashed teacher efforts to develop smaller, more flexible instructional groups because those efforts required that students move among self-contained classrooms. The principal believed that such movement provided too great a chance for disruption and student misconduct.

School H's regress was also related to a shift toward reliance on one change mechanism. Initially working to achieve change through teacher professional development and student test score accountability, test-score accountability began to take precedence. In addition when its External Partner began to withdraw from the school it lost a key resource for its development efforts. Finally, where teachers once shared in leadership for school development, the principal began to consolidate his control over school decisions.

Employing Multiple, Reinforcing Strategies

The second finding is consistent with the literature on educational change that concludes that there are no "quick fixes" or "cookbook solutions" for school development.[47] Like the literature, our field research indicates that successful school development is achieved not just from the "top down" or "bottom up," but also from the "inside out" through a combination of strategies that most effectively develop teachers' "will" and "skill."[48] There was no single program or initiative that provided any of the field research schools with everything they needed to develop; instead of reliance on a single solution, school development was associated with employing idiosyncratic combinations of complementary, mutually reinforcing strategies.

As will be discussed in greater detail in the next section of this report, literature on education reform identifies three types of mechanisms that may promote change at the school and classroom levels.[49] The first consists of bureaucratic and normative

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[47] For example, Fullan (2001) and Maeher and Midgley (1996).
[48] Newmann and Wehlage (1995); Sarason (1990); and Tyack and Cuban (1995).
[49] Hannaway (1993) and Smylie and Perry (1998).

controls and sanctions that seek to compel individuals and schools to take specific actions. The second consists of incentives to prompt voluntary action. The third consists of learning opportunities that develop new knowledge and skills and, from that development, evoke new action.

Across the field research schools, there were many examples of these mechanisms in effect. Some principals and External Partners offered teachers incentives to adopt and develop commitment to new teaching practices. These came in the form of monetary stipends, public praise and encouragement, time to work with colleagues or pursue professional development, consultations with experts, increased classroom autonomy, and opportunities to exercise greater influence in decision making. Numerous opportunities for learning and development were available to teachers, principals, and other school staff in our study schools. These included workshops and conferences, collaborative planning and work groups, networking with teachers from other schools, working with in-house curriculum coordinators, new mentoring relationships, access to professional journals, and increased opportunities for collegial interaction. There were also a number of controls at work. In most of the field research schools, CPS student retention and school probation policies were highly influential sources of accountability and control for both principals and teachers. A number of principals created additional monitoring and accountability systems. Several developed and enforced their own set of expectations for staff and student performance. At one school, the External Partner instituted a formal review process that made staff members publicly accountable to the Partner and each other. In several others, the growth of teamwork and collaboration, along with the expansion of teachers' leadership, reinforced collegial accountability and control.

Both the literature and the project's field research indicate that no mechanism alone is likely to promote and sustain school development over an extended period of time.[50] In the field research sample, continuously developing schools and schools that were initially strong and steady in their development (Groups 1 and 2) were more likely than nondeveloping schools (Group 4) to use a variety of strategies to trigger development, but they did not use them in any common combination or order. Different mechanisms were instrumental in sparking development activity in each of the schools. Some were motivated to act by the threat of administrative sanction; others were prompted by the adoption of a promising new approach to teaching. In no instance were the mechanisms that initiated activity adequate to sustain development over an extended period of time without the introduction of others. For example, School D accelerated its development between 1999 and 2001 in large part because it introduced a broader range of change mechanisms. On the other hand,

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[50] See Smylie and Perry (1998).

loss of progress among all but one school in Group 3 was associated with movement away from a coordinated combination of change mechanisms and increased reliance on one—bureaucratic accountability through high-stakes student testing.

Although no patterns were detected in the specific strategies that developing schools used, it is likely that a school's particular situation may call for specific combinations or for certain mechanisms to be used before others. For some, the most effective means to initiate change might be the introduction of a new accountability system or the replacement of the principal or members of the teaching staff. For others, this strategy could be completely ineffective. Likewise, professional development might motivate teachers at one school to adopt new practices, but be largely ignored at another. The apparent context-specific, idiosyncratic nature of effective strategies requires additional investigation. For now, it seems that evocation of effective combinations of strategies depends on understanding the strengths and weaknesses of a particular school and the needs and interests of the people who work there.[51] At the micro-level, these observations are consistent with our earlier discussion about the alignment of reforms with schools' capacity to implement them well.

Securing External Resources

As will be discussed in more detail in Part Three, school development requires many different types of resources. These include people, time, money, and materials. They also include ideas and expertise, leadership, political support, beliefs and values, and social trust. Which new external resources a school may need is dependent upon the areas it seeks to develop, the strength of its internal resources, and the external resources it has already accumulated.

External resources for school development may come from a variety of places—the central administration, groups working with the school, community organizations, and parents. Underresourced and underdeveloped schools may depend a great deal on external resources to promote development. Indeed, as we argued earlier, failure to secure and sustain adequate external resources may thwart development efforts.[52]

Schools in the field research sample drew from several different sources of support. Although many worked with multiple outside organizations and other service providers, CPS and the Chicago Challenge stood out as the most predominant sources of external support. Beyond supporting basic school operations,

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[51] Evans (1996); Hargreaves (2003).
[52] Fullan (2001).

CPS provided several of the field research schools with budget directors, instructional consultants, and probation managers. Moreover, the system's capital improvement initiative funded badly needed repairs, renovations, and new construction at several schools.

The Chicago Challenge linked schools with new human and intellectual resources and provided modest financial support for school development. External Partners brought ideas and expertise, focus, and impetus to promote school development.[53] Partners could also expand the intellectual and social resources that were available to schools by linking them with other schools engaged in similar development activity. Annenberg grants, while averaging little more than 1 percent of a school's operating budget, were used to purchase important resources for school development such as in-house curriculum coordinators, teacher professional development, classroom libraries, and new instructional materials. The Challenge also provided some professional support in the form of workshops, conferences, and consultations with its staff. Finally, participation in the Challenge helped some schools lever additional resources. Such was the case among several schools that were working with their External Partners to increase parent involvement and cultivate stronger, more supportive relationships with organizations in their communities.

The field research reveals a more complicated story about the relationship between securing additional resources and school development, however. Continuously developing and more highly developed schools (Groups 1 and 2) were generally more effective than nondeveloping schools (Group 4) at searching for, securing, and taking full advantage of external resources. At the same time, what distinguished Groups 1 and 2 from Group 4 was not simply entrepreneurial capability. Some nondeveloping schools were quite accomplished at obtaining external resources. Rather, it was the ability of Groups 1 and 2 to secure resources aligned with a particular development agenda and to employ those resources in an efficient and strategic manner that differentiated them from Group 4. Group 3 illustrates these points well. In those schools the loss and fragmentation of key resources was associated with regress.

Two of the nondeveloping schools in Group 4 had relatively few resources and it was apparent that this constrained their efforts to develop. On the other hand, two schools in that group had substantial resources, but these were acquired in an indiscriminate manner and were not coordinated with their schools' development agendas. These schools did not always use their resources to their full potential.

Distributing Leadership for School Development

The first three findings from the field research focused on aims, strategies, and resources for school development. The fourth focuses on the individuals who led development efforts. When the field study schools were examined closely, it was apparent that the strength and breadth of leadership distinguished more highly developed and developing schools (Groups 1 and 2) from nondeveloping ones (Group 4). Schools that made the greatest progress were those that cultivated strong, distributive leadership. Poorly developed and nondeveloping schools were likely to have a single source of consolidated leadership or simply have weak overall leadership. In schools that regressed after initial development (Group 3), leadership (usually the principal's) that was once strong and distributed grew weaker or became more authoritarian and consolidated. These findings are consistent with other studies of distributive leadership and the implementation and institutionalization of complex educational change.[54]

In all of the field research schools, development was more likely to occur when key leadership tasks were performed in a coordinated manner by multiple actors in a school community, including the principal, teachers, outside organizations working with the school, coordinators, and parents. These tasks include: (a) creating and sustaining a vision for school development across multiple Essential Supports; (b) engaging others in school development initiatives; (c) promoting coherence among those initiatives; (d) providing incentives and opportunities to develop staff knowledge and skills; (e) developing curriculum and student assessments; (f) monitoring, providing encouragement, and holding staff members accountable for progress made toward school development; (g) obtaining external resources to support the school's development agenda; and (h) managing external influences in ways that support development. Most of these tasks relate to the first three findings.

While this analysis points to the importance of the distributive performance of such tasks to school development, it also highlights the "make-or-break" role that principals play in school development.[55] In the field research schools, principals were often at the heart of successful development activity. The most effective principals performed a number of common leadership tasks. They may not have performed them alone, but they performed them nonetheless. They articulated a clear, coherent vision of strong instructional practice and effective school organization. They

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[53] Newmann and Sconzert (2000).
[54] For example, Heller and Firestone (1995); Mayrowetz and Weinstein (1999); and Spillane, Halverson, and Diamond (2001). See also Sebring, Hallman, and Smylie (2003) for further analysis of schools where distributed leadership was reconsolidated in the principal.
[55] The importance of the role of principals is echoed by Chicago Annenberg External Partners in the report Sconzert, Wenzel, and Smylie (2003).

communicated high expectations for teachers as both instructors and leaders of development, and they pressed teachers to meet those expectations. These principals persistently promoted the development of professional competence and leadership capacity among staff members and could be counted on to provide resources to support that development. Principals of developing schools distributed leadership among others and managed their "leadership work." At the same time, they could be forceful and directive to ensure that the school stayed focused and that work was completed.

Principals in more highly developed and continuously developing schools managed external resources effectively. They obtained the human, intellectual, and material resources needed to support development efforts. They established strong, productive relationships with their External Partners and with CPS administrative staff. These principals effectively protected their schools from external distractions and interference. And, when distraction and interference did intrude, they worked to minimize any disruptive effect. Principals were also among the first in the school community to feel the sparks of external pressure and opportunities for school development. Because they had the opportunity to marshal external support, principals could couple the initiation of development activity with new resources to fuel it. Finally, because of their position of authority within the school and between the school and its environment, principals could bring coherence among school development goals, strategies, and internal and external resources.

The experiences of the field research schools also suggest that teacher leaders can be powerful change agents for school development when they work with their principals. In developing schools, teachers contributed expertise, skills, and perspectives on problems. They helped to create and sustain a vision for school development, and their assistance was crucial in promoting and engaging other teachers in development initiatives. Teacher leaders led professional development activities, monitored and held staff accountable for improving their practice, and helped the school obtain external resources.

One particularly notable example of distributed leadership was the creation of full-time in-house coordinator positions that focused primarily on the development of classroom curriculum and instruction. Half of the field research schools had at least one in-house coordinator. These coordinators were usually teachers at the school who were released from their classroom duties to help their colleagues develop classroom practice. Selected because of their teaching ability and their ability to work well with others, the coordinators were usually trained by Annenberg External Partners to lead professional development activities and mentor teachers as they implemented the Partners' curricular and instructional programs and practices at the classroom level.

The specific work the in-house coordinators performed varied, but the creation of these positions usually led to growth in overall school leadership. Coordinators held workshops, worked individually with teachers, observed classroom practice, and obtained new curricular and instructional materials. They became focal points for professional development. Teachers in some schools began to turn more often to them than to their principals for instructional expertise and assistance. Coordinators served as liaisons between teachers and principals and they facilitated communication between their schools, External Partners, and other schools in their Annenberg networks. Coordinators performed these roles particularly well in several of the more highly developed and continuously developing schools. Indeed, in several schools the loss of effective in-house coordinators was a primary cause for their regress.

Implications

These findings raise several important implications for promoting school development. First, principal leadership matters in promoting school development and it matters a lot. It is not simply any form of principal leadership that is effective; it should be inclusive, distributive, and visionary. Even though it is important that other members of a school community become involved in "leadership work," the principal occupies a unique position in school organizations to initiate, manage, and sustain development. The principal is crucial in developing leadership capacity among staff and in distributing and managing the performance of leadership tasks by others. While strong principal leadership alone may not be sufficient to promote and sustain school development over time, it is clearly necessary. There is some debate in the literature about the importance of the principal in the context of distributed leadership for implementing and institutionalizing complex innovation.[56] In this study, however, there is no debate. Principals played a "make or break" role in promoting and achieving school development.

Second, these findings point to the need for school leadership to think systemically about school organization and development. The most successful schools in the field research were those that targeted for development multiple, mutually-reinforcing aspects of school organization and practice. In order to set and pursue such an agenda, leadership must see school organizations in terms of their dynamic interdependent parts.[57] Leadership must understand how these parts work and change together and how they can support each other in promoting effective teaching and student learning. Leadership must understand the dynamic quality of

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[56] For example, Heller and Firestone (1995) and Mayrowetz and Weinstein (1999).
[57] See Bolman and Deal (1997) and Bryk et al. (forthcoming).

school organizations and how change in one aspect can have positive or negative consequences in others.

Third, these findings point to the importance of organizing development efforts around strong maps or theories of school development and change. In addition, it should evoke a complementary array of strategically chosen change mechanisms tailored to the school's particular organizational strengths and weaknesses, its development goals, and the needs and interests of its community. Strategies to develop individual and collective capacity—the "will" and the "skill"—for leadership, for organizational development, and for improved classroom practice appear vital to successful development efforts. The findings indicate, however, that strategies to develop capacity may not be sufficient to promote development over time without complementary incentives and systems of accountability that reinforce efforts to develop and enact new capacity. Likewise, the findings suggest that leadership would be ill advised to rely exclusively on accountability mechanisms to achieve much school development. Although development in some schools may need a "kick-start" from a high-stakes accountability system, it is unlikely that such an incentive will have long-lasting effects without the introduction of other strategies.

Fourth, these findings point to the importance of coherence and to leadership's role in achieving it. Leadership, particularly principal leadership, is crucial in the alignment of development goals, strategies, and internal and external resources around a strong, robust vision of a good school, good teaching, a learned student, and a sound theory of change. As mentioned earlier, by virtue of the authority of their roles and their access to and control of resources, principals are in a unique position in the school organization to promote such coherence. The alternative is fragmentation that, according to our study and other research, can become a serious impediment to school development.[58]

Finally, as will be discussed further in Part Three, these findings indicate that school development takes time and requires long steady work. Progress is fragile and initial gains can be lost, sometimes easily. Beyond patience and persistence, sustainable school development requires a stable base of resources, ongoing monitoring and assessment of development goals, progress toward achieving those goals, and effective development strategies. Development may also require flexibility and adjustment of goals, strategies, and resources as conditions change inside and outside the school. Without a base of human and social resources—leadership,

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[58] See Fullan (2001) and Newmann et al. (2001b).

professional community, parent and community involvement, and relational trust—it is difficult to imagine that local school development efforts will get very far or last very long.

Part Three: Explaining the Findings

The previous section examined how the Chicago Annenberg Challenge promoted improvement in Chicago public schools and the extent to which improvement occurred. This section examines those findings further and provides an assessment of the overall impact of the Challenge. It also presents a number of explanations for the successes and failures of the Challenge as a large-scale reform initiative.

Review of Findings

Part Two presented findings concerning the Chicago Challenge's "bottom line": improvement in student academic achievement and nonacademic outcomes. Our evidence suggests that among the schools it supported, the Challenge did not achieve this goal

- Analyses of ITBS scores reveal that between 1996 and 2001, student achievement improved overall across Annenberg schools. This was similar to improvement across the system.
- During the same period, rates of gain in student achievement among Annenberg schools did not improve markedly. Across grade levels, the size of one-year achievement gains remained constant or fluctuated slightly. In other words, at the end of the Challenge, students in Annenberg schools achieved at much the same rate as at the beginning. This pattern was evident in both reading and mathematics, although overall rates of gain in reading were slightly larger than rates of gain in math. There were no statistically significant differences in student achievement between Annenberg schools and demographically similar non-Annenberg schools. This indicates that that there was no Annenberg effect on achievement.

Analyses show both positive and negative changes across Annenberg schools among different social and psychological student outcomes.

- Initially, student academic engagement improved among Annenberg schools but then fell to a point where it was only slightly higher in 2001 than in 1994.
- Students' sense of self-efficacy first weakened and then strengthened, but remained weaker in 2001 than in 1997.
- Both classroom behavior and social competence among students in Annenberg schools declined slightly between 1994 and 2001.
- Like student academic achievement, there were no statistically significant differences in these student outcomes between Annenberg and demographically similar non-Annenberg schools, which indicates that there was no Annenberg effect on these outcomes.

Despite these findings, it nonetheless remained important to examine trends in school development. The Challenge's logic and the logic inherent in the Model of Essential Supports suggest that before improvement in student outcomes can occur, schools need to develop in ways that promote it. Therefore, it was important to determine whether Annenberg schools developed in ways that would lay the foundation for subsequent improvement in student outcomes and whether development among Annenberg schools as a group was greater than development among schools that did not participate in the Challenge.

The findings present a somewhat complicated story. Although there were some areas in which Annenberg schools improved, there were also a number in which no improvement took place, or in which there was initial improvement that was not sustained over time. In almost every instance, changes among Annenberg schools reflected those across the system as a whole. In general, then, the findings indicate that the Challenge made little difference in the long-term school improvement of the large number of schools it supported, although it was somewhat more successful in the case of the Breakthrough Schools.

Improvement in Annenberg schools was assessed according to the development of numerous measures of the Essential Supports from baseline years of 1994 or 1997. Changes among Annenberg schools are summarized as follows (see also Table 12 and Table 13):

- The overall quality of classroom instruction improved somewhat, particularly teachers' use of interactive teaching strategies, the intellectual demand of instruction, and teachers' emphasis on writing. Some aspects of student learning climate also improved, particularly school safety and classroom personalism. At the same time, some small improvements occurred in school leadership, teacher professional community, parent involvement in schools, and relational trust.
- Concurrently, other areas of the Essential Supports failed to improve or weakened. These included student peer support for academic learning, inclusive school leadership, and teacher commitment to school.
- Initial improvement between 1994 or 1997 and 1999 on a number of Essential Supports representing school organizational capacity—school leadership, teacher professional community and professional development, parent and community involvement, relational trust, and instructional program coherence—was lost by 2001. Although some measures of organizational capacity were slightly stronger or weaker in 2001 than in 1994 or 1997, there was little net change. The organizational capacity of Annenberg schools at the end of the Challenge looked much like it did at the beginning.
- Overall, trends in the development of Annenberg schools followed those in demographically similar non-Annenberg schools, indicating little Annenberg effect on school improvement. The few initial improvements favoring Annenberg schools that began to appear in 1999 disappeared by 2001. There are only two exceptions to this general trend. First, teachers in Annenberg schools made less frequent use of didactic instruction than teachers in non-Annenberg schools at both the beginning and end of the Challenge. Second, by the end of the Challenge, Annenberg schools had less instructional program coherence than non-Annenberg schools.

In contrast, the findings indicate that the Challenge's Breakthrough Schools began to develop in ways that distinguished them from other Annenberg schools (see Table 14). Although there were no statistically significant differences between Breakthrough Schools and other Annenberg schools in student academic and nonacademic outcomes or other Essential Supports, Breakthrough Schools sustained or strengthened aspects of teacher professional community and, to a lesser extent, school leadership and relational trust while other Annenberg schools did not. This suggests that these schools may have developed a stronger foundation for subsequent development of other Supports, especially instruction and student learning climate that, in turn, may promote improvement in student outcomes in the future.

Achieving the Challenge's Goals

Given these findings, what conclusions can be reached about the extent to which the Chicago Challenge achieved its goals for school development and improvement in student learning? To what extent did the Challenge "[enhance] learning for all students through dramatically improved classroom practice"? To what extent did it promote the "rethink[ing] and restructur[ing of the] basic elements of schooling" in the city? To what extent did it address the problems of "time, size, and isolation," promote stronger school-community relationships, and encourage whole school change?

One could argue that the question of goal attainment is not a fair one to pose. A case could be made that the Challenge set impossible goals for itself, that it laid out an unachievable agenda. A case could be made that the Challenge's stated goals were intentionally rhetorical, not made to set benchmarks for determining its success or failure but to draw attention to and mobilize support for a particular vision of educational reform. It could also be argued that the Challenge never had a chance to develop and work as was intended because the 1995 reform altered dramatically the context and support it had assumed and relied upon.

Regardless of whether the Challenge should be assessed according to its stated goals, it is reasonable to consider the extent to which it contributed to the development of the schools it supported and to the outcomes of their students. But even the question of contribution is difficult to answer—it is hard to disentangle the effects of the Challenge from the wider constellation of influences on schools, including system-level programs and policies, other improvement initiatives implemented in Annenberg schools, new human and fiscal resources that schools may have acquired, and so on. Even though this is a complicated matter, this research produced a number of clear findings about the development of Chicago Annenberg schools as a whole and these findings lead to three general conclusions.

First, the Challenge contributed in meaningful ways to the development of a number of individual schools. Some schools clearly benefited from the extra resources the Challenge provided and from their relationships with other schools in their networks and their External Partners. As shown in Part Two and in earlier technical reports of this research project, there are numerous examples of such benefits.[58] For instance, the Challenge provided resources to support leadership training for teachers and school administrators; collaborative planning and development activities within and across schools to promote teacher professional community; workshops and other

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[59] See Wenzel et al. (2001) and Newmann and Sconzert (2000).

educational opportunities to strengthen parent involvement and support of student learning at home; the introduction of new curricula and programs of instruction, particularly in reading and writing; and numerous opportunities for teacher professional development aimed at instructional improvement.

Second, the Challenge seems to have achieved some relative success in promoting development in its Breakthrough Schools, specifically in elements of teacher professional community and to a lesser extent in leadership and relational trust. According to the logic of the Chicago Challenge and the Model of Essential Supports, these aspects of school organization serve as building blocks that support development of instruction and student learning. Whether the progress achieved in the Breakthrough Schools was sustained and built upon after 2001 is an important question and one that is left for future inquiry.

Third, despite contributions to the development of a number of individual schools and despite some relative success among Breakthrough Schools, the findings provide little evidence of an overall Annenberg effect on school development or student outcomes across the schools it supported. No overall differences were found between Annenberg and demographically similar non-Annenberg schools in student achievement or the other student outcomes that were examined. With few exceptions, the patterns of development found among Annenberg schools were similar to patterns of development among non-Annenberg schools. Although Annenberg schools were initially developing at a somewhat stronger rate than demographically similar non-Annenberg schools on several measures of school leadership and teacher professional community, those advantages were lost. At the end of the Challenge, Annenberg schools as a group resembled similar non-Annenberg schools on virtually every measure of the Essential Supports.

Explaining the Challenge's Successes and Failures

How might these findings be explained? What factors might account for the lack of an overall Annenberg effect? What might explain the pattern of initial improvement and subsequent regress in different areas of school development? What factors might have contributed to the relative success of the Breakthrough Schools compared to other Annenberg schools? There are numerous possible answers to these questions. Although those presented below are largely speculative, they are not uninformed. They are consistent with the literature on educational innovation and school change. Moreover, during the course of the research, a good bit of evidence was collected that helps to explain the Challenge's successes and failures.

Lack of Overall Effect

The failure of the Chicago Annenberg Challenge to achieve an overall effect on school development and student outcomes may be explained by at least four different factors: (a) shortcomings in the design and implementation of the Challenge; (b) lack of capacity among the External Partners to promote school development; (c) lack of ability and commitment among schools to engage in the work of the Challenge; and (d) lack of external support and "countervailing system forces" that detracted from or conflicted with schools' efforts to develop through the Challenge. Each of these are discussed separately; however, it is important to note that it is quite likely that they all contributed in some way to compromise the Challenge's success and that other factors were at work as well.

Shortcomings in Design and Implementation

Three general shortcomings in the design and implementation of the Chicago Challenge might explain, at least in part, the lack of an overall Annenberg effect. These include the breadth of the Challenge's goals and the vague nature of its strategy for school development; the inadequacy of resources to support school development; and the general weakness of levers for change, particularly the lack of accountability.

Broad Goals, Vague Strategies. The literature on educational change makes clear that the implementation of innovations, programs, and policies is enhanced if goals and the means to achieve them are made clear to those who must implement them.[59] Because of its commitment to the principles of local autonomy and self-determinism, the Challenge eschewed the articulation of specific goals and means for development. Instead, it laid out broad and diffuse goals that were perhaps overly ambitious and rhetorical. Rather than concrete ends, it provided a "vision" and a set of general principles for reform. It identified certain priorities around which schools should organize their efforts, but offered little direction on how to address them. Nor did it specify particular activities or processes for schools to follow.

Even if there is no best way to promote school development, the Challenge provided no particular "theory of change" to guide schools toward more effective improvement strategies and away from less effective ones. Instead, its "theory" of local self-determinism assigned responsibility for forming specific improvement goals and action plans to local school communities, networks, and their External Partners,

[59] Fullan (2001).

which resulted in substantial variation in the primary foci of network activity and school development. As reported in Part One, slightly more than half of Annenberg's networks focused primarily on curricular and instructional improvement. Sixteen percent focused on improving student learning climate and social services for students and families, and 13 percent were concerned primarily with parent and community support and development. The remaining 16 percent adopted more comprehensive foci to develop a number of related areas, including curriculum and instruction, school leadership, student learning climate, and parent and community support. Within these general foci were a large number of specific initiatives such as parent education programs, literacy initiatives, programs to integrate the arts and technology into the curriculum, health/science education initiatives, support of small schools, middle-school restructuring, principal and teacher leadership development, and development of stronger relationships between schools and their communities.

Despite the vagueness of the Challenge's overall goals and the wide variety of the networks' foci and improvement activities, most principals at Annenberg schools perceived with some clarity what their own networks were trying to accomplish. According to 1997 survey data, 37 percent of Annenberg principals strongly agreed and 59 percent agreed that their networks had clear goals. In 2001, principals' perceptions of goal clarity remained strong. That year, 41 percent of Annenberg principals strongly agreed and 57 percent agreed that their networks had clear goals.

Although most Annenberg principals understood their network's goals, the means by which they pursued them varied substantially across schools, networks, and External Partners. Clearly, some strategies were more effective than others. For example, this project's two External Partners reports document and distinguish between more and less effective strategies for promoting school development.[60] The field research also documented differences in change strategies among individual schools. The analyses of developing and nondeveloping schools presented at the end of Part Two highlighted some of these differences and their varying degrees of effectiveness.

In general, some Annenberg schools, networks, and External Partners defined for themselves relatively effective strategies and others did not. And, while the Challenge provided some measure of feedback and guidance, it was constrained in this regard by the sheer number of schools and networks it supported. It may have been constrained also by its assumptions about the inherent value and effectiveness of local initiative and by its reluctance to violate those assumptions by promoting an overarching strategy for improvement. These possibilities relate to two additional matters discussed later in this section—the ability of Challenge staff to provide

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[60] Newmann and Sconzert (2000) and Sconzert, Wenzel, and Smylie (2003).

adequate professional support and assumptions about the capacity and commitment of local schools and Partners to participate effectively in the Challenge and implement its particular approach to reform.

Too Few Resources for Too Many Schools. A second problem in the design and implementation of the Chicago Challenge was its scale and the inadequacy of its resources. While there is substantial debate about the relationship between funding and school effectiveness, most researchers agree that school improvement costs some amount of money and other resources. Michael Fullan and Matthew Miles argue that change is "resource hungry" because of what it represents—"developing solutions to complex problems, learning new skills, arriving at new insights, all carried out in a social setting already overloaded with demands."[61] They continue that such personal and collective development "necessarily demands resources."

How much money, time, and energy it costs to improve a school is not clear and estimates vary. For example, Karen Louis and Matthew Miles found that an average principal with a schoolwide reform project spent 70 days, or nearly one-third of her time a year, on change management.[62] Teachers most closely engaged with the change effort spent some 23 days a year, or 13 percent of their time, on reform. Louis and Miles found that "serious" change in large urban high schools required an annual investment of between $50,000 and $100,000 (in late-1980s dollars). Others have argued that the cost of implementing comprehensive whole-school reform, while varying greatly from initiative to initiative, may cost more than $160,000 per year with first-year costs (which may include one-time costs of training and materials) ranging between $100,000 to $350,000.[63] Although Fullan and Miles note that how schools spend money is the most important determinant, they conclude that a minimum level of stable funding is always needed to support change. Lack of resources has been found to be a common problem for schools trying to implement comprehensive whole-school models of reform.[64] Moreover, the literature shows clearly that implementation weakens or ceases when resources that initially fueled the reform are no longer available.[65]

In general, the Chicago Challenge provided too few resources and too little support to too many schools and External Partners. Although it never claimed that its grants were intended to "purchase" improvement or that they were even large enough to do so, they were intended to "stoke" development through the facilitation

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[61] Fullan and Miles (1992), p. 750.
[62] Louis and Miles (1990).
[63] Keltner (1998) and Odden (1997).
[64] Smith et al. (1997); see also Murphy and Datnow (2003).
[65] See Glennan (1998).

of relationships between schools and Partners and to lever additional resources to support those relationships. In some schools, Challenge resources clearly made an important contribution to local development efforts. Overall, however, the Challenge spread its resources thinly across the 210 schools and 45 External Partners it supported. Even at the peak of its network funding, the Challenge made relatively low monetary investments in local improvement efforts. In 1999, it provided schools in implementation networks on average about $47,000 in money and services through their External Partners. This amount was about 1 percent of a typical elementary school's operating budget. By the end of the Challenge in 2001, these modest investments had been reduced to virtually nothing. That year, the amount of money provided to local schools averaged about $2,600.

Similarly, it would have been very difficult for Challenge staff to provide adequate professional support to all of the schools and External Partners that received funding for the many different local initiatives in which they engaged. To be sure, it organized numerous workshops for schools and Partners. It established principal support groups and sponsored fairs for schools and Partners to share their work and accomplishments. Some of the schools and Partners received direct feedback and support from Challenge staff. As noted in Part One, the primary responsibility for providing such professional support fell to one staff member-the Program Director who was joined in this work by a Grants Manager and the Challenge's Executive Director. Both the Program Director and the Grants Manager had some but not extensive experience in school development. The Executive Director was from the local foundation community and his primary experience was in grant making and community development. It is difficult to see how a staff of this size could provide the guidance, feedback, and support that would be required by 210 schools and 45 External Partners no matter how much experience it had in school development.

Perhaps because of the need to find the right economies of scale, Challenge staff devoted much of its time to working with External Partners rather than working directly with individual schools. This is not to say, of course, that it did not provide any assistance to individual schools or groups of schools—it did. Still, because of the sheer number of schools it funded, the Challenge may have considered it more efficient and effective to focus its efforts on the External Partners, operating from the logic that through them it could reach more schools than if it tried to work with schools directly.

As discussed in the research project's second report on Annenberg External Partners, the Partners generally had positive views of the support they received from Challenge staff, particularly the workshops that the Challenge sponsored and the

opportunities it provided for them to interact and learn from one another.[66] Specifically, the Partners that were interviewed cited as helpful the Challenge's workshops on media relations and data-driven decision making, in addition to the workshops that brought in various outside speakers. They also considered helpful the individual attention they received from members of the Challenge staff, including the Executive Director.

The Partners that were interviewed also noted certain weaknesses in the support they received, weaknesses that could be attributable in part to the breadth of the Challenge's goals and the small size of its staff. Some said that while they found the workshops helpful, they thought that the Challenge could have provided more opportunities for partner-to-partner sharing and more follow-up activities on workshop topics. They also expressed disappointment that they received little feedback on the reports of network activity that they were required to file twice a year (they almost universally complained about the burdens these reporting requirements placed on them). They saw such feedback as a potentially valuable source of learning for improving their work with schools. And while they considered their individual relationships with Challenge staff helpful, many expressed frustration with the lack of time staff members had for on-site school visits. They understood that the small size and the wide-ranging responsibilities of the Challenge's staff made it difficult for them to become very involved at the school level. Still, they said that they had hoped for more.

The principal surveys provided additional evidence of weaknesses in staff support at the school level. Most Annenberg principals reported that Challenge staff usually made themselves available to support network activity; in 1997, 18 percent of principals strongly agreed and another 69 percent agreed that Challenge staff members were usually available to support their networks. In 2001, these proportions were virtually the same—85 percent of Annenberg principals agreed or strongly agreed that Challenge staff members were available to support their networks. At the same time, 52 percent of Annenberg principals reported in 1997 that Challenge staff had no real effect on their schools' network activities. In 1999, the last year that this question appeared on the principal survey, there was a decline in the staff's reported influence—63 percent of Annenberg principals reported that Challenge staff had no real effect on their network activities.

It is also important to recall that the Challenge considered the External Partners to be important resources for local school improvement (further discussion of External Partners appears below). Here it is important to note that one role that could

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[66] Sconzert, Wenzel, and Smylie (2003).

have been performed by External Partners was to help schools secure additional external resources and services to support their development initiatives. Evidence from the principal surveys suggests that some Partners were more effective in this regard than others. In 2001, 35 percent of Annenberg principals strongly agreed that their External Partners were able to help their schools acquire needed services and resources. Fifty-seven percent of principals agreed that their Partners provided some such assistance. Ten percent disagreed or strongly disagreed that their Partners were helpful in this regard. No data are available to assess the usefulness or adequacy of such services and resources; the available evidence only points to variability in principals' views of their Partners' help in securing them.

Weak Levers for Change. The literature on educational reform emphasizes the importance of developing new knowledge, skills, and commitments necessary for change, but it also emphasizes the importance of incentives and accountability for participation in change processes, for applying new knowledge and skills, and for incorporating change into routine practice.[67] The Chicago Challenge was cognizant of the need to promote the development of new knowledge and skills, to provide incentives, and to hold schools and networks accountable for the resources they received. Overall, however, while the Challenge recognized the importance of each of these "levers" for change, none were particularly well developed or particularly strong and sustained.

The Challenge stressed teacher professional development and provided a number of opportunities for principals to develop new knowledge and skills to support their schools' development. As reported in Part Two, it achieved some success in this regard. In both 1997 and 1999, participation in professional development activity across Annenberg schools was significantly greater than participation across demographically similar non-Annenberg schools. By 2001, however, these differences disappeared.

The Challenge also introduced some measures of accountability to promote school participation and change. For example, after initial rounds of network funding, it decided not to renew grants to particularly weak networks and External Partners. In later rounds of funding, it worked directly with schools and Partners to increase the overall quality of their proposals and plans for school improvement. Despite these and other such efforts, the Challenge's overall design provided few mechanisms to lever very much change. As noted above, it provided few financial resources to schools and Partners. Moreover, what little funding it did provide through 1999 was greatly reduced by 2001. Although some of the Partners that were interviewed thought that Challenge grants provided some leverage in working with

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[67] Fullan (2001); Miles (1993); and Smylie and Perry (1998).

their schools, it is likely that the sizes of the grants were simply not large enough to command much attention or instill a strong sense of accountability among such a large number of schools.

There was little evidence of any real or perceived consequences among schools and Partners for failing to participate actively in network or Challenge-sponsored activities. The Challenge's only real accountability mechanism was the threat of discontinuing its financial support to schools and Partners. Even though it spent substantial time and resources to monitor school and Partner activity and the expenditures of its funds, there is not much evidence that the Challenge was able to create a strong sense of imperative for participation in Annenberg activity or for change across the large number of schools it funded. Moreover, the Challenge may have weakened its own hand by making an implicit commitment to continue to support the networks and Partners it coached in the proposal development process. In the least, this most likely reduced any real or perceived threat that it would withdraw resources from the activity it helped schools and the Partner develop. Given the rather small amount of money provided, losing Annenberg money was probably of little consequence to most schools or Partners. Regardless, the threat was rarely exercised. Virtually all of the schools that received funds in 1998 kept receiving them until the end of the Challenge, albeit in diminished amounts.

Lack of Capacity among External Partners

This research project did not set out to study directly the capabilities and resources of External Partners. Nonetheless, a good bit of evidence points to how differences in Partners' experience and expertise may have affected their ability to support improvement among the schools with which they worked. An earlier study of Annenberg External Partners found that most Partners achieved variable success with schools in their networks.[68] That is, most were more successful with some schools in their networks than with others.

Notwithstanding that substantial proportions of Annenberg principals reported on surveys that their External Partners were a source of impetus and support for change, there is reason to believe that Partners varied substantially in their knowledge, understanding, and ability to effectively promote school improvement. First, not all Partners entered the Challenge with experience in working with schools. One-third had no experience before 1995 in working with schools on long-term improvement projects. Second, the primary network foci and activities proposed by

[68] Newmann and Sconzert (2000).

Partners for funding reveal wide variation in thinking about how school development is achieved. As discussed earlier, most set agendas focused on developing single Essential Supports without attending to the development of other complementary supports (e.g., development of classroom instruction without attention to development of teacher professional community, parent involvement, and school leadership to support it). Only one of six External Partners pursued a more comprehensive development agenda to develop in a coordinated manner two or more related Essential Supports. Research suggests that attention to the systemic relationships among different aspects of school organization and practice is most conducive to school development.[69] Indeed, the Challenge recognized the problem of External Partner capacity early on. As noted in a previous research project report, over the course of the initiative, the Challenge became more intentional in its grant making and provided professional support to grant applicants, most of whom were External Partners.[70] This move was partly in response to what it perceived was a lack of imagination in the grant proposals it received and funded. It was also in response to concerns voiced by grantees who seemed to be unclear about the Challenge's expectations and principles of reform. The Executive Director observed that Challenge staff "[had] not been highly impressed with the creativity and inventiveness" of the implementation proposals funded in the first round of grant making. In 1997, he observed of External Partners,

> We realized [that] just because you build it they will not come....[W]e had to add a strong program resource piece....We [now] say, "Not only do we want to lure you into these relationships [with schools] with the money,...but we also need to lead you or expose you to a set of resources." We needed to inject ideas...with the spirit that...we're still respecting your choice.

It is not clear whether the approaches to school improvement that External Partners pursued were a function of their understanding and "theories" of school change (or lack thereof) or to other factors. It is certainly possible that the relatively few financial resources the Challenge provided may have constrained the ambitiousness of their work and made it difficult to engage in more creative and systemic school development activity. For some Partners, Annenberg grants were a substantial portion of their budgets. For others, it was an important but relatively small amount. Regardless, it was not a lot of money for any Partner to work with all the schools in their networks. The research project's first report on Annenberg External Partners noted that many Partners did not have enough staff members to work with the schools in their networks.[71] That report also observed that some External Partners hired teachers from their network schools to work as professional

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[69] See Bryk et al. (forthcoming); Fullan (2001); Louis and Miles (1990).
[70] Shipps and Sconzert with Swyers (1999).
[71] Newmann and Sconzert (2000).

development leaders or curriculum coordinators. In some instances, this had the unintended consequence of exacerbating leadership shortages in the schools from which these teachers were hired and thereby undermining the Partners' work in those settings.

Lack of School Capacity to "Do Annenberg"

Thomas Timar and David Kirp have argued that the success of school reform initiatives depends in significant ways on the capacity of schools to engage in and implement those initiatives effectively.[72] In their words, schools need the "institutional competence" to fulfill the demands of reform. By institutional competence, Timar and Kirp refer to the aspirations, commitments, and norms of a school that direct its work and its efforts to improve. They also refer to the knowledge and skills of teachers and administrators to respond to the reform, implement it, and achieve its objectives.

Others have made the same general argument.[73] Gene Hall and Shirley Hord have pointed out the importance of a school's state of "readiness" and its initial commitments to an innovation and to that innovation's long-term implementation and effectiveness.[74] Matthew Miles has argued that successful school change most often requires schools to possess the ability to do good "problem coping."[75] In Miles' view, school improvement is not always rational or predictable. Schools need the ability to locate, analyze, and address problems that are inevitably part of the improvement process. Miles extends this argument in work with Michael Fullan and Karen Louis, reasoning that because change has "no blueprints" and because rational planning models for complex social change like education reform do not work, schools need the collaborative capacity for analysis, incremental decision making, and experimentation.[76] They also need the capacity to develop normative consensus around the improvement effort. Moreover, because change initiatives do not manage themselves, schools must have the capacity to manage them well. At a minimum, this requires that groups responsible for implementation have the ability to collaborate, solve problems, and make decisions together.

A primary organizing theme of the Chicago Challenge was the empowerment and self-determinism of local actors, members of school communities working in

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[72] Timar and Kirp (1987).
[73] Fullan (2001); Newmann and Wehlage (1995); and Smylie, Conley, and Marks (2002).
[74] Hall and Hord (1987).
[75] Miles (1993).
[76] Fullan and Miles (1992); Louis and Miles (1990).

networks with External Partners, to improve their own schools. Closely related to this theme of local initiative and self-determinism was the theme of capacity building. The Challenge called on the schools and Partners it supported to build organizational capacity by addressing the issues of time, size, and isolation. It also challenged schools and Partners to build capacity for instructional improvement through teacher professional development. And so on. At the same time, it made certain assumptions that schools and Partners already possessed some requisite capacity to engage in decentralized, self-determined, collaborative work for local capacity development.

A case can be made that in order for schools to have successfully engaged in the Challenge's "style" of reform, that is, for schools to "do Annenberg" well, they would have needed to possess some base of human, social, and material resources to support collaborative development work within schools, among schools, and with External Partners. This base of resources might well have consisted of inclusive collaborative leadership, strong working relationships among teachers, and strong relationships between the school and parents. Schools would also have needed some base of commitment to the Challenge and to its approach to reform. Indicators of such commitment might well have included the alignment of Annenberg's goals with the school's own goals for improvement, the school giving priority to the Annenberg initiative over other initiatives, and committing people and time to make the effort work.

As noted earlier, the Challenge recognized that External Partners varied considerably in their understanding of its concepts and principles. It recognized variability in the imagination, creativity, and potential effectiveness of the proposals they submitted. And, as described in Part One and as will be discussed later in this section, it introduced a different funding strategy with the Breakthrough School initiative, a strategy that was more intentional in considering the development and capacities of the schools it funded. At the same time, there is little evidence that the Challenge systematically considered the capacity of schools to "do Annenberg" between 1995 and 1998 when it awarded the majority of its implementation grants and committed most of its funds.

Be that as it may, it is worthwhile to examine the capacity of Chicago Annenberg schools to engage productively in the Challenge's approach to reform. First, how schools scored at the beginning of the Challenge on different indicators of human, social, and material resources is examined. This is followed by an examination of different indicators of school commitment to participate in the Challenge. Finally, another side of the capacity issue is explored; that is, the sources of disruption and persistence that may have compromised a school's ability to improve through the Challenge's approach to reform. The evidence indicates that the Challenge

supported a substantial number of schools with relatively weak capacity to engage in its approach to reform. Coupled with potentially strong internal sources of disruption and persistence, such weakness may help explain the lack of an overall Annenberg effect on the development of schools the Challenge supported.

Human, Social, and Material Resources. The citywide principal surveys asked Annenberg principals whether the Challenge provided resources that were useful for their schools' development. They also asked principals whether their schools had enough of their own resources—staff, time, and other resources—to make participation in the Challenge "pay off." Their responses reveal substantial variation. In both 1997 and 2001, more than 90 percent of Annenberg principals agreed or strongly agreed that participation in the Challenge provided their schools with useful resources. At the same time, they were divided in their assessments of the adequacy of the resources their own schools possessed to make participation worthwhile. In 1997, 45 percent of Annenberg principals disagreed or strongly disagreed that their schools had enough resources to make such a difference. In 2001, roughly the same percentage of principals considered their schools' resources inadequate.

Data from the 1997 teacher surveys were used to assess the strength among Annenberg schools of key human and social resources that might be used to support school development through participation in the Challenge. Measures of several aspects of school leadership, school orientation toward innovation, teacher professional community, relational trust, and school relationships with parents were examined. These 1997 data provide a picture of school capacity at the start of the Challenge, capacity that might have supported Annenberg work and provided a base on which to build additional capacity.

As shown in Table 18, in 1997, substantial proportions of Annenberg schools scored in the weakest categories of measures of human and social resources to support school development (see Appendix E for specific definitions of measure categories). That year, 17 percent of Annenberg schools reported minimal and limited orientation to innovation. In these schools, relatively few teachers were reported to try new ideas and take risks to improve their practice. There was substantial disagreement that teachers were continually learning, were encouraged to grow, and had a "can do" attitude. No teachers or only some of the teachers in these schools were reported to try new ideas and take risks to improve their practice. Substantial percentages of Annenberg schools also reported weaknesses in various aspects of school leadership. Twenty-four percent of Annenberg schools reported minimal principal support for change. In these schools, some teachers agreed and some disagreed that their principals encouraged them to try new methods, were willing to make changes, and provide strong support for changes introduced at the school. Teachers in these schools disagreed that their principals encouraged them to take

risks, provided adequate professional development for changes introduced at their schools, and involved teachers in such change initiatives. In addition, 18 percent of Annenberg schools reported weaknesses in principal instructional leadership. In these schools, some teachers agreed but others disagreed that their principals made teaching expectations clear, set high standards for both teaching and student learning, and communicated a clear vision for their schools. Teachers disagreed that their principals pressed them to implement what they learned in professional development activities, understand how students learn, and track students' academic progress. In 24 percent of Annenberg schools, teachers reported that their principals promoted parent and community involvement but they disagreed that their principals worked to create a sense of community in their schools or were committed to shared decision making. Finally, 36 percent of Annenberg schools reported weaknesses in joint problem solving. While teachers reported general openness of expression in their schools, they indicated that problems and conflicts were often ignored or avoided.

Substantial percentages of Annenberg schools also reported weaknesses in different aspects of teacher professional community in 1997. One-quarter of Annenberg schools reported limited levels of peer cooperation and collaboration. A similar percentage of schools reported that teachers engaged only occasionally in reflective dialogue about their teaching. About one-third of Annenberg schools reported weak focus on student learning and a very limited sense of teacher collective responsibility for student learning and school improvement. Substantial percentages of schools also reported weaknesses in relational trust. Twenty-one percent of Annenberg schools reported minimal levels of trust between teachers and principals. More than half of the schools reported no trust or minimal trust among their teachers. Forty-two percent reported minimal levels of trust between teachers and parents. Finally, 39 percent of Annenberg schools reported minimal and limited levels of parent involvement.

It is important to recall that some of these human and social resources grew stronger in Annenberg schools between 1997 and 1999 (e.g., inclusive leadership, principal instructional leadership, focus on student learning, teacher-parent trust). In addition, teacher participation in professional development activity and the quality of the professional development improved among Annenberg schools during this time. In almost all cases, however, these improvements were lost after 1999.

Time is another resource that is necessary to engage productively in reform. Both Annenberg principals and External Partners noted throughout the course of this study that although the Challenge made this a priority in its reform agenda, lack of

time was a persistent impediment to their school development efforts. Their observations are consistent with the literature.[77] Most reform initiatives add new work but few alleviate other responsibilities or provide additional time for planning and implementation. Recent studies of whole school comprehensive reform models have found that insufficient time for planning, collaboration, and professional development is a common barrier to the implementation of these models and a frequent concern for teachers.[78]

Table 18. Percentages of Chicago Annenberg Schools and the Weakest Categories in Which They Scored on Measures of Human and Social Resources to Support Development, 1997

Measures	Categories	Percent of Schools
Orientation toward Innovation	Minimal and limited	17%
Principal Support for Change	Minimal	24%
Principal Instructional Leadership	Mixed	18%
Inclusive Leadership	Mixed	24%
Joint Problem Solving	Weak	36%
Peer Collaboration	Limited	25%
Reflective Dialogue	Occasional	24%
Focus on Student Learning	No focus and not very focused	31%
Collective Responsibility	Very limited and limited	33%
Teacher-Principal Trust	Minimal	21%
Teacher-Teacher Trust	None and minimal	54%
Teacher-Parent Trust	Minimal	42%
Parent Involvement	Minimal and limited	39%

[77] Elmore and McLaughlin (1988) and Smith (2000).
[78] Muncey and McQuillan (1996); Ross et al. (1997); and Smith et al. (1997).

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As noted earlier, substantial proportions of Annenberg principals reported on both 1997 and 2001 surveys that their schools lacked the staff, time, and other resources to make participation in network activity really "pay off." The research project's first technical report observed that six of the 12 principals that were interviewed identified lack of time as a specific impediment to their schools' participation in network activities during their first year of funding.[79] Each pointed to lack of time as a reason for not attending network meetings themselves or for not sending a member of their staff. The research project's first report on External Partners observed that the structure of the normal school day, combined with the number of programs requiring teacher participation, restricted teachers and administrators' time to focus on the Partners' programs.[80] The project's second technical report on the development of Annenberg schools also identified lack of time as an impediment to teacher participation in Annenberg activity and to their efforts to experiment with and implement new ideas they learned from that activity.[81]

Commitment. Another important element of a school's capacity for reform consists of the various commitments that support reform implementation. There are numerous indicators of these commitments, including the compatibility of the reform's goals and the school's own goals for improvement, the centrality of the reform to the school's work, and the allocation of people and time to the reform effort. The data point to substantial variation among Annenberg schools on several of these indicators.

Most principals reported that their Annenberg network's goals coincided at some level with their own school's goals for improvement. In 1997, 34 percent of Annenberg principals strongly agreed and 60 percent agreed that their schools' goals were aligned with those of their networks. Only 7 percent disagreed or strongly disagreed. In 2001, somewhat greater proportions of Annenberg principals saw alignment—38 percent strongly agreed and 61 percent agreed while only 2 percent disagreed.

Although reports of goal alignment were strong, there was more variability in the degree to which Annenberg principals saw the Challenge as central to their school's work. In 1997, 21 percent strongly agreed and 49 percent agreed that Annenberg activities were central to their school's work but 31 percent disagreed or strongly disagreed this was the case. Although principals were somewhat more positive about

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[79] Smylie et al. (1998).
[80] Newmann and Sconzert (2000).
[81] Wenzel et al. (2001).

the importance of Annenberg activity in 2001, variability remained. That year, 34 percent of Annenberg principals strongly agreed and 52 percent agreed that the Challenge was central to their school's work while 14 percent disagreed.

Teacher participation is another indicator of school commitment. Indeed, the commitment of people and time to participate in Annenberg activity may be more important than goal alignment and centrality. Data from the principal surveys indicate that teacher participation in Annenberg activity varied substantially among schools (see Table 19). In 1997, 30 percent of Annenberg principals reported that less than 20 percent of their teachers participated in Annenberg activity; 17 percent reported teacher participation rates of between 21 and 40 percent; 12 percent reported participation rates of between 41 and 60 percent; 17 percent reported rates of between 61 to 80 percent; and the final 15 percent of principals reported that more than 80 percent of their teachers participated in Annenberg activity. In 2001, Annenberg principals reported somewhat higher rates of teacher participation, but substantial variation remained among schools—18 percent reported that less than 20 percent of their teachers participated in Annenberg activity; 15 percent reported teacher participation rates of between 21 and 40 percent; 25 percent reported rates of between 41 to 60 percent; 18 percent reported rates of between 61 and 80 percent; and 23 percent reported that more than 80 percent of their teachers participated.

There was also substantial variation in the frequency with which teachers participated in Annenberg activity (see Table 20). Thirty-seven percent of principals reported on the 1997 survey that their teachers participated on average about once a month or less in Annenberg activity. Twenty-three percent of principals reported that on average their teachers participated two to three times a month. Sixteen percent reported weekly teacher participation and 24 percent reported participation more than once a week. In 2001, principals reported lower rates of teacher participation. Half reported that their teachers participated on average about once a month or less in Annenberg activity. Thirty-three percent reported that teachers participated two to three times a month. Three percent reported weekly participation and 15 percent reported participation more than once a week.

Table 19. Percentage of Annenberg Principals Reporting the Proportions of Teachers at Their Schools Who Participated in Annenberg Activities, 1997 and 2001

PROPORTIONS OF TEACHERS	1977	2001
Less than 20% of teachers	31%	18%
21 to 40% of teachers	17%	15%
41 to 60% of teachers	12%	25%
61 to 80% of teachers	17%	18%
More than 81% of teachers	22%	23%

Table 20. Percentage of Annenberg Principals Reporting Different Frequencies of Teacher Participation in Annenberg Activities, 1997 and 2001

FREQUENCY OF TEACHER PARTICIPATION	1997	2001
Once a month or less	37%	50%
Two or three times a month	23%	33%
Once a week	16%	3%
More than once a week	24%	15%

Internal Sources of Disruption and Persistence. In addition to the various resources that schools may have to support improvement, they also have sources of internal disruption and persistence that may compromise improvement. The literature is full of examples of these sources.[82] Studies of educational innovation find that the loss of key leaders and staff turnover make it very difficult to sustain commitment to change initiatives over time.[83] Often the structure of work and time makes it difficult for teachers and administrators to participate in improvement activity and implement changes in their practice.[84] Research on school organizational cultures and the institutions of schooling concludes that norms, beliefs, rituals and ceremonies, symbols, political relations, and work rules and relationships form routines or "scripts" that give meaning and govern much of what takes place in schools.[85] These scripts, which are often unspoken and taken for granted, are strong sources of organizational stability and often make persistence prevail over attempts to change. There is some evidence that such sources of disruption and persistence existed in many of the schools the Challenge supported. To the extent that they did exist, they may have contributed to the failure of the Challenge to achieve an overall effect.

There is some evidence that Annenberg schools as a group experienced substantial staff turnover and such turnover may have made it very difficult to make and sustain much development. Surveyed Annenberg principals reported that they hired an average of 25.2 new teachers between 1995 and 2001 or 3.6 teachers per year. Between 1999 and 2001, they reported hiring an average of 9.7 new teachers or 3.2 teachers per year. According to CPS, the average size of an elementary school faculty is 26.3 teachers. While the number of new teachers hired is not necessarily the best indicator of turnover (it doesn't take into account the numbers of teachers who leave a school), it does give some idea of the change or "churn" in personnel taking place. A rough estimate indicates that the number of new teachers hired by

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[82] Fullan (2001); Miles (1993); Smylie and Crowson (1996).
[83] Fullan (2001).
[84] Smith (2000).
[85] DiMaggio and Powell (1991), Firestone and Louis (1999); Rowan and Miskel (1999); Schein (1992); and Zucker (1987).

Annenberg schools between 1995 and 2001 represented on average between 12 and 14 percent of their entire faculties each year. Data from CPS personnel records indicate that these principal reports underestimated the numbers of teachers who came to their schools each year. For example, these records indicate that on average, for the 1997–98 school year (the latest data available for this report), 15.7 percent of teachers in Annenberg schools were new to their schools that year. This percentage is the same as the percentage of teachers in non-Annenberg schools who were new to their schools.

In addition to change in faculty, the loss of key leaders may threaten school improvement efforts. Between 1996 and 1999, there were a number of documented instances from the field research schools where the loss of curriculum coordinators who were hired and trained by External Partners and paid for by Challenge grants all but terminated the progress schools were making toward improvement.[86] In other field research schools, improvement efforts stalled when the principals who initiated them retired or left for other schools.

Data from teacher surveys and the field research provide evidence that some Annenberg schools had cultures that were much more conducive to change than others. Recall that in 1997, nearly 20 percent of Annenberg schools ranged from "minimal" to "limited" on the survey measure of school orientation toward innovation (see Table 18). As described earlier, minimal and limited orientation means that teachers reported that about half of the teachers in their schools really try to improve their teaching. Some agree and others disagree that teachers at their schools are continually learning, are encouraged to grow, and have a "can do" attitude. Teachers are likely to report that only some of their peers try new ideas and take risks to improve their practice.

Another indicator of a culture conducive to change is the expectations teachers hold for their students' learning and for their future. It may be very difficult to engage schools and teachers in improvement activity if teachers have relatively low expectations. That is, if teachers do not think their students can learn or be successful, they may also believe that efforts to change schools are for naught.

Two items on the teacher survey give some indication of the variability of expectations that teachers in Annenberg schools held for their students. These items asked teachers what percentage of their students they believed would graduate from high school and what percentage would go on to attend a two- or four-year college.

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[86] Wenzel et al. (2001).

In 1997, teachers in Annenberg schools held a range of expectations for their students (see Table 21). Some of these expectations were quite low, perhaps contributing to school cultures that were not particularly conducive to improvement.

Table 21. Expectations of Annenberg Teachers for Their Students' Educational Futures, 1997 and 1999

	PERCENT OF ANNENBERG TEACHERS
Percentage of the students I teach who I expect will graduate from high school	
1 to 25 percent	4%
26 to 50 percent	13%
50 to 75 percent	35%
76 to 100 percent	48%
Percentage of the students I teach who I expect will attend a two- or four-year college	
1 to 25 percent	23%
26 to 50 percent	23%
50 to 75 percent	21%
76 to 100 percent	21%

The field research revealed that External Partners sometimes encountered school cultures that confounded their efforts to promote development. This project's first report on External Partners noted that some Partners confronted a culture of privacy and autonomy among teachers that made it difficult to promote joint problem solving and collaborative professional development.[87] Several of the Partners observed that some teachers with whom they worked believed that since previous reform initiatives did not seem ever to be sustained—that they came and went with change in school administrators—it was not prudent for them to invest seriously in new initiatives. Similarly, the Partners reported that in a number of cases, principals with whom they worked were either unwilling to or incapable of infusing Partner-sponsored activities into their schools. Some principals appeared to Partners to be "victims" of an administrative culture that worked against the Partners' efforts for school development. Similar evidence was presented in the research project's technical report on the development of Annenberg schools between 1996 and 1999.[88]

Program overload and fragmentation among many improvement initiatives were yet other problems that Annenberg schools faced. The literature on school improvement has long identified the potential problems that multiple change initiatives pose to the effective allocation of teachers' time and other resources.[89] The issues of program overload and fragmentation and the attendant problem of

[87] Newmann and Sconzert (2000).
[88] Wenzel et al. (2001).
[89] Hatch (1998) and Kimbrough and Hill (1981).

incoherence among programs were examined in detail in a separate report of the research project.[90] Here it is useful to highlight some of the evidence that illustrates the problems posed by the presence of too many initiatives.

The effects of too many programs and the competition among them were first identified in the research project's first technical report, *Getting Started.*[91] In that report, some Partners who were interviewed observed that the work they sought to accomplish often competed with other initiatives for teachers' and administrators' time and attention. In these cases, Partners who tried to promote whole school development found they had limited influence. In later interviews, more than half reported that their schools were involved in so many programs besides Annenberg "it was often difficult to get the schools to pay serious attention to [their] programs."[92]

The scope of this problem in Annenberg schools is suggested by data from the principal surveys. Both 1997 and 1999 surveys asked principals to report the extent to which they saw the Challenge as just one of many programs they had at their schools and the degree to which their teachers devoted time to Annenberg activities as opposed to other projects. In 1997, 77 percent of Annenberg principals agreed or strongly agreed that the Challenge was just one of many programs at their schools (see Table 22). In 1999, 80 percent of Annenberg principals agreed or strongly agreed that this was the case. In 1997, more than half of Annenberg principals disagreed or strongly disagreed that of all initiatives at their schools, the most teacher time was devoted to Annenberg activities (see Table 23). In 1999, a similar proportion made the same assessment. Taken together, this strongly suggests that the Challenge faced competition for time, attention, and effort from other improvement initiatives in a substantial number of the schools it supported. This competition may have made it quite difficult to engage schools in Annenberg activity in a way that might lead to significant lasting development. Indeed, this situation may have grown worse in the Challenge's last few years. As noted above, program coherence in Annenberg schools declined between 1999 and 2001.

Table 22. Percentage of Annenberg Principals Who Agreed with the Statement "The Annenberg Challenge is just one of many programs we have at this school," 1997 and 1999

	1997	1999
Strongly Agree	20%	15%
Agree	57%	65%
Disagree	21%	18%
Strongly Disagree	1%	3%

[90] Newmann et al (2001b).
[91] Smylie et al. (1998).
[92] Newmann and Sconzert (2000), p. 53.

Table 23. Percentage of Annenberg Principals Who Agree with the Statement "Of all external projects, most teacher time is devoted to Annenberg activities," 1997 and 1999

	1997	1999
Strongly Agree	12%	13%
Agree	35%	37%
Disagree	50%	48%
Strongly Disagree	3%	3%

Countervailing Forces

Yet another reason for the failure of the Chicago Challenge to achieve an overall effect on school development may have been the influence of "countervailing system forces." This refers to outside influences that pulled schools in directions contrary to those promoted by the Challenge and its External Partners. Of course, what one considers to be countervailing depends on where one stands. It is certainly conceivable that the Challenge itself could have been seen as a countervailing force to other reform agendas. Indeed, evidence of such a view among some CPS administrators and some of Chicago's civic elite was presented in a 1999 research project report on the Challenge's establishment and early operation.[93] In this discussion, countervailing forces are defined and examined from the perspective of the Challenge as factors that worked against or failed to support its work and what it sought to accomplish.

Some of the most visible and potentially powerful sources of countervailing influence on Annenberg activities were the school system's major reform initiatives. Part One described the CPS administration's major initiatives under the 1995 reform and the potential areas of conflict with the Chicago Challenge. In this section, additional evidence is presented of how such conflicts were perceived and how they may have compromised the overall effectiveness of the Challenge.

First, the problem of conflict among multiple policy initiatives and reforms has been discussed in the literature on educational change for some time. In an early study of federal Title I programs, Jackie Kimbrough and Paul Hill found evidence of conflict in the implementation of core programs and multiple federal categorical programs in each of the 24 schools they studied.[94] Their research pointed to the difficulty faced by teachers and school-level administrators in managing multiple programs, particularly those with conflicting goals and those that competed with each other for scarce monetary and human resources. Kimbrough and Hill found that where

[93] Shipps and Sconzert with Swyers (1999).
[94] Kimbrough and Hill (1981).

conflict existed, the implementation of both core school programs and categorical programs could be compromised.

This problem remains part of today's reform landscape. Timar and Kirp, as well as Thomas Hatch, argue that because of the magnitude of today's reform efforts, tensions and conflicts among policies and improvement initiatives are all but inevitable.[95] In a recent review of the literature, Michael Knapp and his colleagues provide new insight.[96] They examined the convergence of different types of educational reform at the school level—decentralized governance and decision making; systemic innovations in curriculum, instruction, and student assessment; and integrated educational, social, and health services for students. While they found that little empirical evidence has been presented in the literature about the converging effects of different initiatives, they argued that research examining each initiative separately allowed them to anticipate the effects of convergence on teachers and administrators and to anticipate their likely responses.

Knapp and his colleagues argued that, at a minimum, these reforms would add new responsibilities to teachers' and administrators' workloads. The reforms would increase pressure for collaboration and call on teachers and administrators to form different conceptions of professional work and develop new knowledge and skills to perform that work well. The reforms would increase demands on teachers' and administrators' time both in the short and long term and create inevitable compromises in how they allocated their time and effort. Knapp and his colleagues predicted that when faced with such convergence, teachers and principals would likely respond strategically and defensively. They would find ways to cope and to reduce demands to manageable levels. Particularly where converging reforms might conflict, but certainly where the demands of reform exceeded available time and effort, teachers and administrators would prioritize reforms, give them selective attention and, with regard to those reforms that conflicted with their own values and practices or threatened "better" reforms, engage in organized or passive resistance. Knapp and his colleagues acknowledge the possibility that teachers and administrators could proactively consider, adopt, and make incremental adjustments to accommodate converging reforms. They warn, however, that a likely outcome would be pro forma and superficial implementation as opposed to deep implementation.

An important focus of the recent literature on converging and conflicting reforms has been on the relationship between district-level policy and school-level reform initiatives. For some time, the literature has pointed to the important role that school

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[95] Hatch (2002); Timar and Kirp (1987).
[96] Knapp et al. (1998).

districts play in local school improvement. Districts can have a strong effect on the implementation and quality of school-level reform initiatives.[97] They can help local school reform succeed by setting the tone for local initiatives, establishing priorities and expectations, and allocating resources.[98] Moreover, districts can shape the direction for instructional reform at the school level through central programs of professional development, curriculum guidelines and materials, and student tests and assessments.[99] Indeed, studies of instructionally effective schools find substantial consistency and coordination between district policy and local school improvement goals.[100] Studies of comprehensive school reform initiatives have found that support and guidance as well as effective coordination from the district level are critical assets to the reform effort.[101] In all, there is a general consensus in the literature that district support is needed in order to promote and sustain change at the school level and to "scale-up" school-level reforms to the system level.[102]

A key issue raised in recent literature on educational reform is the potential conflict between local school reform efforts and accountability systems introduced at district and state levels. In his study of New American Schools, Thomas Glennan found that the lack of alignment between local school reform efforts and district and state accountability and testing systems significantly impeded implementation of local reform.[103] Likewise, in their case studies of New American Schools, Susan Bodilly and Mark Berends found that new methods of teaching and learning were often abandoned in favor of preparation for standardized tests.[104] They observed that high-stakes testing can work at cross purposes. It can motivate teachers and schools to adopt new curriculum and instructional strategies associated with local reform initiatives, but at the same time discourage teachers and administrators from adopting a richer, more in-depth curriculum. In yet other studies, comprehensive whole-school reforms were compromised by teachers' fears that implementing such reforms would harm student performance on assessments.[105]

This study gathered numerous pieces of evidence of similar tensions and conflicts between CPS policy and local school improvement initiatives promoted by the

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[97] Bodilly and Berends (1999); Ross et al. (1997); Stringfield, Datnow, and Ross (1998); Tyack and Cuban (1995).
[98] Elmore and McLaughlin (1988).
[99] Spillane (1996).
[100] Elmore and Burney (1997) and Murphy and Hallinger (1988).
[101] Haynes (1998) and Winfield (1991).
[102] See Bodilly and Berends (1999); Cooper, Slavin, and Madden (1998); Honig (1999); McAdoo, 1998.
[103] Glennan (1998).
[104] Bodilly and Berends (1999). See also Mitchell (1996).
[105] Ross et al. (1997) and Murphy and Datnow (2003).

Challenge and its External Partners. This evidence suggests that where tensions and conflicts were perceived, it was usually the Annenberg work that was compromised.

The 1997 and 2001 principals surveys asked principals to report the extent to which the system's priorities conflicted with those of their Annenberg networks. While there were variations in their responses, 26 percent of Annenberg principals observed in 1997 that CPS priorities often conflicted with those of their networks (see Table 24). In 2001, that percentage increased to 36 percent.

Table 24. Percentage of Annenberg Principals Who Agreed with the Statement "Central Office priorities often conflict with those of our network," 1997 and 2001

	1997	2001
Strongly Agree	6%	7%
Agree	20%	29%
Disagree	68%	56%
Strongly Disagree	5%	8%

Conflicts were also reported in interviews of External Partners. One-fifth of the 30 Partners who were interviewed in 1996 cited difficulty in carrying out their network's activities in the face of changing CPS policies. According to these Partners, the system's elimination of student social promotion, tying promotion to standardized test performance, mandatory summer school for low-achieving students, and the threat of academic probation and reconstitution disrupted their work and distracted schools' attention from long-term network goals.[106]

External Partners reported similar problems in subsequent interviews. Seven of the nine Partners that were studied in-depth for this project's first report on External Partners reported that the CPS central administration's emphasis on the ITBS, including the score-based policies of student retention and school probation, posed obstacles to the school improvement activities they promoted.[107] The Partners described several problems generated by pressure to score well on the ITBS. Teachers were so preoccupied with teaching directly to the test, and so many school activities were oriented in this direction, that they had little opportunity to engage in professional development on other issues, such as selecting engaging and rigorous children's literature or developing a positive learning climate. In some cases, the goals of both Partners and school staff extended beyond teaching proficiency in basic skills to teaching higher order thinking, complex problem solving, and project-based learning. Since the standardized tests failed to assess these intellectual processes, the

[106] Smylie et al. (1998).
[107] Newmann and Sconzert (2000).

pressure to succeed on the tests diminished the importance of these other educational goals and thereby undermined the efforts of Partners and schools to achieve them. One field research school was close to being placed on academic probation and was assigned a partner by the CPS central office to help it improve. The CPS partner encouraged the school to teach to the test while the Annenberg External Partner worked to help teachers implement more intellectually challenging instruction.

External Partners identified other disruptions associated with CPS administrative procedures. They observed, for example, that with little advance notice, the CPS central administration would issue directives for principal or teacher meetings that disrupted or forced cancellation of Annenberg activities scheduled long in advance. In interviews conducted in 2001, Partners continued to report that CPS mandates and administrative procedures, particularly testing and high-stakes accountability, interfered with their goals for local school development.[108] Thus, from the beginning to the end of the Challenge, even the most persistent Partners felt challenged in their work by conflicting CPS policies and procedures.

It could be problematic to take at face value such criticism of the CPS administration by Annenberg principals and External Partners. After all, the argument goes, both have a self-interest to appear successful and to provide alternative explanations for lack of accomplishment. However, evidence from longitudinal field research provides corroborating evidence of the tensions and conflicts reported by principals and External Partners. This project's technical report on Annenberg school development between 1996 and 1999 presented a somewhat complex picture of the relationship between CPS policy initiatives and the work of the Challenge.[109] It described some areas where the system's initiatives and the Challenge's efforts to promote school development were compatible and mutually supportive. For example, at some of the field research schools, the system's capital development initiative for school repairs and new school construction was instrumental in developing learning climates that were more conducive to teaching and learning.

On the other hand, the report concluded that the Challenge promoted a reform agenda that at times collided with specific system policies, creating tensions and dilemmas for principals and teachers at the school and classroom levels. Observations, school-level documents, and interviews with school personnel other than principals and External Partners indicated that nowhere were the tensions and dilemmas between the Challenge and the system more sharply pronounced than in the interaction between high-stakes standardized testing and efforts to improve instruction. When these tensions and dilemmas were examined closely, however, it

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[108] Sconzert, Wenzel, and Smylie (2003).
[109] Wenzel et al. (2001).

was clear that high-stakes testing, coupled with the system's probation and student retention policies, could play a positive and even necessary role in creating a press for accountability and a perceived need for change. These policies could move a school from complacency into action. At the same time, the evidence indicated that high-stakes testing could push teachers and principals to focus on the quickest means available to achieve administrative compliance—test preparation—and to abandon, or push aside at least for a while, efforts to achieve more ambitious, long-term instructional improvement.

CPS student testing, retention, and school probation policies were among the strongest motivators for change that were documented among Annenberg schools. In most cases, these policies and the emphasis they placed on student performance on the ITBS put pressure on principals to improve test scores or risk sanctions. They also influenced teacher practice. In all but two of the 14 field research schools, teachers and other staff members expressed concern about test scores. This concern appeared to affect not only teacher classroom practice, but also constrained most schools' efforts to develop.

Data from the project's field research indicated clearly that when the Challenge's priorities came into conflict with CPS policy, the Challenge came in second. It is not clear the extent to which CPS policy and the Challenge's efforts found a way to co-exist in Annenberg schools. Likewise, it is not clear the extent to which CPS policy may have overwhelmed or "swamped" the Challenge's initiatives across the large number of schools it supported. While it is difficult to gauge the extent of the influence, it is clear that CPS policy, while supportive and a positive stimulus in some respects, served as a general countervailing force on Annenberg school improvement initiatives.

Loss of Initial Improvement

Part Two of this report identified several areas of school leadership and teacher professional community where until 1999, Annenberg schools seemed to be improving at a stronger rate than demographically similar schools that did not participate in the Challenge. These areas included inclusive leadership, joint problem solving, teacher influence in school-level decision making, and teacher commitment. After 1999, these initial improvements disappeared. By 2001, levels of development in Annenberg schools were statistically equivalent to those in non-Annenberg schools.

As this discussion of how loss of initial improvement may have occurred begins, it is important to note that the literature on educational change has long described

school improvement as a long and fragile process.[110] Progress can disappear with a reduction in resources or the loss of key personnel; succumb to external pressures; and collapse under new demands that the work of change imposes on teachers, administrators, and school organizations.

Several coincident changes in the implementation of the Chicago Challenge and in CPS policies may have had some regressive influence on the initial potentially promising development of Annenberg schools. Recall that between 1996 and 1999, the Challenge both expanded the financial resources it made available to schools and increased the professional support it provided to schools and External Partners. In 1999, it reached its peak level of per-school funding. It had sponsored workshops on its organizational themes of time, size, and isolation. It had begun to place greater emphasis on teacher professional development, whole-school change, and improving student achievement. It had begun working more directly with its External Partners and had provided support and guidance to Partners and networks to develop more creative and effective proposals for funding. Finally, it was beginning to introduce workshops on improving instructional quality. At the same time, CPS was intensifying the high-stakes accountability policies it introduced in 1996. It had begun to retain greater numbers of students and raise the threshold for student promotion. It also raised the level of student performance on the ITBS that had to be achieved if schools were to avoid academic probation.

As CPS intensified its accountability policies, the Challenge changed course. In 1999, it began its Breakthrough School initiative, providing these specially selected schools continued funding in its last two years that, on average, was slightly greater than that year's peak average funding levels (possible explanations for the relative success of the Breakthrough Schools are discussed below). The Challenge continued to provide support to almost 200 other schools but, by shifting a substantial portion of its remaining financial resources to the Breakthrough Schools, it dramatically reduced the amounts it provided them, from a peak of $46,983 in 1999, to $28,808 in 2000, to $2,553 in 2001. At the same time, it focused more of its direct professional support on the Breakthrough Schools, leaving other schools with more general professional support from staff.

While the evidence is only suggestive, it is possible that the loss of Annenberg support coupled with the growing press of CPS accountability policies may have made it more difficult for teachers to participate in Annenberg activity. While there is no evidence to directly attribute declines in teacher participation to the loss of Challenge funds or to the growing demands of CPS policies, the evidence is clear that the frequency of teacher participation in Annenberg activities was substantially

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[110] Elmore and McLaughlin (1988); Fullan (2001); Murphy and Datnow (2003).

lower in 2001 than in 1997 (see Table 19). The field research documented numerous cases where loss of Challenge funds resulted in the loss of key personnel provided by Partners, thereby compromising the Partners' ability to work with their schools. Loss of personnel was often followed by declines in teacher commitment to and participation in Partner-sponsored development activity. Moreover, in interviews conducted throughout the research project, Partners consistently pointed to tensions and conflicts between their work and CPS accountability policies. Finally, the field research provides independent documentation of cases where pressure from CPS policy drew schools away from Annenberg activity and eroded progress that had been achieved.

Relative Success of Breakthrough Schools

Between 1999 and 2001, the Challenge's 18 Breakthrough Schools achieved greater success in the development of teacher professional community and, to some extent, school leadership and relational trust than did other Annenberg schools. Recall from the previous section that Breakthrough Schools were successful in that they improved slightly or maintained initial improvements while other Annenberg schools regressed. As stated earlier, this research was not designed to develop evidence to explain differences in development between Breakthrough Schools and other Annenberg schools. Indeed, this initiative was not introduced until 1999, three years after the research was designed. Nevertheless, the research project did produce evidence that suggests several possible explanations for the relative success of the Breakthrough Schools.

These explanations are of two sorts. The first is that Breakthrough Schools were different than most Annenberg schools in that they had greater capacity for development. The second is that unlike most Annenberg schools, Breakthrough Schools were able to draw on a different and perhaps a stronger set of resources to support their development. Each of these possibilities is explored below.

Greater Capacity for Development

In selecting Breakthrough Schools, Challenge staff recognized some qualities that allowed them to characterize these schools as more "on board" and "farther along" in their development than other Annenberg schools. Although analyses of survey data reveal no statistically significant differences in 1999 between Breakthrough Schools and other Annenberg schools on any indicator of the Essential Supports (with only

one exception), other evidence appears to corroborate the Challenge's assessments and suggests that there may have been some small but important differences between the two groups of schools.

Breakthrough Schools were chosen because the Challenge staff saw them as having greater capacity than Annenberg schools generally to make substantive improvement; that is, they had developed somewhat stronger capacity on which to develop further. While not statistically different, Breakthrough Schools as a group were slightly stronger on a number of key indicators of organizational capacity than other Annenberg schools in 1999, including teacher influence in decision making, teacher peer collaboration and reflective dialogue, faculty focus on and collective responsibility for student learning, school orientation toward innovation, and trust among teachers and between teachers and their principals. Together, these slight differences may have given Breakthrough Schools a somewhat stronger foundation for further improvement. It is important to note that by 2001, Breakthrough Schools achieved a statistically significant advantage over other Annenberg schools on these measures.

In addition, Breakthrough Schools may have had an advantage of somewhat greater stability in their administrative leadership and faculties. As discussed above, school improvement may be more difficult to achieve with frequent turnover among personnel. The Challenge staff specifically considered the consequences of principal turnover when selecting Breakthrough Schools. For example, a new principal was hired in one of the schools initially identified to be a Breakthrough School. When she raised concerns about the school's participation in the Challenge and the relationship with the school's External Partner, the Challenge eliminated the school from its list of candidates.

Data from the principal surveys suggest that there may have been somewhat greater stability in the faculties of Breakthrough Schools than in Annenberg schools generally. As described earlier, Annenberg principals reported hiring on average 3.6 new teachers to their schools each year between 1995 and 1999. Principals of Breakthrough Schools reported hiring 3.0 new teachers on average each year during this period. Between 1999 and 2001, Annenberg principals reporting hiring on average 3.2 new teachers per year, while Breakthrough School principals reported hiring 2.3 new teachers per year. As cautioned earlier, the number of new teachers hired is not the best indicator of teacher attrition. Nevertheless, it is one indicator of "churn" among personnel that may challenge a school's ability to introduce, develop, and sustain improvement over time. And, while this indicator points to substantial "churn" among faculty in Breakthrough Schools, it was less than that experienced by other Annenberg schools and warrants consideration. CPS personnel records for 1997–98 confirm such a difference, indicating that 13 percent of teachers in

Breakthrough schools were new to their schools, whereas about 16 percent of teachers in other Annenberg schools were new to their schools that year.

Schools were also selected for Breakthrough status and funding because of their relatively greater commitments to the Challenge. One of the primary criteria used by Challenge staff in Breakthrough School selection was participation in Challenge-sponsored activities. On average, these schools were perceived by Challenge staff as having made more effective use of Challenge resources and had participated more frequently in Challenge activities. If the Challenge staff was correct in its assessments, these differences may account in part for some advantages Breakthrough Schools seem to have had in promoting school improvement.

As discussed earlier, another indicator of school commitment is teacher participation in Annenberg activities. Principals survey data reveal substantial differences between Breakthrough Schools and other Annenberg schools on this score. As shown in Table 25, 38 percent of Breakthrough School principals reported in 1997 that 80 percent or more of their teachers participated regularly in Annenberg activity whereas only 15 percent of principals of other Annenberg schools reported such high levels of participation. Although this difference narrowed somewhat in 1999, in 2001 almost twice the percentage of Breakthrough principals reported this high-level teacher participation. It is also important to note that in 2001, no principal of a Breakthrough School reported that fewer than 40 percent of her teachers participated in Annenberg activities. This stands in contrast to the finding that one-third of all Annenberg principals reported that year that fewer than 40 percent of their teachers participated in Annenberg activity. These relatively higher rates of teacher participation, coupled with relatively lower indicators of teacher turnover point to a potential advantage among Breakthrough Schools of having somewhat more stable, critical masses of teachers to promote school improvement.

Table 25. Percentage of Principals of Breakthrough and Other Annenberg Schools Reporting That 80 Percent or More of Their Teachers Participated in Annenberg Activities, 1997 to 2001

	BREAKTHROUGH SCHOOLS	OTHER ANNENBERG SCHOOLS
1997	38%	15%
1999	40%	32%
2001	44%	23%

Different and Sustained Resources

The Breakthrough School initiative provided more concentrated resources to a group of schools that may have had, on average, a stronger capacity for development. It was noted earlier that on average Breakthrough Schools received sustained and somewhat higher levels of funding during the Challenge's last two years while funds provided to

other Annenberg schools were substantially reduced (see Figure 5). In 2000 and 2001, Breakthrough Schools received a yearly average of nearly $50,000 while other Annenberg schools received about $2,600. As argued earlier, while $50,000 a year may not purchase very much, sustained support even at this modest level might have helped Breakthrough Schools maintain their relationships with their External Partners and sustain their improvement efforts. Moreover, Breakthrough Schools received these funds directly from the Challenge rather than through their Partners, giving them potentially more money and more discretion in its use. In addition to sustained levels of funding, Breakthrough Schools may also have benefited from ongoing professional support from Challenge staff.

Breakthrough Schools may also have had some advantages over other Annenberg schools with regard to their External Partners. On one hand, the types of Partners that worked with Breakthrough Schools were roughly similar to those that worked with Annenberg schools as a whole, although a somewhat greater proportion of Breakthrough School Partners were university based (see Table 26). Breakthrough Schools belonged to networks with about the same number of schools on average as other Annenberg networks so they did not have fewer schools with which to compete for their Partners' attention and resources. On the other hand, Breakthrough Schools were somewhat more likely than other Annenberg schools to have had Partners with experience working in schools prior to the Challenge. About three-quarters of Partners working with Breakthrough Schools had worked previously with schools on long-term improvement projects. Overall, two-thirds of Partners working with Annenberg schools had such experience. This difference suggests that as a group Breakthrough Schools may have had Partners with stronger expertise for promoting school development than Annenberg schools generally. In addition, two-thirds of Breakthrough Schools had worked with their External Partners prior to the Challenge. Breakthrough Schools and their Partners may have had more well-developed working relationships overall than other Annenberg schools. This creates the possibility that Breakthrough Schools may have had a relatively stronger base of social resources through their relationships with their Partners, including relational trust and mutual accountability, that helped promote school improvement.

Table 26. Percentage of Types of Annenberg External Partners Working with Breakthrough Schools and All Annenberg Schools

TYPE OF PARTNER	PERCENT OF BREAKTHROUGH SCHOOLS *(N=11)*	PERCENT OF ALL ANNENBERG SCHOOLS *(N=43)*
University	45%	35%
Educational Services Organizations	27%	28%
Community Organizations	9%	14%
Cultural Institutions	18%	23%

There is also some indication that Breakthrough Schools may have been better able than Annenberg schools generally to parlay their participation in the Challenge into additional resources. Data from the 2001 principal survey indicate that Breakthrough School principals were somewhat more satisfied with the benefits of their participation in the Challenge than Annenberg school principals. That year, all Breakthrough School principals agreed or strongly agreed that participation provided their schools with useful resources. Ninety percent of all Annenberg principals made similar assessments. All of the Breakthrough School principals agreed or strongly agreed that participation in the Challenge provided resources or in-kind services needed for improvement. This compares to 84 percent of all Annenberg principals who made similar assessments. Finally, in the most substantial point of contrast, whereas all Breakthrough School principals agreed or strongly agreed that participation in the Challenge strengthened their schools' ability to obtain resources beyond those that the Challenge provided, only 69 percent of all Annenberg principals so agreed.

In addition, Breakthrough Schools were somewhat more likely than Annenberg schools to be members of networks with more comprehensive and therefore potentially more effective school improvement foci (see Table 27). As argued earlier, efforts emphasizing the coordinated development of mutually influential Essential Supports may be more effective than those focusing on only one Support to the exclusion of others. A smaller proportion of Breakthrough Schools were in networks focusing primarily on curricular and instructional improvement, suggesting perhaps that greater proportions of Breakthrough Schools were working on curricular and instructional improvement in more comprehensive and potentially more effective ways.

Table 27. Percentages of Breakthrough Schools and All Annenberg Schools by Primary Network Focus

PRIMARY NETWORK FOCUS	PERCENT OF BREAKTHROUGH SCHOOLS	PERCENT OF ALL ANNENBERG SCHOOLS
Curricular and Instructional Improvement	39%	51%
Learning Climate and Social Services	17%	20%
Partner and Community Development	11%	10%
"Comprehensive"	33%	19%

In sum, a number of factors might explain the relative success of Breakthrough Schools. The evidence suggests that Breakthrough Schools may have had somewhat greater capacity for development than Annenberg schools generally. They seemed to have lower turnover in administrative leadership and faculty. Breakthrough Schools had generally higher levels of teacher participation in school-level Challenge activities and as a group they participated more regularly and consistently in Challenge-sponsored programs. Their Challenge funding was sustained at a slightly higher level over a longer period of time. Moreover, they received their funds directly from the Challenge rather than through their External Partners, giving them potentially more money with which to work and more discretion in its use. Breakthrough Schools received more sustained professional support from Challenge staff. In addition, they may have had access to different resources through their External Partners. As a group, greater proportions of their Partners had previous experience working in schools and they were more likely to have had working relationships with their Partners that extended to before the Challenge. Breakthrough Schools may have been better able to leverage their participation in the Challenge and their relationships with their Partners to obtain additional resources. Finally, greater proportions of Breakthrough Schools belonged to networks with more comprehensive and potentially more effective foci for promoting school development. It is likely that no one of these factors explains the relative success of Breakthrough Schools documented in this report but that a number of factors worked in combination to promote improvement.

One final comment is in order. The relative success of Breakthrough Schools may also be attributed to a motivational boost that may have accompanied the award of Breakthrough status and funding. According to one of Annenberg's External Partners,

> I think what this served to do, and you see this in a lot of areas, is the schools [that] got the Breakthrough grants felt motivated and honored, and [this made them think] "We're not going to let them down, we're going to do it." And the other [schools] are kind of like, "Well, we didn't get that money."

How much of a motivational boost this initiative provided is unclear. Neither is how much influence such a boost might have had on the ongoing development of Breakthrough Schools. It may have played an important role in sustaining commitments to promote school improvement at a time when support in other Annenberg schools was waning and the influence of CPS policies was intensifying. It remains to be seen whether the Breakthrough Schools sustained their progress after the Challenge shut its doors and the financial support, professional support, and motivational impetus it provided had ended.

Summary

This section addressed the third general question of this research: What factors might explain the improvement or the lack thereof among Annenberg schools? A number of factors were discussed that provide possible explanations for the lack of overall effect of the Chicago Challenge on school improvement, the loss of initial improvement midway through the Challenge, and the relative success of the Breakthrough Schools. In summary, the failure of the Challenge to achieve an overall effect on school improvement could be due to a number of shortcomings in the design and implementation of the Challenge itself. These include the breadth of its goals and the vagueness of its strategies for school development; the numbers of participating schools and the inadequacy of the resources they received; and general weaknesses in the levers for change that it developed, particularly with regards to accountability. Failure to achieve an overall effect could also be due to weakness in the capabilities and resources of the External Partners and the organizational capacities of Annenberg schools to engage effectively in the Challenge's approach to reform. Finally, CPS policies could have acted as a countervailing force at the school level. Most likely, no one of these factors alone would fully explain the lack of an Annenberg effect. Rather, these and perhaps other factors worked in combination.

The loss of initial improvement among Annenberg schools in some areas of the Essential Supports could be explained by a convergence of intensifying CPS accountability policies with the Challenge's shift in strategy to focus its efforts on Breakthrough Schools and reduce its support of others. The evidence suggests that reductions in support occurred concurrently with teachers' growing concern about CPS accountability policies, declining teacher participation in Annenberg activity, and an increase in the difficulty External Partners faced in sustaining their work with less funding from the Challenge.

Finally, the relative success of Breakthrough Schools could be explained by their somewhat greater capacity for improvement and for engaging in Annenberg-style

reform. When they were selected in 1999, these schools had somewhat stronger leadership and professional community than other Annenberg schools. They had somewhat greater stability in their teaching and administrative staffs. In addition, they exhibited stronger commitments to the Challenge in their histories of participation in Challenge-sponsored activities and teacher participation in school-level Annenberg work. Finally, Breakthrough Schools had access to different resources than other Annenberg schools. They received sustained financial support from the Challenge for two additional years while funds for other Annenberg schools were withdrawn. Finally, the networks and the External Partners with which they were associated may have had qualities that distinguished them from networks and Partners generally associated with other Annenberg schools, including longer working relationships on which to build, stronger experience among Partners in working with schools, potentially stronger Partner expertise in school improvement, and more comprehensive foci on school improvement.

Part Four: Lessons for Promoting Large-Scale School Improvement

The experience of the Chicago Annenberg Challenge suggests a number of lessons about promoting large-scale school improvement, or the simultaneous improvement of many schools in different contexts. Several of these lessons are presented below as answers to particular questions that arise when developing and implementing such initiatives. These lessons relate in a number of ways to the field research findings presented in Part Two about what makes individual school improvement successful. Such relationships are noted as relevant.

How to Promote Large-scale School Improvement: One Way? Any Way? or Better Ways?

The literature on educational change makes clear that there is no one best way to improve individual schools or groups of schools. As Richard Elmore writes, "[Improvement is] a function of learning to do the right thing in the setting where you work."[112] Numerous studies have found that successful school improvement requires the discretion of local actors to identify and solve site-specific problems and to adapt programs and policies to meet local needs.[113] Indeed, some studies contend that local self-determinism is essential to build the commitments necessary to implement and institutionalize reform into the life of the school.

At the same time, the literature also argues that some strategies for improvement are better than others. In other words, some can supply Elmore's "right thing" in a more efficient and effective way. Fullan and Miles contend that one of the main reasons educational reforms fail is that they are often based on "faulty maps of

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[112] Elmore (2000).
[113] See Fullan (2001) and McLaughlin (1990)

change."[114] Maps of change refer to assumptions about how change happens, the means required to achieve specific ends, and perhaps assumptions about conditions that must be in place for those means to operate effectively. Fullan and Miles argue that some of the maps for reform initiatives are too vague to provide reliable or valid guidance. Some fail to recognize the complexities of schools and the broader system of schooling. Some are directly contradicted by empirical evidence. Others, while attractive politically, do not work and may even create new problems or exacerbate the problems they were intended to solve. Fullan and Miles argue that important change cannot be mandated. Instead, change requires "skill, commitment, motivation, and discretionary judgment on the part of those who must change."[115] And yet, even though local discretion is important to successful change, they contend that consistently reliable and effective maps can and should be used to guide improvement within and across schools.

The experience of the Chicago Annenberg Challenge illustrates a problem that reformers face when trying to figure out how best to promote improvement among a large number of schools. Following the national Annenberg Challenge, the Chicago Challenge was founded on the well-established premise that there is no one best way to promote local school development. Adding to this premise a view of the importance of local initiative and control in school development and faith in decentralization and democratic localism, the Challenge eschewed common goals and specific processes. It sought to guide local development in particular directions and to provide some measure of accountability to focus schools' efforts in these directions. Moreover, it laid out reform principles of pluralism and local self-determinism. What the Challenge did not do, however, was "privilege" one reform strategy over another. It left local school communities to set their own goals and strategies for development. As a result, it ended up supporting a wide range of local strategies, with some no doubt less well informed and less effective than others.

Both the Challenge's experience and the literature on educational change point to a middle ground. As Fullan and Miles suggest, between "one way" and "any way" are "better ways" to promote improvement among groups of schools. While it may be important to encourage local pluralism and self-determinism in developing, adopting, and implementing initiatives to make schools better, it may be equally important to provide guidance for local initiatives in the form of well-researched and well-thought-out maps for change. Such maps would not impose scripts for local actors to follow; rather, they would present sound theories and principles that might enhance the effectiveness of local thinking and action. Some insights into what such

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[114] See Fullan and Miles (1992) and Argyris and Schon (1975).
[115] Fullan and Miles (1992), p. 746.

theories and principles might be were presented at the end of Part Two in the discussion of what makes local school improvement successful.

Which Schools to Support?

This study raises the important issue of which schools should be supported and in what kinds of reform they should engage. As argued in Part Three, different reforms make different kinds of demands on schools and the success of any particular reform may depend on the capacity of schools to engage in and implement that reform well. The implication is that if a school or a group of schools lacks the capacity to implement a particular reform well, another type may be warranted.

As discussed in Part One, the national Annenberg Challenge made a clear argument that local school reform is best pursued through a plurality of approaches that privileges none. The Chicago Challenge was designed on this principle. Proceeding from this principle, however, both the national Annenberg Challenge and the Chicago Challenge paradoxically promoted one particular approach—one that was local, collaborative, and self-directed. Evidence in Part Three showed that substantial proportions of the schools receiving support from Chicago Challenge were weak in key organizational capacities of leadership and professional community, that arguably would be important to implement this type of reform. Indeed, it is unlikely that schools that were particularly weak in these and perhaps other organizational capacities would be able to take full advantage of the opportunities that participation in the Challenge extended.[116] And as argued in Part Three, this might be one of the reasons for the Challenge's failure to achieve an overall effect on school development. Other reform strategies might have been more appropriate and more effective for these schools. Such strategies might have included efforts to hire and retool faculty and administrators, new systems of accountability, and more direct intervention from the CPS central administration or external organizations.

On the other hand, there is evidence that one of the reasons for the relative success of the Breakthrough Schools is that they were chosen, in part, because they possessed somewhat stronger capacities to "do Annenberg." One can make the argument that the relative success of the Breakthrough Schools was due to a selection bias, that the Challenge hand-picked schools with particular qualities that gave them an "edge" to succeed, and rightly so. The Breakthrough School initiative represented

[116] See Hargreaves (2003).

a significant departure from the earlier, less discriminating, and perhaps less effective, strategy that the Chicago Challenge used to identify schools to support.

The experience of the Chicago Challenge also raised the important issue of how many schools a large-scale reform effort ought to support. How this issue is addressed depends on a number of factors, including the amount of resources that are available, the ability of those responsible for the reform to manage those resources well, and, taking the point above, the number of schools that may have the capacity to implement the reform well. The Chicago Challenge used two different strategies to address this issue. Between 1995 and 1998, it spread its resources thinly among as many as 211 schools, or nearly 40 percent of all Chicago public schools, through up to 45 networks and External Partners. Moreover, it took upon itself the substantial burden of providing some measure of professional support to all the schools and their Partners.[117] In 1999, it changed course and redirected its remaining resources to a smaller number of selected schools. As one Challenge staff member explained in an interview:

> It was a different way of doing business than we had done before. I guess it was just our effort to say whole-school change requires more resources than what we had initially...not what we had initially thought.

While not conclusive, the relative success of the Breakthrough Schools suggests that it is more effective to concentrate greater amounts of resources on a smaller number of schools that are selected in part for their capacity to implement the reform well. It is less effective to distribute relatively small amounts of resources among a very large number of schools that have been selected with less discrimination.

What Resources Are Needed?

The literature on school change and this research on the Chicago Challenge indicate that resources matter a great deal in the promotion of improvement among individual schools or groups of schools, particularly among those that are underresourced. This study suggests that financial resources are important to school improvement; that the provision of stable financial support over time may be associated with ongoing improvement and that the loss of resources, particularly early on in the reform, may slow or terminate improvement. Recall that most Annenberg schools received two or maybe three years of "full" support before 1999,

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[117] The processes by which the Challenge made its early grants are described in detail in Shipps and Sconzert with Swyers (1999).

at which point the Challenge reduced substantially its general financial support. As will be discussed later in this section, two to three years is not a lot of time for the hard, steady work required to improve schools.

It is important to note that the particular resources that are needed to promote school improvement are likely to depend on a number of considerations. The type and amount of the resources are likely to be contingent upon what resources the system already has and what resources are at the school's command. Schools and school systems that are poorly funded may need substantially more financial support than those that have more money at their disposal. Schools that are weak in organizational and human capacity may need additional personnel support and central guidance. The type and amount of resources would also depend on the ambitiousness of the improvements that are sought. The assumption is that the more ambitious the improvement, the more resources are required.

That said, this research provides little guidance as to how much money may be needed to promote lasting improvement in individual schools or among a large number of schools in an underresourced urban system like Chicago's. The highest level of average per-school funding that the Challenge provided was only about 1 percent of an elementary school's annual operating budget. Certainly, this money was helpful—Annenberg principals and External Partners said as much on surveys and in interviews. Still, in underresourced urban schools, the average amount of money the Challenge allocated provided very little support relative to the likely need. As the Breakthrough School initiative suggests, the Challenge might have had more success allocating larger amounts of resources to a smaller number of schools with greater capacity to engage in its particular approach to reform.

The findings presented here suggest that while financial resources are important to the improvement of individual schools and groups of schools, how the money is spent matters more. It was beyond the scope of this work to engage in an in-depth study of network and school-level budgets. Field research and interviews with External Partners reveal that Annenberg funds were used to support a wide range of activities, some of which helped promote school improvement and some of which did not. The field research documented schools that were rich in accumulated resources but made little productive use of them. It also documented schools that strategically acquired and allocated their funds to align with and support their school improvement goals and activities. As shown in comparisons of improving and nonimproving schools in Part Two, it was the strategic acquisition, allocation, and alignment of resources rather than mere acquisition that seemed to be associated with individual school improvement.

Another insight from this research is that money appears to be a necessary but insufficient resource to promote and support the improvement of individual schools and groups of schools. The nature of the external support that is provided is also important. This study identified several sources of external professional support that might be important to school improvement, from External Partners, to relationships among teachers and principals at different schools, to the Challenge itself as the central sponsoring agent of development. Findings pointed to the importance of external experience and expertise in developing strong "theories" of change and effective school improvement strategies. They pointed to the importance of social capital—the resources of trust, shared expectations, and mutual accountability—that come from strong working relationships. The findings also suggested that political capital was important to help buffer schools from conflicting external influences and to link them with still other resources to promote improvement. As was the case with the Breakthrough Schools, it seems to be a combination of strong and varied resources that are sustained for some period of time that matters most to school improvement.

Finally, this study points to the importance of alignment or coherence among resources for successful school improvement. The findings revealed difficulties that school personnel and Partners faced as they tried to promote improvement in schools with multiple, conflicting programs and reform initiatives. Problems occurred when local school improvement initiatives and the work of the Challenge itself as a large-scale initiative conflicted with the school system's policies. As an earlier report on instructional program coherence demonstrated, and as the cases of improving and nonimproving schools in Part Two illustrate, school improvement, be it in individual schools or among a large group of schools, appears to be enhanced when resources and action cohere around a shared agenda.[118] When resources and action are fragmented and pull schools in multiple and perhaps conflicting directions, improvement is less likely to occur.

Working With or Against the System?

The Chicago Challenge promoted local school reform, but it also had an agenda to change the school system (a matter that was not explored in the research). As such, it was designed to be "in the system" but not "of the system." It was set up to work against the bureaucracy and centralized policies and practices that were believed to be constraining local school governance and improvement. However cooperative the Challenge's initial relationship with the CPS central administration was when the Challenge was founded, the 1995 reform changed everything. As discussed in Part One,

[118] Newmann et al., (2001b).

both structurally and politically, the Challenge had difficulty developing a productive working relationship with the system's central administration after 1995. While its leadership sought to cultivate a working relationship with CPS leadership, it never achieved a level of cooperation that might have been conducive to its efforts to promote local school improvement.

The experience of the Chicago Challenge raises a dilemma in thinking about the relationship between large-scale reform initiatives and the school systems in which they operate. On one hand, the critical perspective of central system bureaucracy that the founders of the Challenge held had substantial merit. The failures of the CPS central administration and its lack of accountability were legion; they were primary reasons for adoption of both the 1988 and 1995 reforms.[119] So, there was a strong argument to be made that the system and its central administration were legitimate targets for reform. At the same time, lessons from experience and numerous studies of other reform initiatives conclude that efforts to improve both individual and large groups of schools are unlikely to be successful, at least for very long, without the school system's support. In his reflections on 40 years of research on school reform, Matthew Miles observed that large-scale reform initiatives require continued close central-local interaction.[120] Local changes need to be embedded in stable and supportive system-level routines and linked well to system policies.

Reform advocates face the dilemma of how to be partners with a system in order to support improvement across a large number of schools and, at the same time, confront and challenge the system itself to change. It may be extraordinarily difficult to manage this dilemma, but a minimal condition for success seems to be constructive interaction between reform and system leadership and a direct engagement of the dilemma. In the case of the Chicago Challenge, there was neither a history of constructive interaction nor the engagement of the issues related to the relationship between the reforms supported by the Challenge and those advanced by the school system. As a result, the conflicts and contradictions between the two were played out in the schools, often to the detriment of improvement efforts supported by the Challenge.

When Are We Going to Get There?

An additional issue raised by the Chicago Annenberg experience concerns the amount of time that may be required to promote and sustain school improvement.

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[119] For example, see Hess (1991) and Shipps, Kahne, and Smylie (1999).
[120] Miles (1993).

The literature on educational change is replete with warnings that reform involves long, steady work.[121] It is a slow process.[122] Research on the implementation of comprehensive reform models reports that it can take years before teachers understand what a new reform fully entails.[123] Researchers have given various estimates of the amount of time required for schools to fully implement and institutionalize different types of reform. For example, Henry Levin estimated that it takes approximately six years for a school to transform completely into an Accelerated School.[124] Nancy Haynes concluded that it can take five to seven years to institutionalize the Comer School Development model.[125] In their study of the development of New American Schools, Susan Bodilly and Mark Berends found that even after three years, many New American Schools' designs were only partially implemented.[126] Michael Fullan contends that it takes at least three years to turn around a poorly performing elementary school and six years to turn around a poorly performing high school.[127] Linda Darling-Hammond and Theodore Sizer have estimated that it can easily take 10 years to completely reform a single school.[128]

The literature on school change indicates that the implementation of new reforms can be undermined if support for them is withdrawn prematurely.[129] From their study of "theory-based reforms," Milbrey McLaughlin and Dana Mitra wrote that the sustainability of these efforts depends not only on an ongoing, adequate base of resources, but on several other conditions as well.[130] These include what reform advocates learn from taking a reform idea and putting it into practice and what actions they may take to adapt the reform to the specific conditions in which it is to be implemented. They also cite as necessary a thorough understanding among school personnel of the reform's underlying principles, the support of the community of practice within the school, a knowledgeable and supportive principal, and a supportive district context. Developing these conditions may take a substantial amount of time and effort.

In 1999, the Challenge began its Breakthrough School initiative and, at the same time, reduced the amount of resources it provided to other Annenberg schools. As of

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[121] Elmore and McLaughlin (1997).
[122] Cohen (1994) and Cuban (1984).
[123] Bodilly (1998).
[124] Levin (1991) and Murphy and Datnow (2003).
[125] Haynes (1998).
[126] Bodilly and Berends (1999).
[127] Fullan (2001).
[128] Darling-Hammond (1990) and Sizer (1992).
[129] Bodilly (1996); Muncey and McQuillan (1996).
[130] McLaughlin and Mitra (2001).

1999, most Annenberg schools had received only two or three years of support from the Challenge. While there was evidence that Annenberg schools as a group were beginning to develop in some areas of the Essential Supports at a rate greater than non-Annenberg schools, there were also doubts among members of the Challenge staff and its Board of Directors that continuing this course of action—supporting a large number of schools that implemented a wide variety of local initiatives, some better than others—would result in much overall success. These doubts fueled the Breakthrough School initiative. It is not clear that the initial improvement among Annenberg schools would have grown had the Challenge stayed its initial course. By most estimates in the literature, it would be unreasonable to expect to see much change in only two or three years. What the data from this study show, however, is that the reduction of support for non-Breakthrough Annenberg schools coincided with a loss of these initial improvements. The evidence also shows that Breakthrough Schools, who were provided sustained support for a total of four or five years, were able to build upon initial improvements and achieved greater overall success in some areas.

It is easy to become impatient with efforts to improve both individual schools and large groups of schools. It is not uncommon to set unreasonable goals and unreasonable timelines to achieve those goals. It is commonplace to abandon reform initiatives before enough time has passed for them to take hold and succeed or fail. It is also commonplace to move from one reform to another without taking enough time to study and learn from them.[131] While it may be foolish to spend too much time and too many resources on bad reform strategies, it is also foolish to give up prematurely on potentially effective ones. There remains a great deal to learn about promoting large-scale school improvement, particularly in underresourced urban public school systems like Chicago's. While the Chicago Annenberg Challenge did not achieve widespread improvement in the schools it supported, its experience leaves a legacy of important lessons that may guide future initiatives toward more productive strategies and away from less productive ones.

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[131] See Slavin (1989).

Appendices

Appendix A. Chicago Annenberg External Partners and the Numbers of Schools in Their Networks

Appendix B. Indicators of High and Low States of Development on the Model of Essential Supports for Student Learning

Appendix C. Longitudinal Field Research Methods

Appendix D. Survey Research Methods

Appendix E. Measures Used in Survey Analyses

Appendix F. The Productivity Index

Appendix G. Detailed Results of ITBS Analyses

Appendix H. Detailed Results of Survey Analyses

Appendix A

Chicago Annenberg External Partners and the Numbers of Schools in Their Networks

External Partners	No. of Schools
Academic Development Institute	3
Association of Illinois Middle Level Schools	3
Beverly Area Planning Association	6
Chicago Children's Museum	3
Chicago Metropolitan History Education Center	4
Chicago State University	8[a]
Chicago Symphony Orchestra	3
Chicago Teachers Union—Quest Center	3
Coalition for Improved Education in South Shore	9
Coalition of Essential Schools Regional Center at Chicago	6
Columbia College—Science Institute	3
DePaul University School of Education	4
Designs for Change	5
Erickson Institute	3
Facing History and Ourselves	3
Garfield Park Conservatory Alliance	4
Governors State University	3
Great Books Foundation	4
Hug-A-Book	3
Illinois Future Problem Solving	5
Illinois Learning Partnership	3
Illinois Resource Center	3
Imagine Chicago	4
Kohl Children's Museum	3
Logan Square Neighborhood Association	5
Loyola University	4
National Louis University—Center for City Schools	4
National Louis University—Faculty	6
Near Northwest Neighborhood Association	5
Northeastern Illinois University—Chicago Teachers Center (Group A)	3
Northeastern Illinois University—Chicago Teachers Center (Group B)	3

Chicago Annenberg External Partners and the Numbers of Schools in Their Networks (continued)

External Partners	No. of Schools
Northeastern Illinois University—Chicago Teachers Center (Group C)	3
Northeastern Illinois University—Chicago Teachers Center (Group D)	3
Northeastern Illinois University—Chicago Teachers Center (Group E)	4
North Lawndale Learning Community	9
Participation Associates	3
People's Reinvestment Development Effort	3
Roosevelt University	5
Success for All Foundation	3
Suzuki-Orff School for Young Musicians	4
Teachers Task Force	3
University of Chicago—Center for School Improvement	8
University of Illinois at Chicago—Small Schools Workshop	15[b]
Whirlwind Performance Company	3
Youth Guidance	12

Source: Chicago Annenberg Challenge. This list contains External Partners of networks receiving implementation grants in 1999. All but two of these partners continued to receive support through 2001, the last year of the Challenge.[a] These eight schools are schools within four larger schools.[b] These 15 schools include some independent small schools as well as small schools within nine larger schools.

Appendix B

Indicators of High and Low States of Development on the Model of Essential Supports for Student Learning

Essential Support	Low State	High State
High Quality Instruction	• Curriculum characterized by slow pacing and a great deal of review and repetition. • Instruction is aimed only at mastery of basic skills. • High quality instructional materials are not available or not used. • There are many disruptions to instruction.	• Curriculum is well-paced and coordinated across classrooms and grade levels. • Instruction is aimed at student mastery of challenging intellectual work and basic skills. • High quality instructional materials are used. • Instructional time is protected form interruption.
Student-Centered Learning Climate	• School is disorderly with many disruptions. • Students feel physical/psychological risk or danger. • Impersonality and alienation characterize teacher-student relations. • Teachers hold low academic expectations for students. • Students find their peers give them little support for academic learning.	• School is orderly. • Students feel physically and psychologically safe. • Personalism and belonging characterize teacher-student relations. • Teachers hold high academic expectations for students. • Students find high peer support for academic learning.

Essential Support	Low State	High State
School Leadership	• Principal is exclusive leader. • Decision making is authoritative. • Teachers to not meet regularly to plan improvements. • Leadership does not work to protect school from disruptive influences. • Principal fails to articulate, communicate plans and goals of organization. • Leadership lacks focus or focus is not on instruction. • Lack of accountability is the norm. • Principal fails to help teachers obtain professional development. • The school is poorly managed and chaotic.	• Leadership is broad based and includes principal, teachers, others. • Decision making is democratic and shared. • Teachers work to plan improvements regularly. • Leadership buffers school from disruptions. • Principal articulates, communicates plans and goals of organization. • Leadership focuses on instruction. • Principal and teachers take responsibility. • Principal promotes the development of teachers. • The school is efficiently managed and runs on schedule.
Teacher Professional Community	• Teachers' vision and goals are ambiguous or not shared. • Teachers are unable to articulate their goals and lack a common language. • Social groups are fragmented subcultures at the school. • Teachers are isolated from each other and do not share reflective dialogue, inquiry, or joint work.	• Teachers share a clear vision and goals. • Teachers use a common language to articulate their vision and goals. • There is normative coherence among social groups and subcultures at the school. • Teachers collaborate through reflective dialogue, inquiry, and joint work.

Essential Support	Low State	High State
Teacher Professional Community (continued)	• Teachers feel responsibility and accountability only to themselves. • Teachers have limited communication channels. • There are limited structures and time for collaboration. • There are disruptive, counterproductive political and intellectual tensions.	• Teachers feel that they have a shared responsibility and accountability. • Teachers have expansive communication channels. • There are sufficient structures and time for collaboration. • There are productive political and intellectual tensions.
Parent and Community Involvement	• Students lack parent support for learning at home. • The principal fails to draw on community resources and institutions for school. • School conducts little outreach to parents as resources.	• Parents strongly support student learning at home. • The principal actively draws on community resources and institutions for school. • School actively reaches out to parents as resources.
Relational Trust	• Teachers and principal feel distrust, cynicism. • Teachers feel distrust and cynicism toward each other. • Teachers and parents feel distrust, cynicism. • Teachers and students feel distrust, cynicism.	• Teachers and principal feel trust, optimism. • Teachers feel trust and optimism toward each other. • Teachers and parents feel trust and optimism. • Teachers and students feel trust and optimism.
School Instructional Program Coherence	• Instructional programs have different and sometimes divergent goals. • There are so many programs that teachers cannot keep track of them.	• Instructional programs share common focus. • There is a small enough number of programs that teachers can keep track of them.

Appendix C
Longitudinal Field Research Methods

In this appendix we describe in detail the procedures we used to select our school field research sites, our data collection procedures, and our methods of analysis.

Selection of Sites

In 1996 and 1997, more than 40 networks of schools and External Partners were awarded multi-year implementation grants by the Chicago Annenberg Challenge. These networks included between 200 and 220 elementary, middle, and high schools, approximately 90 percent of which were elementary schools. From these networks and schools, we selected an initial sample of 11 networks and 23 field research schools. As we described in Part One, sample selection began with the networks. We selected networks with diverse organizational foci, networks with both newly formed and well-established relationships with schools, and networks with different types of External Partners (e.g., universities, community organizations, and cultural institutions). We then selected two or three schools as research sites from each of these networks. One to two schools were chosen because of their promise for working well with their External Partners and succeeding in their efforts to develop. An additional school was chosen because of indications that it might struggle to succeed. Our intention was to create a purposive sample of schools that would allow us to understand reasons for more or less successful development. Our site selections were informed by Consortium survey data and assessments from the External Partners of the networks we sampled.

We selected our sample of networks and schools in two stages. A first group was selected in the fall of 1996 from the networks and schools that received the first round of Annenberg funding. A second group was selected in the fall of 1997 from those receiving funding in the second round. In all, our sample included 18 elementary and middle schools and five high schools. By the end of the 2000-01 school year, the end point of analysis for this report, we collected five years of field research data from about half of the networks and schools in our sample; we collected three years of field research data in the other half.

In this report we focus particular attention on 12 elementary schools. We chose not to focus on high schools for two reasons. First, high schools represented only 10 percent of schools supported by the Challenge. Second, our high school data were not as comprehensive as our elementary school data. We also did not include six of the 18 elementary/middle school sites in our analyses for this report. These schools either dropped out of the study, were dropped from the study because of lack of improvement activity, or did not participate fully in our field research and their data were not as complete as other schools. We chose to focus on those schools with the most complete evidence available.

Although we did not intend to select a group of schools that was demographically representative of all Annenberg schools, the 12 schools that made up our field research sample were quite typical of schools across Annenberg and the system as a whole. In addition, the External Partners working with these field research schools were generally representative of the different types of partners participating in the Challenge. Our field research schools also reflected the demographic characteristics of the system in general. Of the 12 elementary schools studied for this report, six enrolled primarily African-American students, three enrolled primarily Latino students, three enrolled a combination of both African-American and Latino students (at least 85 percent of the total enrollment), and two enrolled a more mixed group that included between 15 and 30 percent white students.

On average, 32 percent of students in our field research schools scored at or above the national average in reading on the 1999 Iowa Tests of Basic Skills (ITBS), and 37 percent scored at this level in math. Our field research schools ranged from 17 to 60 percent of students at or above the national norms on the ITBS in reading and 16 to 78 percent of students at or above national norms in math. Average student enrollment for the schools was 900, ranging from 600 to 1,600 students.

Data Collection

Data collection took place between 1996-97 and 2000-01 school years. Baseline data collection took place in the 1996-97 or 1997-98 school year, depending on when the schools were awarded their implementation grants. The second major data collection point was in 1998-99. The third and last major data collection point was in the 2000-01 school year. For the description that follows, we refer to the 1996-97 school year as Year 1, 1997-98 as Year 2, 1998-99 as Year 3, 1999-2000 as Year 4, and 2000-01 as Year 5.

Field research data collection was designed to document (a) the state of schools' development on the Essential Supports at specific points in time; and (b) both Annenberg activities and schools' own development activities. As noted above, because of the two different stages of Annenberg grant making, our documentation of individual schools' development activity took place in either Years 1, 3 and 5 or Years 2, 3 and 5. About half of our schools fall in each category. Annenberg and other school development activities were documented each year.

Our data came from several sources, including interviews with teachers, school administrators, Local School Council (LSC) members, Annenberg External Partners and Challenge staff; classroom observations and observations of Annenberg and other school development activities; documents related to Annenberg activity and school development (e.g., School Improvement Plans and reports prepared for the Challenge). The data we drew upon for this report included interviews and/or observations from 348 grade three, six and eight teachers and interviews from 225 other school staff. We interviewed an average of 22 people at each school each year. We also drew from school documents and school case reports written by Project

researchers. Schools and staff members were promised anonymity in all reports of findings.

Field research was conducted during the academic year, with interview and observation data typically collected between October and March. Researchers wrote detailed case reports for each of their schools describing their state of development at primary data collection years. Because of the two-stage sampling, case reports were written for about half of the schools for Years 1, 3 and 5 and for the other half for Years 2, 3 and 5. Vignettes describing each school's development activity were also prepared.

Dozens of researchers from more than eight Chicago-area colleges and universities assisted with the field research. A team of one lead researcher and one research assistant was assigned to document the development of each school in the study. Two-thirds of the lead researchers were faculty members at local universities. Two-thirds of the research assistants were graduate students at local universities. The research assistants had the most continuous contact with the schools (up to ten hours per week during periods of data collection) and the lead researchers had the primary responsibility for writing the case reports. The authors of this report were involved in each phase of the field research and also conducted interviews, observed classroom and development activity, and wrote case reports and vignettes.

Data Analysis

In this and other Project reports, the Model of Essential Supports for Students Learning framed our definition of school development and guided our data collection and analyses. The Model delineates key areas of school organization and practice that are strongly related to student achievement.

Three of the authors of this report served as the primary field research data analysts. In their analyses they used the interviews, case studies, and documentary evidence gathered by field researchers for each school in the study. Indicators for high and low states of development on the Model of Essential Supports were used to code the data and determine the extent to which the field research schools developed over time (see Appendix A). In addition, they examined these data to identify emergent themes and patterns concerning the promotion and support of school development.

Analyses of field research evidence were complicated by the contextual nature of the data. It was sometimes difficult to make clear-cut determinations of the levels of development on the Essential Supports. Therefore, the analysts independently rated the field research schools in terms of their strengths and weaknesses on each Essential Support and assessed how these levels changed over time. In general, a school was considered strong on an Essential Support if the evidence was indicative of our definition of that Support's high state of development (see Appendix A). That is, there was evidence that the Support was present and *reasonably well established* at the school. A school was considered weak on a particular Support if evidence was indicative of our definition of a low state of development. Schools were considered

moderate in their development if they fell somewhere in between; that is, the evidence indicated that the Support's level fell between our definitions of high and low states or the Support's qualities were not reasonably established. Authors discussed any disagreements in their independent ratings and, where necessary, engaged in additional data analysis to reach consensus.

Field researchers were asked to verify the ratings their particular schools received and to check the factual accuracy of information about their schools that were used in this report. Researchers were also asked to review the emergent themes and patterns of the promotion of school development and compare them to what was taking place in their school.

Appendix D

Survey Research Methods

In the spring of 1997, 1999, and 2001, the Consortium surveyed CPS teachers, principals, and students in grades six through ten. Similar surveys were administered to teachers and students in spring 1994. In 2001, 59,663 elementary school students and 8,572 elementary school teachers completed surveys, representing 365 of the total of 492 elementary schools across the CPS system. Of the elementary school principals, 278 of the 492 provided usable surveys. We conducted a series of analyses for possible non-response bias among teachers, students, and schools in terms of basic school demographic characteristics (e.g., race/ethnicity, percent low income students, etc.). Overall, we found that the survey sample is representative of schools across CPS. For this report, we analyzed teacher and student survey data from 365 elementary schools and principal survey data from 278 schools.

Separate analyses were performed on each measure of each Essential Support and non-academic student outcome to determine whether there were changes in the measures from 1997 to 1999, from 1999 to 2001, and from 1994 to 2001 (see Appendix E for detailed descriptions of the measures used in these analyses). Annenberg elementary schools were compared to demographically similar non-Annenberg schools on each measure for each survey year (1994, 1997, 1999, 2001). Analyses were also performed to determine whether changes in the measures among Annenberg schools were different from changes in the measures among non-Annenberg schools between 1997 to 1999, 1999 to 2001, and 1994 to 2001.

We used three-level hierarchical linear models (HLMs) to make these comparisons, with each survey measure acting as the dependent variable in each separate model. Data were structured with a case for each respondent for each survey year (1994, 1997, 1999 and 2001) at Levels 1 and 2, and for each school at Level 3. The Level 1 model was used to weight each respondent's score, given the standard error in that person's measure. Level 2 models estimated variation in the measure among respondents within the schools, while Level 3 models estimated differences across schools. The models were constructed as follows.

Level-1 Model

$$Y = P_1*(WGT94) + P_2*(WGT97) + P_3*(WGT99) + P_4*(WGT01) + e$$

Level-2 Models

$$P_1 = B_{10} + r1$$
$$P_2 = B_{20} + r2$$
$$P_3 = B_{30} + r3$$
$$P_4 = B_{40} + r4$$

Level-3 Models

$B_{10} = G_{100} + G_{101} \ldots G_{1014}$(DemographicVariables) + G_{1015}(Annenberg dummy) + u_{10}
$B_{20} = G_{200} + G_{201} \ldots G_{2014}$(DemographicVariables) + G_{2015}(Annenberg dummy) + u_{20}
$B_{30} = G_{300} + G_{301} \ldots G_{3014}$(DemographicVariables) + G_{3015}(Annenberg dummy) + u_{30}
$B_{40} = G_{400} + G_{401} \ldots G_{4014}$(DemographicVariables) + G_{4015}(Annenberg dummy) + u_{40}

At Level 1, a measurement model was run for each person in each school to determine the most accurate estimation of that person's score on the measure, given the standard error of their measure (determined through Rasch analysis by their response pattern to the items in the question) and the average score for the school. The dependent variable (Y) was the person's score on the measure divided by the standard error on the measure. This was predicted with the inverse of the standard error on the measure, multiplied by dummy variables (scored one or zero) representing each of the survey years (WGT94, WGT97, WGT99, WGT01). That is, if the survey response for a particular case was from the 1997 survey, the values of WGT94, WGT99, and WGT01 for that case would be zero, while the value of WGT97 would be the inverse of the standard error of the measure for that person. The coefficient associated with the weight for the corresponding survey year (P_1, P_2, P_3, P_4) represents the best estimate of that person's true score on the measure in that year.

At Level 2, models were run within each school to determine the average score for the school on the measure for each year. Each of the coefficients from level one (P_1, P_2, P_3, P_4 – the best estimates of each person's true score on the measure) is modeled without any predictors. The intercepts (B_{10}, B_{20}, B_{30}, B_{40}) represent the average score on the measure for each school for each year.

Level 3 compared schools' average scores (B_{10}, B_{20}, B_{30}, B_{40}) controlling for a number of demographic variables and a variable representing Annenberg affiliation. Demographic variables used for controls included the following: an index of the level of crime around the school neighborhood (developed from police department records on total incidence of crimes by location), the school's average ITBS scores in 1994, average social status of adults in the school neighborhood (developed from 1990 census items on the percentage of employed persons who are managers, executives, etc., and the education levels of adults over 25 years old), average housing tenancy in the school neighborhood (from 1990 census data), average poverty in the school neighborhood (developed from 1990 census items on the percentage of adult males unemployed and the percentage of families below the poverty line), percentage of limited-English proficiency students in the school in 1997, percentage of low-income students in the school in 1997, mobility rate of students in the school in 1997, and dummy variables representing the racial composition of the school (predominantly African-American, predominantly Latino, racially mixed but not

integrated, and mixed minority, with integrated as the excluded group), and a dummy variable representing small school enrollment. All of the predictor variables were centered on the grand mean so that the intercepts (G_{100}, G_{200}, G_{300}, G_{400}) represented the average score for the measure across all schools for 1994, 1997, 1999, and 2001, respectively. Dummy variables representing Annenberg affiliation and Breakthrough schools were also entered as predictors to discern any difference in the average score among Annenberg schools compared to other schools, controlling for demographic variables. These dummy variables were centered around zero according to their representation in the system (e.g., Annenberg = 0.3, non-Annenberg = -0.7) so that the equation intercepts represented the average for the system as a whole.

The significance levels of the coefficients for the Annenberg dummy variable were used to determine whether Annenberg schools differed from non-Annenberg schools on the survey measure for each year. Contrast tests were performed to determine the answers to the other questions. To determine whether there was a significant level of change in the measure in the overall system from 1999 to 2001, a contrast was performed between the intercepts for 1999 and 2001 (G_{300} and G_{400}). To determine whether Annenberg schools experienced a different rate of change in the measure than non-Annenberg schools, another contrast was performed between the coefficients associated with the Annenberg variable for 1999 and 2001 (G_{3015} and G_{4015}). Comparable analyses were performed on each measure to identify changes in measures among Breakthrough Schools and to compare changes among Breakthrough Schools to changes among other Annenberg schools. A 0.01 level of probability was used to define statistical significance, except where noted in our analyses of Breakthrough Schools.

Detailed findings of these analyses are reported below in Appendix H. These findings are presented in terms of between group mean comparisons over time and standardized change units. The calculations of these change units, which are similar to effect size units, are described in Appendix H.

Appendix E

Measures Used in Survey Analyses

The statistical analyses performed for this report used Rasch measures of student social and psychological outcomes and of different elements of the Model of Essential Supports for Student Learning. These measures were developed by the Consortium on Chicago School Research from its 1994, 1997, 1999, and 2001 surveys. The measures consist of three to 15 survey items and range on a scale from 1 to 10. Negatively worded items or items that reflect the opposite of the phenomenon being measured were reversed for measure construction. This appendix provides definitions, internal reliability coefficients, and items for each of these measures. The reliability coefficients are for 1999 measures. It also provides definitions and cut points for the substantive scale categories of each measure. There are slight differences in the items used to construct these measures from year to year but these differences are not consequential conceptually or statistically. Additional information about these measures and their construction is available from the Consortium on Chicago School Research.

Measures of Student Social and Psychological Outcomes

Student Academic Engagement. This is a measure of students' interest and engagement in learning, their interest in the topics they study, and their participation in the classroom generally. High levels indicate that students are highly engaged in learning. (Reliability coefficient = 0.66)

Items: Students agree or disagree that:

- I often count the minutes until class ends.
- I get so interested in my work I don't want to stop.
- I usually look forward to class.
- I am usually bored with what we study in this class.
- The topics we are studying are interesting and challenging.
- I work hard to do my best in this class.

Categories and Cut Points	In this school:
None 0.00 to 2.41	Students **disagree** or **strongly disagree** that they try hard to do their best and find their math topics interesting; the **strongly disagree** that they are not often bored in class, they are so interested in the work they don't want to stop, and they do not often count the minutes until class ends.
Limited 2.41 to 4.65	Students **agree** that they try hard to do their best; some agree and others disagree that their topics are interesting; however, they disagree that they are not often bored in class, they are so interested in the work that they don't want to stop, and they do not often count the minutes until class ends.
Moderate 4.65 to 7.12	Students **agree** or **strongly agree** that they work hard to do their best; they **agree** with the other items.
High 7.12 to 10.00	Students **strongly agree** with all items on the scale.

Student Classroom Behavior. This is a measure of students' assessments of their peers' classroom behavior with regard to how they treat each other, how often they disrupt class, if they have respect for each other, and if they help each other learn. High levels indicate that positive behaviors are more prevalent and problem behaviors are less so. (Reliability coefficient = 0.61).

Items: Students agree or disagree that other students in their class:

- Like to put others down.
- Just look out for themselves.
- Treat each other with respect
- Really care about each other.
- Get along together very well.

Categories and Cut Points	In this school:
Very negative 0.00 to 2.81	Students **strongly disagree** with all items on the scale.
Negative 2.81 to 5.31	Students **disagree** with all items on the scale, except that some students **strongly disagree** that students do not disrupt class.
Moderately positive 5.31 to 7.81	Attendants **agree** or **strongly agree** that students who do well are not made fun of, and students work together to solve problems, help each other learn, get along well, care about each other, and treat each other with respect; they **agree** that students do not look out just for themselves, and do not like to put others down; some **agree** and some **disagree** that students do not disrupt class.
Very Positive 7.81 to 10.00	Students **strongly agree** with all items on the scale.

Student Social Competence. This is a measure of students' impressions of their ability to help people end arguments; listen carefully; and share, help, and work well with each other. High levels indicate that students feel comfortably in a wide range of social situations. (Reliability coefficient = 0.69)

Items: Students agree or disagree that:

- I can always find a way to help people end arguments.
- It's easy for me to make suggestions without being bossy.
- I listen carefully to what other people say to me.
- I'm very good at working with other students.
- I'm good at taking turns and sharing things with others.
- I'm good at helping people.

Categories	In this school:
None	Students **strongly disagree** with all items on the scale.
Weak	Students **disagree** that they are good at helping people, taking turns, working with other students, they know how to disagree without starting a fight, listen carefully to what others say, and find it easy to make suggestions without being bossy; they **disagree** or **strongly disagree** that they can always find a way to help people end arguments.
Moderate	Students **agree** that they are good at helping people, taking turns, working with other students, that they know how to disagree without starting a fight, listen carefully to what others say, and find it easy to make suggestions without being bossy; some **agree** and others **disagree** that they can always find a way to help people end arguments.
Strong	Students **strongly agree** that they are good at helping people, taking turns, working with other students, they know how to disagree without starting a fight, listen carefully to what others say, and find it easy to make suggestions without being bossy; they **agree** or **strongly agree** they can always find a way to help people end arguments.

Student Self-Efficacy. This is a measure of students' level of confidence in their academic ability. Items ask students if they believe they can master new skills and succeed at even the hardest tasks if they try. High levels indicate that students feel they can meet high standards. (Reliability coefficient = 0.58)

Items: Students agree or disagree that:

- If I try hard, I can understand most of my class work.
- I am certain I can master the skills taught in this class.
- I can do even the hardest work in this class if I try.
- I can do better work than I'm doing now.
- With enough time, I can do a good job on all my work.
- I care if I get a bad grade I this class.

Categories	In this school:
Low	Students **disagree** or **strongly disagree** that they care if they get bad grades, can do better than they are now, and can do a good job if they have enough time; they **strongly disagree** that they can do the hardest work if they try, can master certain skills, and understand all class work if they try hard.
Minimal	Some students **agree** and some **disagree** that they care if they get bad grades and can do better than they are now; they disagree that they can do a good job if they have enough time, can do the hardest work if they tried, and can do better than they are; they **disagree** or **strongly disagree** that they can master the skills taught in class and understand all class work if they try hard.
High	Students **agree** or **strongly agree** that they care if they get bad grades in class, can do better than they are now, and can do a good job if they have enough time; they **agree** that they can do the hardest work if they try and are certain they can master the skills taught in class; some **agree** and others **disagree** that they can understand all class work if they try hard.
Very High	Students **strongly agree** that they care if they get bad grades in class, can do better than they are now, can do a good job if they have enough time, can do the hardest work if they try, and are certain they can master the skills taught in class; they **agree** or **strongly agree** that they can understand all class work if they try hard.

Instruction Measures

Demand for Authentic Intellectual Work. This measure assesses the extent to which teachers report making assignments or creating tasks that require that students engage in authentic intellectual work, study a topic in depth, and produce original work. A high score indicates a teacher who assigned lessons that require challenging intellectual work from students. (Reliability coefficient = 0.76).

Items: Teachers report how often, the percentage of their lessons, or the percentage of classroom time the following characterize their instruction:

- Lessons focus on studying a topic in depth, rather than covering basic facts, concepts, or procedures.
- Lessons have students explaining to you or to their classmates how the topic relates to their personal experiences or to a problem in the contemporary world.

- Lessons require students to organize, interpret, evaluate, and use information to produce a piece of original work.
- Analyzing and interpreting literature.
- Differentiating fact from opinion.
- Drawing inferences from expository texts.
- Synthesizing ideas from several texts.
- Understanding the author's perspective.
- Writing tasks in which students must elaborate on their ideas and conclusions with supporting details and evidence and organize these ideas into a coherent progression of sentences and paragraphs.
- Writing tasks in which students must go beyond facts to organize and synthesize information, including consideration of alternative ideas.

Category	In this school:
No Demand 0.00 to 2.15	Teachers never ask students to elaborate their ideas, or organize and synthesize information; **spend less than 5 percent** of their class time on synthesizing ideas from reading, differentiating fact from opinion, drawing inferences, and analyzing or interpreting literature; **less than 10 percent** of their lessons deal with studying a topic in depth or producing original work.
Low Demand 2.15 to 5.15	Teachers ask students to elaborate their ideas, and organize and synthesize information less than once a week; **spend between 5 percent and 35 percent** of their class time on synthesizing ideas from reading, differentiating fact from opinion, and drawing inferences; and **more than 50 percent** of their time on analyzing or interpreting literature; **between 10 percent and 50 percent** of lessons deal with studying a topic in depth and producing original work.
High Demand 5.15 to 7.42	Teachers ask students to elaborate their ideas, and organize and synthesize information once or twice a week; spend **between 35 percent and 50 percent** of their class time on synthesizing ideas from reading, differentiating fact from opinion, and drawing inferences; and **more than 50 percent** of their time on analyzing and interpreting literature; **between 50 percent and 75 percent** of lessons deal with studying a topic in depth and producing original work.
Very High Demand 7.42 to 10.00	Teachers ask students to elaborate their ideas, and organize and synthesize information nearly every day; spend **more than 50 percent** of their class time on synthesizing ideas from reading, differentiating fact from opinion, drawing inferences, and analyzing and interpreting literature; **between 75 percent and 100 percent** of lessons deal with studying a topic in depth and producing original work.

Emphasis on Writing. This measure represents the amount of writing that teachers ask students to do and indicates the overall emphasis that teachers place on writing in their teaching. (Reliability coefficient = 0.85)

Items: Teachers report whether at least once a week they have students:

- Write four pages or more.
- Write one to three pages.
- Write one page.
- Edit/revise/publish essays.
- Brainstorm ideas for written work.
- Write one or two paragraphs.

Category	In this school:
None 0.00 to 1.37	Teachers have students write one to two paragraphs **once or twice a semester** and **never** assign any longer writing.
Minimal 1.37 to 3.91	Teachers have students write one to two paragraphs **once or twice a week** and have students revise and edit their writing **once or twice a semester**, but do **no** other writing.
Moderate 3.91 to 5.17	Teachers have students write one page **once or twice a semester** and one to two paragraphs **once or twice a week**; they **never** have students write anything longer, but have the students edit and revise their writing **once or twice a month.**
Fairly intensive 5.17 to 6.50	Teachers have students write one to two paragraphs **nearly every day**, one page **once or twice a month**, and one to three pages **once or twice a semester**; they have students edit and resive their written work **once or twice a week.**
Intensive 6.50 to 7.67	Teachers have students write four pages or more **once or twice a semester**, one to three pages **once or twice a month**, and one page **once or twice a week.**
Very intensive 7.67 to 10.00	Teachers have their students write four pages or more **once or twice a month**, and one to three pages **once or twice a week**; shorter writing is assigned **almost every day.**

Didactic Instruction. This is a measure of the amount of time that teachers devote to whole class, teacher-centered instructional strategies including lecture, recitation, structured call and response, workbook exercises and other forms of individual student work, drill and practice, silent reading and reading aloud to other students,

and preparation for standardized tests. *High levels indicate that teachers make greater use of these strategies.* (Reliability coefficient = 0.75)

Items: Teachers report how frequently they use or how important they consider using the following strategies in their classrooms:

- Lecture to class for more than half the period.
- Have students memorize facts or procedures.
- Use highly structured call and response activities.
- Have students complete workbook or textbook exercises in class.
- Have students take turns reading out loud.
- Have students read silently.
- Consider multiple choice, true-false tests important for judging how well students are learning.
- Consider short-answer tests important for judging how well students are learning.

Category	In this school:
None 0.00 to 1.60	Teachers **never** use highly structured call and response exercises, lecture to the class for at least half the period, have students memorize facts and concepts; students read out loud **once or twice a semester.**
Infrequent 1.60 to 4.38	Teachers do not use highly structured call and response exercises or have students memorize facts more than **once or twice of week**; they do not lecture to the class for more than half the period more than **once or twice a month**, but they may have students read out loud as often as **once or twice a week.**
Regular 4.38 to 6.95	Teachers use call and response exercises and have students memorize facts and concepts **once or twice a week**; they may lecture to the class for more than half the class at least **once or twice a month**; and may have students read out loud **nearly every day**.
Very frequent 6.95 to 10.00	Teachers perform all these practices **nearly every day.**

Interactive Instruction. This is a measure of the amount of time that teachers devote to instructional strategies that involve more student-centered, interactive activities. These activities include having students discuss ideas in class, brainstorm, and use cooperative groups. *High levels indicate that teachers make greater use of these strategies.* (Reliability coefficient = 0.84)

Items: Teachers report how frequently they use or how important they consider using the following strategies in their classrooms:

- Assign projects of at least one week's duration.
- Have students work in cooperative groups.
- Have students brainstorm ideas for written work.
- Have students discuss and debate ideas for more than half a period.
- Engage in extended discussion around a key theme.
- Have students talk with one another in pairs or small groups about something they have read.
- Consider group projects important for judging how well students are learning.
- Consider individual projects important for judging how well students are learning.
- Consider student presentation of work important for judging how well students are learning.
- Consider student participation in class important for judging how well students are learning.
- Consider essay tests important for judging how well students are learning.
- Consider open-ended problems important for judging how well students are learning.

Category	In this school:
None 0.00 to 0.71	Teachers **never** have students discuss what they have read in small groups, use group and individual projects for judging student learning, or assign projects of at least one week's duration; they have students work in cooperative groups **once or twice a semester** and consider student participation in class **not important** or **somewhat important** in judging student learning.
Occasional 0.71 to 3.48	Teachers have students discuss what they have read in small groups not more than **once or twice a month**; they consider open-ended problems **not important** or **somewhat important** for judging student learning; they have students work in cooperative groups **once or twice a week** or **once or twice a semester**, and consider participation in class **important** in judging student learning, and may assign projects of one week's duration **once or twice a semester** if at all.
Regularly 3.48 to 5.50	Teachers assign project's of one week's duration **once or twice a month**, have students discuss what they have read in small groups, and use cooperative groups at least **once or twice a week**; they consider student participation in class to be **very important** in judging student learning.
Frequent 5.50 to 10.00	Teachers have students engage in extended discussion around a key theme, and assign projects of one week's duration at least **once or twice a week**; they engage in the other practices **nearly every day**, and consider the indicators of student learning **very important**.

Measures of Student Learning Climate

Classroom Personalism. This measure assesses the degree to which students perceive that their teachers give individual attention to and are concerned about their students. Questions ask students if their teachers know and care about them, notice if they are having trouble in class, and are willing to help with academic and personal problems. *High levels indicate that students perceive a great deal of personalized support from their teachers.* (Reliability coefficient = 0.72)

Items: Students agree or disagree that their teacher:

- Relates subject matter to their personal interests.
- Really listen to what they have to say.
- Help them catch up if they are behind.
- Notice if they have trouble learning something.
- Is willing to give extra help on work if needed.
- Believe they can do well in school.

Category	In this school:
None 0.00 to 0.80	Students **disagree** or **strongly** disagree that their teachers believe they can do well in school, are willing to give extra help, notice if they are having trouble learning something, help them catch up if they are behind, and really listen to what they have to say; they **strongly** disagree that their teachers relate subject matter to their personal interests.
Minimal 0.80 to 2.93	Some **agree** and others **disagree** that their teachers believe they can do well in school; all **disagree** that their teachers are willing to give extra help, notice if they are having trouble learning something, help them catch up if they are behind, and really listen to what they have to say; they **disagree** or **strongly disagree** that their teachers relate subject matter to their personal interests.
Considerable 2.93 to 5.73	Students **agree** or **strongly agree** that their teachers believe they can do well in school; they **agree** that their teachers are willing to give extra help, notice if they are having trouble learning something, help them catch up if they are behind, and really listen to what they have to say; however, some **agree** and others **disagree** that their teachers relate subject matter to their personal interests.
Strong 5.73 to 10.00	Students **strongly agree** that their teachers believe they can do well in school, are willing to give extra help, notice if they are having trouble learning something, and help them catch up if they are behind; they **agree** or **strongly agree** that their teacher listens to what they say and relate the subject matter to their personal interests.

School Safety. This measure reflects students' sense of personal safety inside and outside of the school, and traveling to and from school. *High levels indicate that students feel very safe in all these areas.* (Reliability coefficient = 0.62)

Items: Students indicate the extent to which they feel mostly safe:

- Outside around the school.
- Traveling between home and school.
- In the hallways and bathrooms of the school.
- In their classes.

Category	In this school:
Not safe 0.00 to 2.56	Students feel **somewhat** or **not** safe in their classes and in the hallways and bathrooms; they do **not** feel safe traveling between home and school and outside around the school.
Somewhat safe 2.56 to 5.81	Students feel **somewhat** or **mostly** safe in their classes, in the hallways and bathrooms, and traveling between home and school; they feel **somewhat** safe outside around the school.
Mostly safe 5.81 to 8.31	Students feel **very** safe in their classes, and **mostly** or **very** safe in the hallways and bathrooms, traveling between home and school, and outside around the school.
Very safe 8.31 to 10.00	Students feel **very** safe in all these areas.

Press Toward Academic Achievement. This measure consists of students' reports about the degree to which their teachers challenge them to meet high expectations for academic performance. Questions ask students if their teachers press them to do well in school, expect them to complete their homework and work hard, give praise, and are willing to give extra help. *High levels indicate that teachers press all students toward academic achievement.* (Reliability coefficient = 0.66)

Items: Students agree or disagree with statements that their teachers:

- Encourage extra work when they don't understand something.
- Praise their efforts when they work hard.
- Care if they don't do their work in the class.
- Care if they get bad grades in the class.
- Expect them to do their best all the time.

- Expect them to complete their homework every night.
- Think it is very important that they do well in the class.

Category	In this school:
None 0.00 to 2.47	Students **disagree** or **strongly disagree** that their teachers think it is important they do well, expect them to complete their homework and to their best, and care if they get bad grades or don't do their work; they **strongly disagree** that their teachers praise them when they work hard or encourage them to do extra work when they don't understand something.
Limited 2.47 to 4.33	Students **agree** and others **disagree** that their teachers think it is important they do well, expect them to complete their homework and do their best, and care if they get bad grades or don't do their work; they disagree that their teachers praise them when they work hard or encourage them to do extra work when they don't understand something.
Moderate 4.33 to 7.40	Students **agree** or **strongly agree** that their teachers think it is important they do well, expect them to complete their homework and do their best, do not put them down, care if they get bad grades or don't do their work, and praise them when they work hard; they **agree** that their teacher encourages them to do extra work when they don't understand something.
High 7.40 to 10.00	Students **strongly agree** that their teachers think it is important they do well, expect them to complete their homework and do their best, care if they get bad grades or don't do their work, praise them when they work hard, and encourage them to do extra work when they don't understand something.

Peer Support for Academic Work. This measure assesses norms among students with respect to their peers' support of academic work. Questions ask students how many of their peers try hard to get good grades, do homework regularly, pay attention in class, and follow school rules. *High levels indicate that students support each other academically.* (Reliability coefficient = 0.82)

Items: Students report the proportions of students in their class who:

- Think doing homework is important.
- Feel it is important to pay attention in class.
- Feel it is important to attend all their classes.
- Try hard to get good grades.
- Think getting good grades is cool.

Category	In this school:
Minimal 0.00 to 3.69	**Few** or **none** of the students in their class think getting good grades is cool, try to get good grades, attend all their classes, pay attention in class, and think doing homework is important.
Limited 3.69 to 5.48	Between **about half** and **most** of the students in their class think getting good grades is cool; **most** try hard to get good grades and attend all their classes; **a few** or **most** think doing homework is important and pay attention in class.
Moderate 5.48 to 7.86	**Most** of the students in their class try hard to get good grades and attend all their classes, and **about half** or **most** pay attention in class and think doing homework is important.
Strong 7.86 to 10.00	**All** of the students in their class think getting good grades is cool, try hard to get good grades, and attend all of their classes; **most** or **all** of the students in their class pay attention in class and think doing homework is important.

School Leadership Measures

Inclusive Leadership. This measure reflects teachers' views of their principal as a facilitative and inclusive leader who engages parents and the community in the school, creates a sense of community, and is committed to shared decision making. *High levels indicate that teachers view their principal as a leader who strongly encourages broad participation in school affairs.* (Reliability coefficient = 0.75)

Items: Teachers indicate their agreement or disagreement that their principal:

- Is strongly committed to shared decision making.
- Works to create a sense of community in the school.
- Promotes parent and community involvement in the school.

Category	In this school:
Negative 0.00 to 1.72	Teachers **disagree or strongly disagree** that the principal promotes parent and community involvement and **strongly disagree** that the principal works to create a sense of community in the school and is committed to shared decision making.
Mixed 1.72 to 3.94	Teachers **agree** that the principal promotes parent and community involvement; but they **disagree** that the principal works to create a sense of community in the school or is committed to shared decision making.
Positive 3.94 to 8.96	Teachers **agree** or **strongly agree** that the principal promotes parent and community involvement; they **agree** that the principal works to create a sense of community in the school and is committed to shared decision making.
Very positive 8.96 to 10.00	Teachers **strongly agree** with all items on this scale.

Joint Problem Solving. This measure indicates the extent to which teachers engage in public dialogue to solve problems, specifically whether they use faculty meetings to discuss their alternative viewpoints, and whether there are established processes for making public decisions. *High levels indicate that there is good communication among faculty and that teachers work together to solve problems.* (Reliability coefficient = 0.82)

Items: Teachers agree or disagree that:

- Faculty meetings are often used for problem solving.
- The faculty has a good process for making group decisions.
- Many teachers express their personal views at faculty meetings.
- We do a good job talking through views/opinions/values.
- When a conflict arises, we [don't] "sweep it under the rug."

Category	In this school:
Very weak 0.00 to 1.24	Teachers **disagree** or **strongly disagree** with all items on the scale.
Weak 1.24 to 4.57	Some teachers **agree** and others **disagree** that teachers sweep conflict under the rug; they **agree** that teachers do a good job talking through views/opinions; they **agree** or **strongly agree** that teachers in their school express personal views at meetings, have a good process for solving problems, and use faculty meetings for problem solving.

Category	In this school:
Strong 4.57 to 8.57	Teachers **agree** with all items on the scale.
Very strong 8.57 to 10.00	Teachers **strongly agree** that teachers do not sweep conflict under the rug and do a good job talking through views and opinions; they **agree** or **strongly agree** that teachers in their school express personal views at meetings, have a good process for solving problems and use faculty meetings for problem solving.

Teacher Influence on School Decisions. This measure indicates the extent of teachers' involvement in school decision making. It assesses teachers' influence on the selection of instructional materials, setting of school policy, in-service program planning, discretionary funds spending, and hiring of professional staff. *High levels indicate that teachers have influence on a broad range of issues at the school.* (Reliability coefficient = 0.85)

Items: Teachers agree or disagree that they:

- Have some influence in hiring new professional personnel.
- Have some influence in hiring a new principal.
- Have some influence in planning how discretionary school funds are used.
- Have some influence in determining the content of in-service programs.
- Are involved in making the important decisions in this school.
- Have some influence in setting standards for student behavior.
- Have informal opportunities to influence what happens here.
- Have some influence in establishing curriculum and instruction.
- Have some influence in determining books/instructional materials used.

Category	In this school:
Minimal 0.00 to 2.53	Teachers have **none** or **a little** influence in determining instructional materials for their class and establishing curriculum programs; teachers **disagree** or **strongly disagree** that they feel comfortable voicing their concerns or are involved with making important decisions at the school; and teachers have **no influence** in determining in-services or teaching assignments, using discretionary funds, determining the school schedule, or hiring a new principal or personnel

Category	In this school:
Limited 2.53 to 4.76	Teachers have **a little** or **some** influence in determining instructional materials for their class; they **disagree** that they feel comfortable voicing their concerns or are involved in making important decisions at the school; they have **a little** influence over establishing curriculum programs and determining in-services; they have **none** or **a little** influence over teaching assignments, using discretionary funds, and hiring a new principal and personnel.
Moderate 4.76 to 7.47	Teachers have **some** or **a great deal** of influence in determining instructional materials for their class; they **agree** that they are comfortable voicing their concerns and are involved in making important decisions at the school; they have **some influence** over establishing curriculum programs and setting standards for student behavior; and they have **a little** or **some** influence over teaching assignments, using discretionary funds, and hiring a new principal and personnel.
Extensive 7.47 to 10.00	Teachers have **a great deal** of influence in determining instructional material for their class and setting standards for student behavior; teachers **strongly agree** that they feel comfortable voicing their concerns and are involved in making important decisions at the school; teachers have **some** or **a great deal** of influence in determining in-services, using discretionary funds, determine the school schedule, and hiring a new principal and personnel.

Principal Instructional Leadership. This is a measure of teachers' perceptions of their principals as instructional leaders with respect to teaching and learning standards, communication of a clear vision for the school, and tracking of academic progress. *High levels indicate that teachers view their principal as very involved in classroom instruction.* (Reliability coefficient = 0.86)

Items: Teachers agree or disagree that their principal:

- Carefully tracks student academic progress.
- Understands how children learn.
- Presses teachers to implement what they have learned in professional development.
- Communicates a clear vision for the school.
- Sets high standards for student learning.
- Sets high standards for teaching.
- Makes clear to staff his/her expectations for meeting instructional goals.

Category	In this school:
Weak 0.00 to 1.80	Teachers **disagree** or **strongly disagree** with all items on the scale.
Mixed 1.80 to 4.26	Some teachers **agree** and some **disagree** that their principal makes teaching expectations clear, sets high standards for both teaching and student learning, and communicates a clear vision for the school; they **disagree** that their principal presses them to implement what they learn in professional development activities, understands how students learn, and tracks student academic progress.
Strong 4.26 to 7.79	Teachers **agree** with all items on the scale.
Very strong 7.79 to 10.00	Teachers **strongly agree** that their principal makes teaching expectations clear, sets high standards for both teaching and student learning, and communicates a clear vision for the school; they **agree** or **strongly agree** that the principal presses teachers to implement what they learn in professional development activities, understands how students learn, and tracks student academic progress.

Measures of Teacher Professional Community

Peer Collaboration. This is a measure of teachers' reports about the level of cooperation and collaboration among staff. Questions ask teachers about the quality of the relationships among faculty, if staff coordinates teaching and learning across grades, and if teachers collaborate in their design of new instructional programs. *High levels indicate that teachers have moved beyond cordial relationships with their colleagues to ones in which they are actively working together.* (Reliability coefficient = 0.75)

Items: Teachers agree that in this school:

- Teachers design instructional programs together.
- Teachers coordinate teaching with instruction at other grades.
- Principal/teachers/staff collaborate to make the school run effectively.
- Most teachers are cordial.

Category	In this school:
None 0.00 to 1.18	Teachers **disagree** that other teachers are cordial and **disagree** and **strongly disagree** that collaborative efforts make the school run well, and that teachers coordinate instruction across grades and design instructional programs together.
Limited 1.18 to 3.92	Teachers **agree** that other teachers are cordial; some teachers **agree** and some **disagree** about whether collaborative efforts make the school run well; and all teachers **disagree** that teachers in their school coordinate instruction across grades and design instructional programs together.
Significant 3.92 to 8.63	Teachers **agree** or **strongly agree** that other teachers are cordial, and **agree** that collaborative efforts make their school run well, teachers coordinate instruction across grades, and teachers design instructional programs together.
Extensive 8.63 to 10.00	Teachers **strongly agree** that other teachers are cordial, and **agree** or **strongly agree** that collaborative efforts make their school run well, teachers coordinate instruction across grades, and teachers design instructional programs together.

Reflective Dialogue. This is a measure of teachers' assessment of how often they talk with one another about instruction and student learning. Questions ask teachers about their discussion of curriculum and instruction, the school's goals, and the best ways to help students learn and manage classroom behavior. *High levels indicate that teachers frequently discuss instruction and student learning.* (Reliability coefficient = 0. 78)

Items: Teachers report that:

- Conversations about school's goals occur more than twice a month.
- Conversations about curriculum development occur more than twice a month.
- Conversations about managing class behavior occur more than twice a month.
- Conversations about what helps Ss learn best occur more than twice a month.
- Teachers regularly discuss assumptions about teaching and learning.
- Teachers share and discuss student work with other teachers.
- Teachers talk about instruction in the teachers' lounge.

Category	In this school:
Almost none 0.00 to 3.61	Teachers **disagree** or **strongly disagree** that they talk informally about instruction, share and discuss student work with other teachers, and discuss assumptions about student learning; they have conversations about how students learn best, managing student behavior, developing new curriculum, and school goals **less than once a month.**
Occasional 3.61 to 5.56	Teachers **agree** that they talk informally about instruction and share and discuss student work with other teachers, some **agree** and some **disagree** that they discuss assumptions about student learning; they have conversations about how students learn best and managing student behavior **two to three times** a month, and have conversations about developing new curriculum and school goals **less than two to three times a month.**
Regular 5.56 to 9.31	Teachers **agree** that they talk informally about instruction, share and discuss student work with other teachers, and discuss assumptions about student learning; they also have conversations with other teachers about how students learn best and managing student behavior **more than once or twice a month**; and have conversations about developing new curriculum and school goals from **once to three times a month.**
Frequent 9.31 to 10.00	Teachers **strongly agree** that they talk informally about instruction, share and discuss student work with other teachers, and discuss assumptions about student learning; they also have conversations with other teachers about how students learn best, managing student behavior, developing new curriculum, and school goals **almost daily.**

Focus on Student Learning. This measures the extent to which teachers feel that the school's goals and actions are focused on student learning. Questions ask teachers if the school has well-defined learning expectations for all students, sets high standards for academic performance, makes decisions based on what is best for student learning, and works to develop students' social skills. *High levels indicate that the school is working to improve every student's learning.* (Reliability coefficient = 0.81)

Items: Teachers agree that this school:

- Really works at developing students' social skills.
- Focuses on what's best for student learning when making decisions.
- Has well defined learning expectations for all students.
- Sets high standards for academic performance.
- Organizes the school day to maximize instructional time.

Category	In this school:
No focus 0.00 to 3.55	Teachers **disagree** or **strongly disagree** with all items on the scale.
Not very focused 3.55 to 4.73	Teachers agree that the school maximizes instruction time; some **agree** and some **disagree** that the school sets high standards for academic performance, has well-defined learning expectations for students, and makes decisions based on what is best for students; they **disagree** that the school works at developing students' social skills.
Focused 4.73 to 8.09	Teachers **agree** with all items on the scale.
Very focused 8.09 to 10.00	Teachers **strongly agree** that the school day is organized to maximize instruction time; they **agree** or **strongly agree** that the school sets high standards for academic performance, has well-defined learning expectations for students, makes decisions based on what is best for students, and works at developing students' social skills.

Collective Responsibility. This is a measure of teachers' assessment of the strength of their shared commitment to improve the school so that all students learn. 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. *High levels indicate a strong sense of shared responsibility among faculty.* (Reliability coefficient = 0.92)

Items: Most teachers in this school:

- Feel responsible when students fail.
- Feel responsible to help each other do their best.
- Help maintain discipline in the entire school.
- Take responsibility for improving the school.
- Feel responsible for helping students develop self control.
- Set high standards for themselves.
- Feel responsible that all students learn.

Category	In this school:
Very limited 0.00 to 3.49	**None** or **about half** of the teachers feel responsible that all students learn; **some** or **none** set high standards for themselves, help students with their self-control, take responsibility for school improvement, help discipline all students, help each other, and feel responsible when students fail.
Limited 3.49 to 4.87	**About half** of the teachers feel responsible that all students learn, set high standards for themselves, and help students with their self-control; some or **about half** take responsibility for school improvement, help discipline all students, and help each other; some feel responsible when students fail.
Fairly strong 4.87 to 7.24	**Most** teachers feel responsible that all students learn, set high standards for themselves, and help students with their self-control; **about half** or **most** take responsibility for school improvement, help discipline all students, help each other, and feel responsible when students fail.
Strong 7.24 to 10.00	**Most** or **nearly all** teachers embrace the items on this scale.

Orientation Toward Innovation. This is a measure of teachers' perceptions of whether or not they are continually learning and seeking new ideas, have a "can do" attitude, and are encouraged to try new ideas in their teaching. *High levels indicate that there is a strong orientation toward improvement and a willingness to be part of an active learning environment.* (Reliability coefficient = 0.89)

Items: Teachers agree that in this school:

- Most teachers are willing to take risks to make the school better.
- Most teachers are eager to try new ideas.
- Most teachers have a "can do" attitude.
- All teachers are encouraged to "stretch and grow."
- Teachers are continually learning and seeking new ideas.
- Most teachers are really trying to improve their teaching.

Category	In this school:
Minimal 0.00 to 2.96	**None** or **some** of the teachers really try to improve their teaching; they **disagree** or **strongly disagree** that teachers are continually learning, are encouraged to grow, and have a "can do" attitude; and **none** or **some** of their teachers try new ideas and take risks.
Limited 2.96 to 3.76	**About half** of the teachers really try to improve their teaching; some teachers **agree** and others **disagree** that teachers at their school are continually learning, are encouraged to grow, and have a "can do" attitude; only **some** of the teachers in their school try new ideas and take risks.
Moderate 3.76 to 5.68	**About half** or **most** of the teachers really try to improve their teaching; they **agree** that teachers are continually learning, are encouraged to grow, and have a "can do" attitude; and **about half** of the teachers try new ideas and take risks.
Extensive 5.68 to 10.00	**Most** or **nearly all** of the teachers really try to improve their teaching; they **agree** or **strongly agree** that teachers are continually learning, are encouraged to grow, and have a "can do" attitude; and **most** or **nearly all** of the teachers try new ideas and take risks.

Teacher Commitment to School. This measure assesses the extent to which teachers feel loyal and committed to their school. Questions ask teachers if they look forward to going to work, would rather work somewhere else, and if they would recommend the school to parents. *High levels indicate teachers are deeply committed to the school.* (Reliability coefficient = 0.79)

Items: Teachers report that they:

- Wouldn't want to work in any other school.
- Would recommend this school to parents.
- Often look forward to each working day at this school.
- Feel loyal to this school.

Category	In this school:
None 0.00 to 2.92	Teachers **disagree** or **strongly disagree** with all items on the scale.
Minimal 2.92 to 4.60	Teachers **agree** that they feel loyal to their school; some **agree** and some **disagree** that they look forward to school each day; all **disagree** that they would recommend the school to other parents and would not want to work at other schools.
Strong 4.60 to 8.50	Teachers **strongly agree** or **agree** that they feel loyal to their school; **agree** that they look forward to school each day, would recommend the school to other parents, and would not want to work at other schools.
Very strong 8.50 to 10.00	Teachers **strongly agree** that they feel loyal to their school; **agree** or **strongly agree** that they look forward to school each day, would recommend the school to other parents, and would not want to work at other schools.

Measures of Parent and Community Involvement

Teacher Outreach to Parents. This is a measure of the school's effort to work with parents to develop common goals, good communication, and strengthen student learning. Questions ask teachers about their efforts to understand parents' problems, invite parents to visit classrooms, seek parents' feedback, and build relations with parents. *High levels indicate mutually supportive relationships among parents and teachers.* (Reliability coefficient=0.85)

Items: Teachers agree that at this school:

- Teachers work closely with parents to meet students' needs.
- Parents are invited to visit classrooms.
- Teachers communicate with parents about how they can help their kids learn.
- Teachers communicate to parents support needed to advance school mission.
- Teachers encourage feedback from parents and the community.
- The principal pushes teachers to communicate regularly with parents.
- Teachers really try to understand parents' problems and concerns.
- Parents are greeted warmly when they call or visit.

Category	In this school:
None 0.00 to 1.54	Teachers **disagree** or **strongly disagree** with all items on the scale.
Moderate 1.54 to 3.42	Teachers **agree** that parents are greeted warmly when they visit the school, teachers try to understand parents' problems, the principal pushes teachers to communicate with parents, and the school encourages feedback from parents; some **agree** and some **disagree** that the school works at communicating with parents about advancing the school mission and helping children learn; they **disagree** that parents are invited to the classroom or teachers work closely with parents.
Significant 3.42 to 6.84	Teachers **agree** with all items on the scale.
Broad 6.84 to 10.00	Teachers **strongly agree** or **agree** with all items on this scale.

Parent Involvement in School. This is a measure of teachers' reports on the level of parent involvement, and support for the school. Questions ask teachers how often parents pick up report cards; attend parent-teacher conferences and school events; volunteer to help in the classroom; and participate in fund-raising events. *High levels indicate that many parents are actively engaged with the school.* (Reliability coefficient=0.82)

Items: Teachers report that of the students they taught this year, most of the parents:

- Volunteered to help in the classroom.
- Helped raise funds for the school.
- Attended school-wide special events.
- Attended parent/teacher conferences when requested.
- Showed up for school events or conferences intended for them.
- Picked up their child's last report card.

Category	In this school:
Minimal 0.00 to 1.97	Teachers report **none** or **about half** of the parents picked up their child's report cards and attended school events; **none** or **some** attended parent/teacher conferences and special school-wide events; **none** of the parents helped raise funds for the school or volunteered in the classroom.
Limited 1.97 to 4.09	Teachers report **about half** or **most** of the parents picked up their child's report cards and attended school events; **some** or **about half** attended parent/teacher conferences; **some** attended special school-wide events and helped raise funds for the school; **none** of the parents volunteered in the classroom.
Moderate 4.09 to 6.97	Teachers report **most** or **nearly all** parents picked up their child's report cards and attended school events and parent/teacher conferences; **some** or **about half** attended special school-wide events and helped raise funds for the school; only **some** volunteered in the classroom.
High 6.97 to 10.00	Teachers report **nearly all** parents picked up their child's report cards and attended school events and parent/teacher conferences; **most** or **nearly all** attended special school-wide events and **about half** to **nearly all** helped raise funds for the school and volunteered in the classroom.

Teachers' Use of Community Resources. This is a measure of the extent of teachers' use of the local community as a resource in both their teaching and in their efforts to understand students better. Questions ask teachers how often they invite guest speakers from the community to the school, consult community members, and use examples from the community in their teaching. *High levels indicate that teachers are taking greater advantage of community resources and making more of an effort to engage the communities where their students live.* (Reliability coefficient=0.68)

Items: Teachers report that at least three times this school year, they have:

- Brought in a guest speaker from the school's community.
- Taken students on a field trip in the school's community.
- Collected materials to use in class from community businesses.
- Consulted with community members to better understand students.
- Told students about community agencies that can help with problems.
- Used people or events from the community as examples.

Category	In this school in the last year:
No use 0.00 to 2.80	Teachers report they used people/events from the community as an example and told students about community agencies **once or twice, or never**; **never** consulted with community members to understand students better, collected materials from the business community for class, took students on a field trip or brought in guest speakers from the community.
Occasional 2.80 to 5.81	Teachers report they used people/events from the community as an example and told students about community agencies **once to four times**; consulted with community members to better understand students and collected materials from community businesses for class **once or twice**; took students on a field trip or brought in guest speakers from the school community **once or twice**, or **never**.
Frequent 5.81 to 7.74	Teachers report they used people/events from the community as an example and told students about community agencies **five to nine times**; consulted with community members to better understand students and collected materials from community businesses for class **three to four times**; took students on a field trip or brought in guest speakers from the school's community **once or twice**.
Extensive 7.74 to 10.00	Teachers report they used people/events from the community as an example and told students about community agencies **more than 10 times**; consulted with community members to better understand students and collected materials from community businesses for class **more than five times**; took students on a field trip or brought in guest speakers from the school's community **more than three or four times**.

Teachers' Ties to Community. This measure assesses the extent to which teachers interact with the school's surrounding community, specifically how often they visit students' homes, shop, and attend religious and recreational events in the community where students are present. *High levels indicate that teachers are more involved in the school's surrounding community and therefore more able to play an extended role in students' lives.* (Reliability coefficient=0.66)

Items: Teachers report that at least two to three times a month they:

- Visit students' homes.
- Attend religious services where the students attend.
- Attend civic and recreational events in the school's community.
- Shop in the school's community.
- They have friends who live in the school's community (%yes).

Category	In this school:
Weak 0.00 to 1.90	**Some** teachers have friends who live in the community; they shop in the school community **less than once a month**, but **never** attend recreational activities in the school community or religious services where students attend, or visit the homes of students.
Slight 1.90 to 6.20	Teachers reported they **have friends** who live in the school community; they shop in the school community **once or twice a month**; attend recreational activities in the school community **two or three times a month**; and attend religious services where students attend and visit the homes of students **less than once a month.**
Strong 6.20 to 8.68	Teachers reported they **have friends** who live in the community; they shop in the school community **fewer than two or three times a month**; attend recreational activities in the school community **less than once a month**; but **never** attend religious services where students attend or visit the homes o students.
Very strong 8.68 to 10.00	Teachers reported they **have friends** who live in the school community; they shop in the school community **almost daily**; attend recreational activities in the school community **at least once or twice a week**; and attend religious services where students attend and visit the homes of students **at least two or three times a month.**

Teachers' Knowledge of Students' Culture. This is a measure of teachers' reports about their efforts to better understand their students. Questions ask teachers how many of their colleagues talk with students about their culture and home lives, and whether they know about the issues facing the surrounding community. *High levels indicate that many teachers are committed to learning more about their students and the community where they live.* (Reliability coefficient=0.70)

Items: Most teachers in this school:

- Read books/watch documentaries to learn about S's cultural backgrounds.
- Talk with students about their lives at home.
- Talk with students about their cultures.
- Are knowledgeable of issues and concerns in the community.

Category	In this school:
Minimal 0.00 to 2.92	**None** or only **some** of the teachers engage in these activities.
Limited 2.92 to 4.17	**About half** of the teachers know about community issues; **some** or **about half** talk with students about their homes and cultures; and **some** try to learn about students' cultural backgrounds.
Significant 4.17 to 6.11	**Most** teachers know community issues; **about half** or **most** talk with students about their homes and cultures; and **about half** try to learn about students' cultural backgrounds.
Extensive 6.11 to 10.00	**Most** or **nearly all** teachers engage in these activities.

Human and Social Resources in Students' Community. This is a measure of students' assessments of the level of their trust in and reliance upon neighbors and community members, and whether they feel adults in the community know and care about them and each other. Questions ask students if adults know who the local children are, make sure they are safe, and can be trusted. *High levels indicate that many students can turn to community resources for support.* (Reliability coefficient = 0.75)

Items: Students agree or disagree that in their neighborhood:

- Neighbors get together to deal with problems.
- People can be trusted.
- You can count on adults to see that children are safe.
- The equipment and building in the park/playground are well kept.
- There are adults that children can look up to.
- Adults know who the local children are.
- During the day, it is safe for children to play in the park.
- Someone cares about what happens here.

Category	In this school:
None 0.00 to 1.91	Students **disagree** or **strongly disagree** that people in the neighborhood care about what happens there; they **strongly disagree** with the remaining items on the scale.
Scarce 1.91 to 4.56	Students **agree** and others **disagree** that people in the neighborhood care about what happens there; they **disagree** that the parks are safe for kids to play in during the day and there are adults in the neighborhood who know the local kids and whom the kids can lookup to; they **disagree** or **strongly disagree** that adults make sure neighborhood kids are safe, people in the neighborhood can be trusted, and neighbors deal with any problems in the neighborhood.
Some 4.56 to 8.09	Students **agree** or **strongly agree** that people in the neighborhood care about what happens there; they **agree** that the parks are safe for kids to play in during the day and there are adults in the neighborhood who know the local kids and whom the kids can look up to; some **agree** and others **disagree** that adults make sure neighborhood kids are safe, people in the neighborhood can be trusted, and the neighbors deal with any problems in the neighborhood.
Many 8.09 to 10.00	Students **strongly agree** that people in the neighborhood care about what happens there, the parks are safe for kids to play in during the day, and there are adults in the neighborhood who know the local kids and whom the kids can look up to; they **agree** or **strongly agree** that adults make sure neighborhood kids are safe, people in the neighborhood can be trusted, and the neighbors deal with any problems in the neighborhood.

Measures of Relational Trust

Teacher-Principal Trust. This measure assesses the extent to which teachers feel their principal respects and supports them. Questions ask teachers if the principal looks out for their welfare, has confidence in their expertise, and if they respect the principal as an educator. *High levels indicate that teachers share deep mutual trust and respect with the principal.* (Reliability coefficient=0.89)

Items: Teachers agree that:

- It's OK to discuss feelings and worries with the principal.
- The principal looks out for the personal welfare of the faculty.
- They trust the principal at his or her word.
- The principal is an effective manager.

- The principal places the needs of children before personal interests.
- The principal has confidence in the expertise of teachers.
- The principal takes personal interest in faculty professional development.
- They feel respected by their principal.

Category	In this school:
No trust 0.00 to 2.58	Teachers feel respected by their principal **not at all**; they **disagree** or **strongly disagree** that they respect their principal as an educator, that the principal takes an interest in teachers' professional development, has confidence in teachers' expertise, places students' needs before personal needs, is an effective manager or looks out for teachers' welfare, that they trust their principal, or it is OK to discuss worries with the principal.
Minimal trust 2.58 to 4.50	Teachers feel respected by their principal **a little**; they **disagree** that they respect their principal as an educator, that the principal takes an interest in teachers' professional development, has confidence in teachers' expertise, places students' needs before personal needs, is an effective manager, looks out for teachers' welfare, that they trust their principal, and it is OK to discuss worries with the principal.
Strong trust 4.50 to 7.67	Teachers feel respected by the principal **some** or **to a great extent**; they **agree** that they respect their principal as an educator, that the principal takes an interest in teachers' professional development, has confidence in teachers' expertise, places students' needs before personal needs, is an effective manager, looks out for teachers' welfare, that they trust their principal, and it is OK to discuss worries with the principal.
Very strong trust 7.67 to 10.00	Teachers feel respected by their principal **to a great extent**; they **strongly agree** that they respect their principal as an educator, that the principal takes an interest in teachers' professional development, has confidence in teachers' expertise, places students' needs before personal needs, is an effective manager, looks out for teachers' welfare, that they trust their principal; they **agree** or **strongly agree** that it is OK to discuss worries with the principal..

Teacher-Teacher Trust. This measures the extent to which teachers feel they have mutual respect for each other, for those who lead school improvement efforts, and for those that are experts at their craft. Questions also ask teachers if they feel comfortable discussing their feelings and worries and really care about each other. *High levels indicate teachers trust and respect each other.* (Reliability coefficient=0.82)

Items: Teachers agree that in this school:

- Most teachers really care about each other.
- Teachers trust each other.
- It's OK to discuss feelings and worries with other teachers.
- Teachers respect colleagues who lead school improvement efforts.
- Teachers respect those colleagues who are expert at their craft.
- They feel respect from other teachers.

Category	In this school:
No trust 0.00 to 3.57	Teachers feel respected by **none** or **some** of the other teachers; they **disagree** or **strongly disagree** that teachers respect colleagues who are expert at their craft or who lead school improvement efforts, it is OK to discuss worries with other teachers, and teachers trust each other; and they feel that **none** of the teachers care about each other.
Minimal trust 3.57 to 5.56	Teachers feel respected by **some** of the other teachers; they **agree** that teachers respect colleagues who are expert at their craft or who take the lead in school improvement efforts, and it is OK to discuss worries with other teachers; some **agree** and some **disagree** that teachers trust each other at this school; and **none** to **some** of the teachers care about each other.
Strong trust 5.56 to 7.06	Teachers feel respected by other teachers **to a great extent**; they **agree** that teachers respect colleagues who are expert at their craft or who take the lead in school improvement efforts, it is OK to discuss worries with other teachers and teachers trust each other; and they feel that **about half** of the teachers in the school care about each other.
Very strong trust 7.06 to 10.00	Teachers feel respected by other teachers **to a great extent**; they **strongly agree** that teachers respect colleagues who are expert at their craft or who take the lead in school improvement efforts; they **agree** or **strongly agree** it is OK to discuss worries with other teachers and that teachers trust each other; and they feel **most** or **nearly all** teachers in the school care about each other.

Student-Teacher Trust. This is a measure of students' perceptions about the quality of their relationships with teachers. Questions ask students if teachers care about them, keep promises, listen to their ideas, and try to be fair. *High levels indicate that*

there is trust and open communication between students and teachers. (Reliability coefficient=0.78)

Items: Students agree that their teachers:

- Always keep their promises.
- [Do not] punish kids without knowing what happened.
- Make them feel safe and comfortable.
- Always try to be fair.
- Will always listen to students' ideas.
- [Do not] get mad whenever the students make a mistake.
- Really care about students.
- [Do] care about what the students think.
- Have a good reason when they tell the students not to do something.

Category	In this school:
No trust 0.00 to 1.34	Students **disagree** that their teacher has a good reason for telling them not to do something, cares about them and what they think, does not get mad when they make mistakes, will always listen to students' ideas, always tries to be fair, makes them feel safe and comfortable, and can be trusted; they **disagree** or **strongly disagree** that their teacher does not punish students without knowing what happened and keeps his or her promises.
Minimal trust 1.34 to 2.84	Some students **agree** and others **disagree** that their teacher has a good reason for telling them not to do something, and cares about what they think; they **disagree** that their teacher really cares about them, gets mad when they make mistakes, will always listen to students' ideas, always tries to be fair, makes them feel safe and comfortable, can be trusted, does not punish students without knowing what happened, and keeps his or her promises.
Strong trust 2.84 to 6.42	Students **agree** that their teacher has a good reason for telling them not to do something, and cares about what they think, does not get mad when they make mistakes, will always listen to students' ideas, always tries to be fair, makes them feel safe and comfortable, and can be trusted; some **agree** and others **disagree** that their teacher does not punish students without knowing what happened and keeps his or her promises.

Category	In this school:
Very strong trust 6.42 to 10.00	Students **strongly agree** that their teacher has a good reason for telling them not to do something, and cares about what they think, does not get mad when they make mistakes, will always listen to students' ideas, always tries to be fair, makes them feel safe and comfortable, and can be trusted; **agree** or **strongly agree** that their teacher does not punish students without knowing what happened and keeps his or her promises.

Teacher-Parent Trust. This is a measure of teachers' perception of the degree of mutual respect between themselves and parents, and their support of each other's efforts to improve student learning. Questions ask teachers if they consider themselves partners with parents in educating children, if they receive strong parental support, if the school staff works hard to build trust with parents, and if teachers have respect for parents. *High levels indicate mutually supportive relationships among parents and teachers.* (Reliability coefficient=0.58)

Items: At this school, teachers agree or disagree that:

- Most students' parents do their best to help their children learn.
- Most teachers feel good about parents' support for their work.
- Most students' parents support my teaching efforts.
- Teachers and parents think of each other as partners in educating kids.
- It [isn't] difficult overcoming cultural barriers between teachers and parents.
- Parents have confidence in teachers' expertise.
- Staff members work hard to build trusting relationships with parents.
- Teachers feel respect from the parents of their students.

Category	In this school:
No trust 0.00 to 2.03	Teachers respect and feel respected by parents **not at all** or **a little**; they **disagree** or **strongly disagree** that talking with parents helps them understand students better, there is no conflict between parents and teachers, and teachers and parents are partners in educating children; **none** of the parents support their teaching efforts or do their best to help their children learn, and **none** of the teachers care about the community or feel good about parental support.
Minimal trust 2.03 to 5.14	Teachers respect and feel respected by parents **to some extent**; they **agree** that talking with parents helps them understand students better; but some **agree** and some **disagree** that there is no conflict between parents and teachers, and that teachers and parents are partners in educating children; **none** to **some** of the parents support their teaching efforts or do their best to help their children learn, and **none** to **some** of the teachers care about the community or feel good about parental support.
Strong trust 5.14 to 8.11	Teachers respect and feel respected by parents **to a great extent**; they **agree** or **strongly agree** that talking with parents helps them understand their students better, and **agree** that there is no conflict between parents and teachers, and that teachers and parents are partners in educating children; **about half of parents** support their teaching efforts or do their best to help their children learn, and **about half of teachers** care about the community or feel good about parental support.
Very strong trust 8.11 to 10.00	Teachers respect and feel respected by parents **to a great extent**; they **strongly agree** that talking with parents helps them understand students better, there is no conflict between parents and teachers, and that teachers and parents are partners in educating children; **most** or **nearly all parents** support their teaching efforts and help their children learn, and **most** or **nearly all** teachers care about the community or feel good about parental support.

Measure of School Instructional Program Coherence

This is a measure of the degree to which teachers feel the programs at their school are coordinated with each other and with the school's mission. Questions ask teachers if instructional materials are consistent within and across grades and if there is sustained attention to quality program implementation. *High levels indicate that the*

school's programs are coordinated and consistent with its goals for student learning. (Reliability coefficient=0.75)

Items: Teachers agree that at this school:

- You can see continuity from one program to another.
- Many special programs [do not] come and go.
- Once we start a new program, we follow-up with it.
- Curriculum and instruction are well coordinated across grades.
- We [do not] have so many programs that I can't keep track.
- Curriculum and instruction are consistent among teachers in same grade.
- Coordination/focus of instruction has changed for better in last two years.

Category	In this school:
None 0.00 to 1.50	Teachers believe the focus of the instructional programs has changed **for the worse**; they **strongly disagree** with all other items on the scale.
Little 1.50 to 4.70	Teachers believe that there has been **no change** in the focus of instructional programs in their school; some **agree** and some **disagree** that changes in the school promote the school's goals for student learning; they **disagree** with the remaining items on the scale.
Moderate 4.70 to 8.20	Teachers **agree** with the items on this scale and believe that the focus of instructional programs has changed **for the better.**
Strong 8.20 to 10.00	Teachers **strongly agree** with the items on this scale and believe that the focus of instructional programs has changed **for the better.**

Teacher Professional Development and Support for Change Measures

Teacher Participation in Professional Development. This is an indicator of the frequency with which teachers participated in formal, planned professional development activity. Items used for this indicator asked respondents to report the number of times during the school year that they participated in professional development activity provided by a variety of sources. These include activities and courses organized by teachers' own schools, networks of teachers from other schools, outside professional groups or organizations, colleges and universities, the Chicago Public Schools, and the Chicago Teachers Union.

The items that compose this indicator do not form a scale like other measures used in this report. There are no categories or cut points. *High levels of this indicator mean frequent participation in professional development activity across different sources.*

Quality Professional Development. This is a measure of 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. *High levels indicate that teachers are involved in sustained professional development focused on important school goals.* (Reliability coefficient=0.84)

Items: Teachers agree that at this school their professional development experiences:

- Included opportunities to work with teachers from other schools.
- Included opportunities to think about, try, and evaluate new ideas.
- Addressed the needs of the students in my classroom.
- Deepened my understanding of subject matter.
- Helped me understand my students better.
- Have been sustained and coherently focused rather than short-term and unrelated.
- Included opportunities to work with colleagues in my school.
- Let me to make changes in my teaching.
- Have been closely linked to my school's school improvement plan (SIP).

Category	In this school:
Very low quality 0.00 to 1.95	Teachers **disagree** or **strongly disagree** that their professional development experiences were closely connected to the SIP, led to changes in their teaching, provided opportunities to work with colleagues, or provided a deeper understanding of the subject matter; they **strongly disagree** that it shifted their approach to teaching, included enough time to think about and judge the new ideas, or provided opportunities to work with teachers from other schools.
Low quality 1.95 to 4.22	Some teachers **agree** and others **disagree** that their professional development experiences were closely connected to the SIP; teachers **disagree** that it led to changes in their teaching, provided opportunities to work with colleagues, or helped them understand their students better; they **disagree** or **strongly disagree** that it shifted their approach to teaching, included enough time to think about and judge the new ideas, or provided opportunities to work with teachers from other schools.

Category	In this school:
High quality 4.22 to 7.42	Teachers **agree** that their professional development experiences were closely connected to the SIP, provided opportunities to work with other colleagues, were sustained and focused, helped them understand their subject matter better, addressed students' needs, and included enough time to think about and judge the new ideas; some **agree** and others **disagree** that it provided opportunities to work with teachers from other schools.
Very high quality 7.42 to 10.00	Teachers **strongly agree** that their professional development experiences were closely connected to the SIP, provided opportunities to work with other colleagues, were sustained and focused, and addressed students' needs; they **agree** or **strongly agree** it shifted their approach to teaching, included enough time to think about and judge the new ideas, and provided the opportunity to work with teachers from other schools.

Support for Change. This is a measure of the level of support for change that teachers receive from their principal and colleagues. Questions ask teachers if their principal encourages them to take risks and try new methods of instruction, and to assess whether the faculty as a whole embraces change initiatives. *High levels indicate a school-wide environment supportive of change.* (Reliability coefficient=0.82)

Items: Teachers agree that in this school:

- Changes [do not] involve only a few teachers.
- Teachers receive adequate professional development for changes they introduce.
- Changes gain support among teachers.
- Changes receive strong support from the principal.

Category	In this school:
None 0.00 to 1.81	Teachers **disagree** or **strongly disagree** with all items on the scale.
Minimal 1.81 to 4.29	Some teachers **agree** and some **disagree** that the principal encourages them to try new methods and is willing to make changes, and that changes introduced at the school receive strong support from the principal; they **disagree** that the principal encourages teachers to take risks, changes introduced at the school gain support among teachers, adequate professional development is provided for changes that are made, and changes involve many teachers.
Moderate 4.29 to 7.43	Some teachers **agree** or **strongly agree** that the principal encourages them to try new methods and is willing to make changes, and that changes introduced at the school receive strong support from the principal; they **agree** that the principal encourages teachers to take risks, changes introduced at the school gain support among teachers, adequate professional development support is provided for changes that are made, and changes introduced at the school involve many teachers.
Strong 7.43 to 10.00	Teachers **strongly agree** that the principal encourages them to try new methods, is willing to make changes, encourages teachers to take risks, and that changes introduced at the school receive strong support from the principal and gain support among teachers, and that adequate professional development support is provided for changes that are made; they **agree** that changes introduced at the school involve many teachers.

Appendix F

The Productivity Index[1]

To assess differences in student academic achievement between Annenberg and demographically similar non-Annenberg schools, we used the Consortium's productivity index. The index estimates six-year trends in ITBS reading and math scores (1995 to 2001) using hierarchical linear modeling and taking into account four basic elements: (a) initial achievement status, (b) base gain, (c) input trend, and (d) gain trend. The productivity index is the gain trend adjusted for the other three elements. Since gain trend is correlated with initial status, base gain, and especially with the input trend, adjusting the gain trend for these three factors takes into consideration schools' starting points and produces a more powerful indicator than the unadjusted gain trend.[2] Taking into account demographic characteristics (listed in Appendix G), differences between Annenberg schools and non-Annenberg schools and between Breakthrough schools and non-Breakthrough Annenberg schools in three adjusted gain trends were compared to zero to determine statistical significance.

Calculation of the productivity index begins with identifying a stable group of students; that is, a specific group of students of the same age or grade level who received instruction for at least one full academic year in a school. The learning gain for each student in this group in each year is computed by subtracting the output status—the student's ITBS test score at the end of the academic year—from the input status—the student's ITBS test score from the preceding year.

Initial status refers to the average of these students' spring 1995 test scores. Base gain begins with the base period of the 1995-96 school year and is calculated as the difference in the initial status compared to the students' test scores in the spring of 1996. The base gain shows how much knowledge and skill students had gained at the end of a year of instruction. The input trend shows the variation in a student groups' input status from 1995 through 2000. The output trend shows the variation in their output status from 1996 through 2001. The resulting gain trend varies with initial and output status.

Using the productivity index allowed us to examine student performance across the years in ways that adjust for changes in CPS testing practices and related policies that affect scores. For example, a common inclusion standard for bilingual education students is used across the entire time period of the index even though CPS policy of whose scores are included in school averages has changed over that time period. In addition, comparative analyses of student achievement using the

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[1] See Rosenkranz (2002) and Easton, Rosenkranz, and Bryk (2001) for details on recent CPS ITBS trends and the construction and use of productivity index.

[2] For detail on the development of the productivity index see Bryk, Thum, Easton, and Luppescu (1998).

productivity index group children by age rather than grade level. This allowed us to minimize effects of the CPS retention policy on our results.

As we explained earlier, we use the productivity index to conduct this report's comparative analysis of student achievement in different groups of schools. However, because the productivity index is difficult to interpret, we present figures describing the ITBS trends in grade equivalent gains, a reporting practice also used in the Consortium's annual review of test score trends. Grade equivalents align students' raw scores with a standard national average score at a particular grade. For spring testing, as is done in CPS, this standard score is the equivalent of the grade level plus eight months. Therefore, a grade equivalent of 4.8 is equal to the test score national average for fourth graders. If fourth graders in Chicago averaged a 3.8 grade equivalent in 1992, they scored one year below what students achieved nationally.

Using yearly GE gains to describe achievement trends is complicated because CPS used three different ITBS forms between 1993 and 2001. The different forms and the years in which they were administrated are as follows: Form K (1993, 1995, 2000); Form L (1994, 1996, 1998, 2001); Form M (1997, 1999). Our measures of GE gains do not take into account any effect of using different forms from year to year. As can be seen in the findings, there are yearly fluctuations in GE gains that coincide with the use of different forms. One way to take into account the use of different forms is to compare GE gains in years that have the same form-to-form changes. So when considering the findings in Part Two, it may be useful to compare gains in 1994, 1996, and 2001, the years in which Form L was administered and the years for which gains are computed on the basis of changes from Form K to Form L. Likewise, it may be useful to compare gains in 1997 and 1999, the years in which Form M was administered and the years for which gains are computed on the basis of changes from Form L to Form M.

Appendix G

Detailed Results of ITBS Analyses

Tables G1 and G2 present trends in reading and math one-year grade equivalent (GE) gains made by students in Annenberg schools and those in demographically similar schools not in Annenberg networks. Details on the measurement of student achievement using ITBS scores are contained in Part One of the report and in Appendix F.

Tables G3 through G6 contain the results of productivity analyses in reading and math achievement for the period before the Annenberg Challenge and the period of the Challenge. Details on how these analyses were conducted are contained in Appendix F.

Variables contained in each report of parameter estimates are defined as follows.

- Annenberg School is a dummy variable coded 0 and 1 so that the coefficient gives the difference between Annenberg and non-Annenberg schools.
- Breakthrough School is a dummy variable coded 0 and 1 so that the coefficient gives the difference between Breakthrough and other Annenberg schools.

The following variables are for the year 2000.

- Crime rate is the composite crime rate in the neighborhood of the school.
- Home tenancy is the average number of years of tenancy per home owner in the school's neighborhood.
- Poverty concentration is the mean concentration of poverty in the school's neighborhood.
- Social status is the mean social status in the school's neighborhood, not considering income.
- Percent LEP students is the percentage of students in the school with limited English proficiency.
- Percent low-income students is the percentage of low-income students in the school, based on eligibility for free- or reduced-priced lunch.
- Predominantly African-American is a dummy variable (0 and 1) indicating that the school's enrollment was at least 85 percent African-American.
- Predominantly Latino is a dummy variable (0 and 1) indicating that the school's enrollment was at least 85 percent Latino.
- Predominantly minority is a dummy variable (0 and 1) indicating that the school's enrollment was at least 85 percent African-American and Latino combined.

- Mixed race is a dummy variable (0 and 1) indicating that the school's enrollment is between 15 percent and 30 percent white.
- Small school is a dummy variable (0 and 1) indicating that the school's enrollment is not more than 350 students.

Student mobility is the number of students transferring in plus number of students transferring out of school, divided by beginning enrollment.

Table G1 Trends in Reading and Math GE Gains by Year and Grade for Students in Annenberg Schools

Trends in Reading Gains, GE

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1994, K to L	0.71	1.03	0.98	0.82	0.91	0.62	
1995, L to K	0.65	1.06	1.05	0.76	1.13	0.90	
1996, K to L	0.84	1.11	1.07	0.97	1.08	0.95	
1997, L to M	0.78	1.14	1.19	0.86	1.15	1.07	
1998, M to L	0.83	1.09	1.06	1.00	1.12	0.98	
1999, L to M	0.75	1.14	1.11	0.86	1.11	1.04	
2000, M to K	0.78	1.17	0.96	0.84	1.29	0.95	
2001, K to L	0.79	1.06	0.98	1.00	1.08	0.93	Average for reading
Average	0.77	1.10	1.05	0.89	1.11	0.93	0.97

Trends in Math Gains, GEs

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1994, K to L	0.67	0.78	0.86	0.94	0.55	0.78	
1995, L to K	0.65	0.84	0.92	1.02	0.77	0.97	
1996, K to L	0.81	0.87	0.97	1.06	0.69	0.97	
1997, L to M	0.78	0.97	1.07	1.20	0.90	1.33	
1998, M to L	0.85	0.96	0.93	1.08	0.74	0.98	
1999, L to M	0.81	0.95	1.03	1.14	0.85	1.22	
2000, M to K	0.93	0.98	0.94	1.20	0.82	1.08	
2001, K to L	0.82	0.77	0.87	1.01	0.62	0.95	Average for math
Average	0.79	0.89	0.95	1.08	0.74	1.03	0.91

Average across subjects	0.78	1.00	1.00	0.99	0.93	0.98

Table G2. Trends in Reading and Math GE Gains by Year and Grade for Students in Demographically Similar Schools not in Annenberg

Trends in Reading Gains, GE

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1994, K to L	0.72	1.01	0.96	0.82	0.95	0.64	
1995, L to K	0.70	1.06	1.07	0.80	1.17	0.92	
1996, K to L	0.84	1.08	1.06	0.99	1.07	0.90	
1997, L to M	0.81	1.17	1.19	0.88	1.15	1.07	
1998, M to L	0.85	1.06	1.04	1.02	1.09	0.98	
1999, L to M	0.79	1.10	1.13	0.88	1.08	1.07	
2000, M to K	0.77	1.13	0.94	0.84	1.27	0.98	
2001, K to L	0.86	1.06	0.99	1.05	1.08	0.96	Average for reading
Average	0.79	1.08	1.05	0.91	1.11	0.94	0.98

Trends in Math Gains, GEs

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	
1994, K to L	0.68	0.78	0.86	0.96	0.58	0.78	
1995, L to K	0.69	0.86	0.94	1.08	0.84	0.96	
1996, K to L	0.81	0.87	0.98	1.09	0.68	0.95	
1997, L to M	0.82	1.01	1.04	1.21	0.87	1.27	
1998, M to L	0.85	0.93	0.90	1.15	0.75	1.01	
1999, L to M	0.84	0.95	1.02	1.18	0.82	1.18	
2000, M to K	0.95	0.96	0.93	1.24	0.85	1.11	
2001, K to L	0.87	0.75	0.87	1.07	0.63	0.94	Average for Math
Average	0.81	0.89	0.94	1.12	0.75	1.02	0.92

Average across subjects	0.83	0.98	0.97	1.09	0.92	0.99

Table G3. Productivity Analyses: Average Adjusted Gain Trend for Reading Achievement on the ITBS, 1987-88 to 1995-96

Analyses of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	0.00493	0.00035232	4.0	<.0001
Error	442	0.03897	0.00008816		
Corrected Total	456	0.04390			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T Value	Pr > [t]
Intercept	1	-0.01065	0.00399	-2.67	0.0079
Annenberg School	1	-0.00042569	0.00099004	-0.43	0.6674
Breakthrough School	1	0.00074093	0.00271	0.27	0.7843
Crime rate in school neighborhood	1	-0.00231	0.00066670	-3.46	0.0006
Home tenancy	1	0.00018194	0.00008400	2.17	0.0309
Poverty concentration	1	-0.00134	0.00077437	-1.74	0.0833
Social status of neighborhood	1	-0.00115	0.00067793	-1.69	0.0909
Percent LEP students	1	-0.00001327	0.00005468	-0.24	0.8084
Percent low-income students	1	0.00009179	0.00004364	2.10	0.0360
Predominantly African-American	1	0.00009629	0.00189	0.05	0.9593
Predominantly Latino	1	0.00085389	0.00195	0.44	0.6614
Predominantly minority	1	0.00252	0.00190	1.32	0.1859
Mixed race	1	0.00645	0.00232	2.78	0.0056
Small school	1	-0.00031511	0.00158	-0.20	0.8417
Student mobility	1	-0.00002302	0.00004039	-0.57	0.5689

Table G4. Productivity Analyses: Average Adjusted Gain Trend for Reading Achievement on the ITBS, 1996-97 to 2000-01

Analyses of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	0.00477	0.00034047	2.14	0.0091
Error	446	0.07081	0.00015878		
Corrected Total	460	0.07558			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T Value	Pr > [t]
Intercept	1	0.00140	0.00534	0.26	0.7938
Annenberg School	1	0.00047149	0.00133	0.35	0.7228
Breakthrough School	1	0.00274	0.00363	0.75	0.4514
Crime rate in school neighborhood	1	-0.00032718	0.00088838	-0.37	0.7128
Home tenancy	1	-0.00011291	0.00011178	-1.01	0.3130
Poverty concentration	1	0.00230	0.00104	2.22	0.0271
Social status of neighborhood	1	0.00001943	0.00090475	0.02	0.9829
Percent LEP students	1	0.00011648	0.00007133	1.63	0.1032
Percent low-income students	1	-0.00001830	0.00005578	-0.33	0.7430
Predominantly African-American	1	-0.00065295	0.00248	-0.26	0.7922
Predominantly Latino	1	0.00305	0.00261	1.17	0.2441
Predominantly minority	1	0.00256	0.00253	1.01	0.3116
Mixed race	1	0.00139	0.00311	0.45	0.6551
Small school	1	0.00250	0.00209	1.20	0.2316
Student mobility	1	-0.00000654	0.00003387	-0.19	0.8470

Table G5. Productivity Analyses: Average Adjusted Gain Trend for Math Achievement on the ITBS, 1987-88 to 1995-96

Analyses of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	0.01064	0.00076032	4.47	<.0001
Error	442	0.07521	0.00017015		
Corrected Total	456	0.08585			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T Value	Pr > [t]
Intercept	1	-0.01881	0.00555	-3.39	0.0008
Annenberg School	1	-0.00070324	0.00138	-0.51	0.6094
Breakthrough School	1	0.00264	0.00376	0.70	0.4819
Crime rate in school neighborhood	1	-0.00239	0.00092619	-2.58	0.0102
Home tenancy	1	0.00012835	0.00011669	1.10	0.2720
Poverty concentration	1	-0.00293	0.00108	-2.73	0.0067
Social status of neighborhood	1	-0.00205	0.00094180	-2.18	0.0300
Percent LEP students	1	-0.00003486	0.00007596	-0.46	0.6465
Percent low-income students	1	0.00019082	0.00006063	3.15	0.0018
Predominantly African-American	1	0.00071666	0.00262	0.27	0.7848
Predominantly Latino	1	-0.00176	0.00271	-0.65	0.5161
Predominantly minority	1	0.00622	0.00265	2.35	0.0192
Mixed race	1	0.01259	0.00322	3.91	0.0001
Small school	1	0.00322	0.00219	1.47	0.1425
Student mobility	1	-0.00003560	0.00005610	-0.63	0.5261

Table G6. Productivity Analyses: Average Adjusted Gain Trend for Math Achievement on the ITBS, 1996-97 to 2000-01

Analyses of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	0.00561	0.00040095	0.80	0.6743
Error	445	0.22426	0.00050395		
Corrected Total	459	0.22987			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T Value	Pr > [t]
Intercept	1	-0.00126	0.00951	-0.13	0.8950
Annenberg School	1	-0.00246	0.00237	-1.04	0.2983
Breakthrough School	1	0.00216	0.00647	0.33	0.7382
Crime rate in school neighborhood	1	0.00078880	0.00158	0.50	0.6187
Home tenancy	1	-0.00021696	0.00019972	-1.09	0.2779
Poverty concentration	1	0.00260	0.00185	1.41	0.1590
Social status of neighborhood	1	0.00304	0.00161	1.89	0.0598
Percent LEP students	1	0.00002790	0.00012770	0.22	0.8271
Percent low-income students	1	0.00008263	0.00010025	0.82	0.4102
Predominantly African-American	1	0.00018581	0.00442	0.04	0.9665
Predominantly Latino	1	0.00145	0.00466	0.31	0.7564
Predominantly minority	1	0.00453	0.00451	1.01	0.3147
Mixed race	1	0.00296	0.00554	0.53	0.5933
Small school	1	0.00312	0.00372	0.84	0.4021
Student mobility	1	-0.00009171	0.00006630	-1.38	0.1672

Appendix H

Detailed Results of Survey Analyses

The tables below present findings from statistical analyses that address the following questions: (1) Did CPS elementary schools change on measures of the Essential Supports between 1994 and 2001? (2) Were Annenberg elementary schools any different on measures of the Essential Supports than demographically similar non-Annenberg schools? (3) Were Annenberg Breakthrough elementary schools any different on measures of the Essential Supports than comparable non-Breakthrough Annenberg schools?

Table H1 reports the means and standard deviations of all measures of the Essential Supports for all elementary schools in CPS in 1994, 1997, 1999, and 2001. Table H2 reports the means of all measures of the Essential Supports for Annenberg and demographically similar non-Annenberg schools. This table also identifies differences between Annenberg and non-Annenberg schools that are statistically significant at the 0.01 level.

Table H3 reports standardized change unit differences across years on measures of the Essential Supports among Annenberg elementary schools. These differences were calculated by subtracting the base year mean from the comparison year mean for Annenberg schools and dividing the difference by the standard deviation of the system mean (all elementary schools) for the base year. For example, the standardized change unit difference for student academic engagement in Annenberg schools between 1994 and 2001 was calculated by subtracting the 2001 mean for student engagement in Annenberg schools from the 1994 mean for student engagement in Annenberg schools and then dividing the difference by the standard deviation of the 1994 mean for student engagement for all schools in the system.

Table H4 reports the standardized change unit differences between Annenberg and demographically similar non-Annenberg schools in 1994, 1997, 1999, and 2001 in comparison to the system mean in the baseline year. The baseline year is either 1994 or 1997, depending on when data on the measure were first available. For Annenberg schools, differences were calculated by subtracting the system mean in the baseline year (either 1994 or 1997) from the Annenberg school mean in a particular year (e.g., 1994, 1997, 1999, 2001) and then dividing that difference by the standard deviation of the system mean for the baseline year. For example, the standardized change unit difference for student academic engagement between Annenberg schools and the system in 1999 was calculated by subtracting the 1994 system mean from the 1999 Annenberg mean and then dividing the difference by the standard deviation of the system mean for student engagement in 1994. The same procedure was used to calculate differences of non-Annenberg schools from the system baseline mean.

Table H5 and H6 present detailed findings of analyses of Breakthrough Schools and other Annenberg schools. Table H5 presents means of all measures of the Essential Supports for Breakthrough and other Annenberg schools. This table also identifies differences between these groups of schools that are statistically significant at the 0.05 and 0.01 levels. Finally Table H6 presents standardized change unit differences between Breakthrough and other Annenberg in 1994, 1997, 1999, and 2001 in comparison to the system mean in the baseline year. The same procedure was used to calculate standardized change unit differences for Breakthrough Schools and other Annenberg schools as was used to calculate effect size differences for Annenberg and demographically similar non-Annenberg schools, as described above.

Interpreting Standardized Change Unit Differences

Standardized change unit differences are reported in standard deviation units and are similar to effect size differences. When we measure differences in standardized change unit, zero is equivalent to no difference. A positive difference in a measure indicates a positive change while a negative difference in a measure indicates a negative change. Magnitude of differences range from + 3 to – 3 standard deviations.

While this way to provide a standard measure of differences may be understandable to those versed in statistics, we need to interpret it in a more general manner. A standard deviation is based on a standard normal curve distribution of values at a given time. If we equate the amount of change in a group of schools with a standard deviation we can see if a change would move a school from being very similar to the typical or average school to being either very different, like the top performing schools, or being just a little different from average.

Listed below are some approximate reference points that show the relative meaning of standardized change unit differences we report. These reference points are based on an assumption that schools are normally distributed on their scores for each measure under investigation. For example, if a 1994 to 2001 change in a measure is around 3 standard deviations, this is a very significant change. A positive change of 3 standard deviations refers to a change equal to moving from the average condition at schools in 1994 to a condition equal to that found in the top one percent of schools in 1994. Likewise a negative change of 3 standard deviations represents a change from average conditions to that of the bottom one percent of schools. The following examples give an approximate idea of the magnitude of other sizes of changes:

+3 standard deviations from 50th to 99th %ile	Large change
+2 standard deviations from 50th to 98th %ile	
+1 standard deviation from 50th to 84th %ile	
+0.5 standard deviation from 50th to 69th %ile	Moderate change
+0.25 standard deviation from 50th to 51st %ile	Small or no change
0 standard deviation no change	

-0.25 standard deviation from 50th to 49th %ile	
-0.5 standard deviation from 50th to 31st %ile	Moderate change
-1 standard deviation from 50th to 16th %ile	Large change
-2 standard deviation from 50th to 2nd %ile	Large change
-3 standard deviation from 50th to 1st %ile	Large change

In other words, changes smaller than a 0.5 standard deviation are probably not very significant. Any change over 1 standard deviation is likely to be quite significant.

Table H1: Means and Standard Deviations of Measures of the Essential Supports in Chicago Elementary Schools, 1994 to 2001

Measures	1994 Mean (SD)	1997 Mean (SD)	1999 Mean (SD)	2001 Mean (SD)
Student Social and Psychological Outcomes				
Student Academic Engagement	4.54 (0.26)	4.83 (0.20)	4.67 (0.21)	4.66 (0.21)
Student Classroom Behavior	5.47 (0.21)	5.43 (0.22)	5.38 (0.21)	5.34 (0.25)
Student Social Competence	NA	4.19 (0.21)	4.11 (0.22)	4.07 (0.23)
Student Self-Efficacy	NA	4.82 (0.27)	4.64 (0.22)	4.73 (0.22)
Instruction				
Demand for Authentic Intellectual Work	NA	5.04 (0.13)	5.19 (0.14)	5.35 (0.20)
Emphasis on Writing	NA	4.84 (0.39)	4.86 (0.41)	5.72 (0.32)
Use of Didactic Instructional Strategies	NA	4.11 (0.23)	4.16 (0.20)	4.17 (0.20)
Use of Interactive Instructional Strategies	NA	4.57 (0.15)	4.74 (0.18)	4.92 (0.18)
Student Learning Climate				
Classroom Personalism	4.16 (0.26)	4.56 (0.31)	4.94 (0.40)	5.01 (0.43)
School Safety	4.89 (0.58)	5.89 (0.51)	5.93 (0.41)	5.97 (0.37)
Press Toward Academic Achievement	4.91 (0.21)	4.85 (0.23)	4.74 (0.20)	4.92 (0.21)
Peer Support for Academic Work	6.00 (0.31)	5.85 (0.35)	5.64 (0.30)	5.61 (0.35)
Leadership				
Inclusive Leadership	6.43 (1.39)	6.16 (1.46)	6.40 (1.17)	6.16 (1.37)
Joint Problem Solving	NA	5.16 (0.93)	5.30 (0.80)	5.20 (0.93)
Teacher Influence in Decision Making	5.32 (0.63)	5.60 (0.81)	5.69 (0.80)	5.56 (0.87)
Principal Instructional Leadership	6.32 (1.11)	6.46 (1.19)	6.73 (0.96)	6.55 (1.05)

Measures	1994 Mean (SD)	1997 Mean (SD)	1999 Mean (SD)	2001 Mean (SD)
Teacher Professional Community				
Peer Collaboration	5.01 (0.95)	5.51 (1.17)	5.60 (0.97)	5.40 (1.11)
Reflective Dialogue	6.08 (0.44)	6.12 (0.39)	6.16 (0.36)	6.08 (0.35)
Focus on Student Learning	5.81 (0.84)	5.93 (1.12)	6.16 (1.03)	5.96 (1.12)
Collective Responsibility	5.62 (0.92)	5.65 (0.83)	5.69 (0.74)	5.55 (0.79)
Orientation Toward Innovation	5.33 (0.79)	5.49 (0.95)	5.62 (0.89)	5.48 (0.90)
School Commitment	6.17 (1.02)	6.03 (1.22)	6.11 (1.12)	5.87 (1.31)
Parent and Community Involvement				
Teacher Outreach to Parents	4.72 (0.73)	5.54 (0.84)	5.54 (0.72)	5.30 (0.77)
Parent Involvement in School	4.30 (0.92)	4.66 (0.91)	4.72 (0.97)	4.47 (0.95)
Teachers' Use of Community Resources	NA	4.83 (0.35)	4.99 (0.35)	4.85 (0.32)
Teachers' Ties to the School Community	NA	4.84 (0.64)	4.84 (0.50)	4.81 (0.53)
Teachers' Knowledge of Students' Culture	NA	5.53 (0.64)	5.54 (0.54)	5.48 (0.52)
Human and Social Resources in the Community	NA	4.85 (0.29)	5.03 (0.30)	4.96 (0.32)
Social Trust				
Teacher-Principal Trust	5.95 (0.85)	6.21 (1.08)	6.33 (0.89)	6.24 (0.99)
Teacher-Teacher Trust	5.00 (0.62)	5.28 (0.67)	5.33 (0.59)	5.26 (0.61)
Teacher-Parent Trust	5.09 (0.65)	5.33 (0.55)	5.46 (0.51)	5.21 (0.53)
Teacher-Student Trust	NA	4.75 (0.41)	4.83 (0.39)	4.80 (0.39)
Instructional Program Coherence	5.23 (0.67)	5.25 (0.75)	5.30 (0.63)	5.08 (0.66)
Teacher Participation in Professional Development	4.46 (0.32)	4.41 (0.33)	4.47 (0.28)	4.59 (0.35)
Quality of Teacher Professional Development	NA	5.10 (0.42)	5.22 (0.42)	5.25 (0.28)
Support for Change in School	NA	5.44 (0.82)	5.48 (0.68)	5.24 (0.65)

Note. "NA" indicates that a measure is not available in a particular year.

Table H2: Means of Measures of the Essential Supports in Chicago Annenberg Schools and Demographically Similar Non-Annenberg Schools, 1994 to 2001.

Measures	1994	1997	1999	2001
Student Social and Psychological Outcomes				
Student Academic Engagement				
Annenberg Schools	4.58	4.87	4.69	4.66
Non-Annenberg Schools	4.53	4.82	4.67	4.66
Student Classroom Behavior				
Annenberg Schools	5.51	5.46	5.39	5.35
Non-Annenberg Schools	5.46	5.42	5.37	5.34
Student Social Competence				
Annenberg Schools	NA	4.25	4.08	4.03
Non-Annenberg Schools	NA	4.16	4.13	4.09
Student Self-Efficacy				
Annenberg	NA	4.80	4.70	4.72
Non-Annenberg	NA	4.81	4.63	4.73
Instruction				
Demand for Authentic Intellectual Work				
Annenberg Schools	NA	5.03	5.23	5.36
Non-Annenberg Schools	NA	5.04	5.18	5.34
Emphasis on Writing				
Annenberg Schools	NA	4.88	4.90	5.77
Non-Annenberg Schools	NA	4.83	4.84	5.70
Use of Didactic Instructional Strategies				
Annenberg Schools	NA	4.02	4.09	4.06
Non-Annenberg Schools	NA	4.15 **	4.19	4.21

Measures	1994	1997	1999	2001
Use of Interactive Instructional Strategies				
Annenberg Schools	NA	4.58	4.79	4.97
Non-Annenberg Schools	NA	4.57	4.72	4.90
Student Learning Climate				
Classroom Personalism				
Annenberg Schools	4.19	4.62 *	4.94	5.03
Non-Annenberg Schools	4.15	4.53	4.95	5.01
School Safety				
Annenberg Schools	4.86	5.92	5.93	5.96
Non-Annenberg Schools	4.91	5.88	5.93	5.98
Press Toward Academic Achievement				
Annenberg Schools	4.91	4.90 *	4.74	4.94
Non-Annenberg Schools	4.91	4.84	4.74	4.92
Peer Support for Academic Work				
Annenberg Schools	6.00	5.90 *	5.65	5.63
Non-Annenberg Schools	6.00	5.83	5.63	5.60
Leadership				
Inclusive Leadership				
Annenberg Schools	6.61	6.42	6.67 **	6.13
Non-Annenberg Schools	6.36	6.06	6.29	6.17
Joint Problem Solving				
Annenberg Schools	NA	5.37 **	5.50 **	5.23
Non-Annenberg Schools	NA	5.08	5.22	5.19
Teacher Influence in Decision Making				
Annenberg Schools	5.40	5.76 **	5.93 **	5.61
Non-Annenberg Schools	5.29	5.53	5.59	5.54

Measures	1994	1997	1999	2001
Principal Instructional Leadership				
Annenberg Schools	6.52	6.54	6.87	6.48
Non-Annenberg Schools	6.24	6.43	6.68	6.58
Teacher Professional Community				
Peer Collaboration				
Annenberg Schools	5.12	5.64	5.81	5.44
Non-Annenberg Schools	4.96	5.46	5.52	5.38
Reflective Dialogue				
Annenberg Schools	6.10	6.17	6.26	6.12
Non-Annenberg Schools	6.07	6.09	6.12	6.06
Focus on Student Learning				
Annenberg Schools	5.77	6.03	6.30	5.88
Non-Annenberg Schools	5.83	5.89	6.11	5.99
Collective Responsibility				
Annenberg Schools	5.57	5.73	5.77	5.57
Non-Annenberg Schools	5.64	5.61	5.66	5.54
Orientation Toward Innovation				
Annenberg Schools	5.42	5.65	5.78	5.51
Non-Annenberg Schools	5.30	5.43	5.56	5.46
School Commitment				
Annenberg Schools	6.11	6.24	6.28	5.77
Non-Annenberg Schools	6.19	5.95	6.05	5.91
Parent and Community Involvement				
Teacher Outreach to Parents				
Annenberg Schools	4.77	5.61	5.64	5.28
Non-Annenberg Schools	4.70	5.51	5.50	5.31
Parent Involvement in School				
Annenberg Schools	4.27	4.68	4.77	4.45
Non-Annenberg Schools	4.31	4.66	4.70	4.48

Measures	1994	1997	1999	2001
Teachers' Use of Community Resources				
Annenberg Schools	NA	4.83	5.05	4.90
Non-Annenberg Schools	NA	4.83	4.97	4.83
Teachers' Ties to the School Community				
Annenberg Schools	NA	4.94	4.89	4.86
Non-Annenberg Schools	NA	4.80	4.82	4.79
Teachers' Knowledge of Students' Culture				
Annenberg Schools	NA	5.58	5.61	5.54
Non-Annenberg Schools	NA	5.51	5.51	5.45
Human and Social Resources in the Community				
Annenberg Schools	NA	4.89	5.00	4.92
Non-Annenberg Schools	NA	4.84	5.04	4.97
Social Trust				
Teacher-Principal Trust				
Annenberg Schools	6.07	6.37	6.47	6.18
Non-Annenberg Schools	5.91	6.15	6.28	6.27
Teacher-Teacher Trust				
Annenberg Schools	5.02	5.39	5.38	5.27
Non-Annenberg Schools	5.00	5.23	5.31	5.25
Teacher-Parent Trust				
Annenberg Schools	5.09	5.39	5.52	5.23
Non-Annenberg Schools	5.08	5.31	5.43	5.20
Teacher-Student Trust				
Annenberg Schools	NA	4.83	4.82	4.78
Non-Annenberg Schools	NA	4.71	4.84	4.81
Instructional Program Coherence				
Annenberg Schools	5.18	5.18	5.24	4.91
Non-Annenberg Schools	5.25	5.28	5.33	5.15 **

Measures	1994	1997	1999	2001
Teacher Participation in Professional Development				
Annenberg Schools	4.50	4.52 **	4.62 **	4.65
Non-Annenberg Schools	4.44	4.36	4.42	4.57
Quality of Teacher Professional Development				
Annenberg Schools	NA	5.18	5.35	5.29
Non-Annenberg Schools	NA	5.07	5.17	5.23
Support for Change in School				
Annenberg Schools	NA	5.57	5.68 **	5.23
Non-Annenberg Schools	NA	5.38	5.40	5.24

Note. "NA" indicates that a measure is not available in a particular year. ** $p \leq .01$.

Table H3: Standardized Change Unit Differences in Measures of the Essential Supports Among Chicago Annenberg Schools from CPS System-Wide Baseline Year Means, 1994 to 2001

Measures	1994-2001	1997-2001	1997-1999	1999-2001
Student Social and Psychological Outcomes				
Academic Engagement	0.31 **	-1.05	-0.90	-0.14
Classroom Behavior	-0.76	-0.50	-0.32	- 0.19
Social Competence	NA	-1.05 **	-0.81	-0.23
Self-Efficacy	NA	-0.30 **	-0.37	0.09 **
Instruction				
Demand for Authentic Intellectual Work	NA	2.54 **	1.54	0.93 **
Emphasis on Writing	NA	2.28 **	0.15	2.12 **
Use of Didactic Instructional Strategies	NA	0.17	0.30	-0.15
Use of Interactive Instructional Strategies	NA	2.60 **	1.40	1.00 **
Student Learning Climate				
Classroom Personalism	3.23 **	1.32	1.03	0.22 **
School Safety	1.90 **	0.08	0.02	0.07
Press Toward Academic Achievement	0.14	0.17	-0.70	1.00 **
Peer Support for Academic Work	-1.19 **	-0.77	-0.71	-0.07 **
Human and Social Resources in the Community	NA	0.10	0.38	-0.27
Leadership				
Inclusive Leadership	-0.34	-0.20	0.17	-0.46 **
Joint Problem Solving	NA	-0.15	0.14	-0.23
Teacher Influence in Decision Making	0.33 **	-0.19	0.21	-0.40 **
Principal Instructional Leadership	-0.04	-0.05	0.28	-0.41 **

Measures	1994-2001	1997-2001	1997-1999	1999-2001
Teacher Professional Community				
Peer Collaboration	0.34 **	-0.17	0.15	-0.38 **
Reflective Dialogue	0.05	-0.13	0.23	-0.39
Focus on Student Learning	0.13 **	-0.13	0.24	-0.41 **
Collective Responsibility	0.00	-0.19	0.05	-0.27 **
Orientation Toward Innovation	0.11 **	-0.15	0.14	-0.30 **
School Commitment	-0.33 **	-0.39	0.03	-0.46 **
Parent and Community Involvement				
Teacher Outreach to Parents	0.70 **	-0.39	0.04	-0.50 **
Parent Involvement in School	0.20 **	-0.25	0.10	-0.33 **
Teachers' Use of Community Resources	NA	0.20	0.63	-0.43 **
Teachers' Ties to the School Community	NA	-0.13	-0.08	-0.06
Teachers' Knowledge of Students' Culture	NA	-0.06	0.05	-0.13
Social Trust				
Teacher-Principal Trust	0.13 **	-0.18	0.09	-0.33
Teacher-Teacher Trust	0.40 **	-0.18	-0.01	-0.19
Teacher-Parent Trust	0.22 **	-0.29	0.24	-0.57 **
Teacher-Student Trust	NA	-0.12	-0.02	-0.10
Instructional Program Coherence	-0.40 **	-0.36	0.08	-0.52 **
Teacher Participation in Professional Development	0.47 **	0.39	0.30	0.11 **
Quality of Teacher Professional Development	NA	0.26 **	0.40	-0.14
Support for Change in School	NA	-0.41 **	0.13	-0.66 **

Note. "NA" indicates that a measure is not available in a particular year (e.g., 1994). Baseline means are for the first year of each year-to-year comparison. ** $p \leq .01$.

Table H4: Standardized Change Unit Differences in Measures of the Essential Supports for Chicago Annenberg and Demographically Similar Non-Annenberg Schools from CPS System-Wide Baseline Means, 1994 to 2001

Measures	1994	1997	1999	2001
Student Social and Psychological Outcomes				
Student Academic Engagement				
Annenberg Schools	0.15	1.27	0.58	0.46
Non-Annenberg Schools	-0.04	1.08	0.50	0.46
Student Classroom Behavior				
Annenberg Schools	0.19	-0.05	-0.38	-0.57
Non-Annenberg Schools	-0.05	-0.24	-0.48	-0.62
Student Social Competence				
Annenberg Schools	NA	0.29	-0.52	-0.76
Non-Annenberg Schools	NA	-0.14	-0.29	-0.48
Student Self-Efficacy				
Annenberg	NA	-0.07	-0.44	-0.37
Non-Annenberg	NA	-0.04	-0.70	-0.33
Instruction				
Demand for Authentic Intellectual Work				
Annenberg Schools	NA	-0.08	1.46	2.46
Non-Annenberg Schools	NA	0.00	1.08	2.31
Emphasis on Writing				
Annenberg Schools	NA	0.10	0.15	2.38
Non-Annenberg Schools	NA	-0.03	0.00	2.21
Use of Didactic Instructional Strategies				
Annenberg Schools	NA	-0.39	0.09	-0.22
Non-Annenberg Schools	NA	0.17	0.35	0.43

Measures	1994	1997	1999	2001
Use of Interactive Instructional Strategies				
Annenberg Schools	NA	0.07	1.47	2.67
Non-Annenberg Schools	NA	0.00	1.00	2.20
Student Learning Climate				
Classroom Personalism				
Annenberg Schools	0.16	1.77	3.00	3.35
Non-Annenberg Schools	-0.04	1.42	3.04	3.27
School Safety				
Annenberg Schools	-0.05	1.78	1.79	1.84
Non-Annenberg Schools	0.03	1.71	1.79	1.88
Press Toward Academic Achievement				
Annenberg Schools	0.00	-0.05	-0.81	0.14
Non-Annenberg Schools	0.00	-0.33	-0.81	0.05
Peer Support for Academic Work				
Annenberg Schools	0.00	-0.32	-1.13	-1.19
Non-Annenberg Schools	0.00	-0.55	-1.19	-1.29
Leadership				
Inclusive Leadership				
Annenberg Schools	0.13	-0.01	0.17	-0.22
Non-Annenberg Schools	-0.05	-0.27	-0.10	-0.19
Joint Problem Solving				
Annenberg Schools	NA	0.23	0.37	0.08
Non-Annenberg Schools	NA	-0.09	0.06	0.03
Teacher Influence in Decision Making				
Annenberg Schools	0.13	0.70	0.97	0.46
Non-Annenberg Schools	-0.05	0.33	0.43	0.35

Measures	1994	1997	1999	2001
Principal Instructional Leadership				
Annenberg Schools	0.18	0.20	0.50	0.14
Non-Annenberg Schools	-0.07	0.10	0.32	0.23
Teacher Professional Community				
Peer Collaboration				
Annenberg Schools	0.12	0.66	0.84	0.45
Non-Annenberg Schools	0.05	0.47	0.54	0.39
Reflective Dialogue				
Annenberg Schools	0.05	0.20	0.41	0.09
Non-Annenberg Schools	-0.02	0.02	0.05	-0.05
Focus on Student Learning				
Annenberg Schools	-0.05	0.26	0.58	0.08
Non-Annenberg Schools	0.02	0.10	0.36	0.21
Collective Responsibility				
Annenberg Schools	-0.05	0.12	0.16	-0.05
Non-Annenberg Schools	0.02	-0.01	0.04	-0.09
Orientation Toward Innovation				
Annenberg Schools	0.11	0.41	0.57	0.23
Non-Annenberg Schools	-0.04	0.13	0.29	0.16
School Commitment				
Annenberg Schools	-0.06	0.07	0.11	-0.39
Non-Annenberg Schools	0.02	-0.22	-0.12	-0.25
Parent and Community Involvement				
Teacher Outreach to Parents				
Annenberg Schools	0.07	1.22	1.26	0.77
Non-Annenberg Schools	-0.03	1.08	1.07	0.81
Parent Involvement in School				
Annenberg Schools	-0.03	0.41	0.51	0.16
Non-Annenberg Schools	0.01	0.39	0.43	0.20

Measures	1994	1997	1999	2001
Teachers' Use of Community Resources				
Annenberg Schools	NA	0.00	0.63	0.20
Non-Annenberg Schools	NA	0.00	0.40	0.00
Teachers' Ties to the School Community				
Annenberg Schools	NA	0.16	0.08	0.03
Non-Annenberg Schools	NA	-0.06	-0.03	-0.08
Teachers' Knowledge of Students' Culture				
Annenberg Schools	NA	0.08	0.13	0.02
Non-Annenberg Schools	NA	-0.03	-0.03	-0.13
Human and Social Resources in the Community				
Annenberg Schools	NA	0.14	0.52	0.24
Non-Annenberg Schools	NA	-0.03	0.66	0.41
Social Trust				
Teacher-Principal Trust				
Annenberg Schools	0.12	0.49	0.62	0.27
Non-Annenberg Schools	-0.05	0.24	0.39	0.38
Teacher-Teacher Trust				
Annenberg Schools	0.03	0.63	0.61	0.44
Non-Annenberg Schools	0.00	0.37	0.50	0.40
Teacher-Parent Trust				
Annenberg Schools	0.00	0.46	0.66	0.22
Non-Annenberg Schools	-0.02	0.32	0.52	0.17
Teacher-Student Trust				
Annenberg Schools	NA	0.20	0.17	0.07
Non-Annenberg Schools	NA	-0.10	0.22	0.15
Instructional Program Coherence				
Annenberg Schools	-0.07	-0.07	0.01	-0.48
Non-Annenberg Schools	0.03	0.07	0.15	-0.12

Measures	1994	1997	1999	2001
Teacher Participation in Professional Development				
Annenberg Schools	0.13	0.19	0.50	0.59
Non-Annenberg Schools	-0.06	-0.31	-0.13	0.34
Quality of Teacher Professional Development				
Annenberg Schools	NA	0.19	0.59	0.45
Non-Annenberg Schools	NA	-0.07	0.17	0.31
Support for Change in School				
Annenberg Schools	NA	0.16	0.29	-0.26
Non-Annenberg Schools	NA	-0.07	0.05	-0.24

Note. CPS system baselines means are for 1994 or 1997, depending on the earliest year for which data are available.

Table H5: Means of Measures of the Essential Supports in Annenberg Breakthrough Schools and Other Annenberg Schools, 1994 to 2001

Measures	1994	1997	1999	2001
Student Social and Psychological Outcomes				
Student Academic Engagement				
Breakthrough Schools	4.52	4.88	4.73	4.57
Other Annenberg Schools	4.59	4.86	4.68	4.67 *
Student Classroom Behavior				
Breakthrough Schools	5.50	5.52	5.40	5.31
Other Annenberg Schools	5.51	5.46	5.39	5.35
Student Social Competence				
Breakthrough Schools	NA	4.06	4.10	3.92
Other Annenberg Schools	NA	4.28	4.08	4.04
Student Self-Efficacy				
Breakthrough Schools	NA	4.79	4.64	4.70
Other Annenberg Schools	NA	4.84	4.66	4.74
Instruction				
Demand for Authentic Intellectual Work				
Breakthrough Schools	NA	4.89	5.24	5.38
Other Annenberg Schools	NA	5.05 *	5.23	5.36
Emphasis on Writing				
Breakthrough Schools	NA	4.62	4.74	5.61
Other Annenberg Schools	NA	4.91	4.92	5.79
Use of Didactic Instructional Strategies				
Breakthrough Schools	NA	3.86	3.95	4.15
Other Annenberg Schools	NA	4.04	4.11	4.05
Use of Interactive Instructional Strategies				
Breakthrough Schools	NA	4.46	4.84	4.87
Other Annenberg Schools	NA	4.60	4.78	4.98

Measures	1994	1997	1999	2001
Student Learning Climate				
Classroom Personalism				
Breakthrough Schools	4.19	4.68	5.07	5.03
Other Annenberg Schools	4.19	4.62	4.92	5.03
School Safety				
Breakthrough Schools	4.77	5.97	5.90	5.90
Other Annenberg Schools	4.87	5.91	5.94	5.97
Press Toward Academic Achievement				
Breakthrough Schools	4.96	4.94	4.80	4.92
Other Annenberg Schools	4.91	4.89	4.73	4.95
Peer Support for Academic Work				
Breakthrough Schools	6.04	5.93	5.64	5.50
Other Annenberg Schools	6.00	5.89	5.66	5.64
Leadership				
Inclusive Leadership				
Breakthrough Schools	7.14	6.86	6.84	6.97 *
Other Annenberg Schools	6.54	6.37	6.65	6.03
Joint Problem Solving				
Breakthrough Schools	NA	5.63	5.63	5.86 *
Other Annenberg Schools	NA	5.33	5.49	5.16
Teacher Influence in Decision Making				
Breakthrough Schools	5.54	6.00	6.34	6.09 *
Other Annenberg Schools	5.38	5.73	5.89	5.56
Principal Instructional Leadership				
Breakthrough Schools	7.00	7.00	7.23	7.13
Other Annenberg Schools	6.46	6.49	6.83	6.40

Measures	1994	1997	1999	2001
Teacher Professional Community				
Peer Collaboration				
Breakthrough Schools	5.57	6.15	6.43	6.45 **
Other Annenberg Schools	5.07	5.58	5.74	5.32
Reflective Dialogue				
Breakthrough Schools	6.28	6.27	6.41	6.39 *
Other Annenberg Schools	6.08	6.15	6.25	6.09
Focus on Student Learning				
Breakthrough Schools	5.85	6.35	6.63	6.61 *
Other Annenberg Schools	5.76	5.99	6.26	5.79
Collective Responsibility				
Breakthrough Schools	5.66	6.07	6.17	6.16 *
Other Annenberg Schools	5.56	5.69	5.72	5.50
Orientation Toward Innovation				
Breakthrough Schools	5.64	5.94	6.17	6.28 **
Other Annenberg Schools	5.40	5.62	5.74	5.42
School Commitment				
Breakthrough Schools	5.79	6.32	6.47	6.71 **
Other Annenberg Schools	6.14	6.23	6.25	5.66
Parent and Community Involvement				
Teacher Outreach to Parents				
Breakthrough Schools	4.72	5.61	5.61	5.23
Other Annenberg Schools	4.78	5.61	5.65	5.29
Parent Involvement in School				
Breakthrough Schools	4.22	4.68	4.83	4.71
Other Annenberg Schools	4.28	4.68	4.76	4.42
Teachers' Use of Community Resources				
Breakthrough Schools	NA	4.70	5.07	4.95
Other Annenberg Schools	NA	4.84	5.05	4.90

Measures	1994	1997	1999	2001
Teachers' Ties to the School Community				
Breakthrough Schools	NA	4.57	4.58	4.70
Other Annenberg Schools	NA	4.99 **	4.93 *	4.88
Teachers' Knowledge of Students' Culture				
Breakthrough Schools	NA	5.58	5.61	5.54
Other Annenberg Schools	NA	5.51	5.51	5.45
Human and Social Resources in the Community				
Breakthrough Schools	NA	4.85	5.01	4.96
Other Annenberg Schools	NA	4.90	5.00	4.92
Social Trust				
Teacher-Principal Trust				
Breakthrough Schools	6.49	6.73	6.66	6.84 *
Other Annenberg Schools	6.02	6.33	6.45	6.10
Teacher-Teacher Trust				
Breakthrough Schools	5.08	5.55	5.62	5.69 *
Other Annenberg Schools	5.01	5.37	5.35	5.23
Teacher-Parent Trust				
Breakthrough Schools	4.95	5.42	5.56	5.30
Other Annenberg Schools	5.11	5.38	5.51	5.23
Teacher-Student Trust				
Breakthrough Schools	NA	4.96	4.98	4.79
Other Annenberg Schools	NA	4.82	4.80	4.78

Measures	1994	1997	1999	2001
Instructional Program Coherence				
Breakthrough Schools	5.10	5.43	5.42	5.17
Other Annenberg Schools	5.19	5.15	5.22	4.88
Teacher Participation in Professional Development				
Breakthrough Schools	4.69	4.52	4.73	4.66
Other Annenberg Schools	4.47	4.52	4.61	4.65
Quality of Teacher Professional Development				
Breakthrough Schools	NA	5.30	5.48	5.59 *
Other Annenberg Schools	NA	5.16	5.33	5.25
Support for Change in School				
Breakthrough Schools	NA	5.92	5.92	5.61
Other Annenberg Schools	NA	5.53	5.65	5.18

Note. "NA" indicates that a measure is not available in a particular year. * $p \leq .05$. ** $p \leq .01$.

Table H6: Standardized Change Unit Differences in Measures of the Essential Supports for Chicago Annenberg Breakthrough Schools and Other Annenberg Schools from CPS Systemwide Baseline Means, 1994 to 2001

Measures	1994	1997	1999	2001
Student Social and Psychological Outcomes				
Student Academic Engagement				
Breakthrough Schools	-0.08	1.31	0.73	0.12
Other Annenberg Schools	0.19	1.23	0.54	0.50
Student Classroom Behavior				
Breakthrough Schools	0.14	0.24	-0.33	-0.76
Other Annenberg Schools	0.19	-0.05	-0.38	-0.57
Student Social Competence				
Breakthrough Schools	NA	-0.62	-0.43	-1.29
Other Annenberg Schools	NA	0.43	-0.52	-0.71
Student Self-Efficacy				
Breakthrough Schools	NA	-0.11	-0.67	-0.44
Other Annenberg Schools	NA	0.07	-0.59	-0.30
Instruction				
Demand for Authentic Intellectual Work				
Breakthrough Schools	NA	-1.15	1.54	2.62
Other Annenberg Schools	NA	0.08	1.46	2.46
Emphasis on Writing				
Breakthrough Schools	NA	-0.56	-0.26	1.97
Other Annenberg Schools	NA	0.18	-0.21	2.44
Use of Didactic Instructional Strategies				
Breakthrough Schools	NA	-1.09	-0.70	0.17
Other Annenberg Schools	NA	-0.30	0.00	-0.26

Measures	1994	1997	1999	2001
Use of Interactive Instructional Strategies				
Breakthrough Schools	NA	-0.73	1.80	2.00
Other Annenberg Schools	NA	0.20	1.40	2.73
Student Learning Climate				
Classroom Personalism				
Breakthrough Schools	0.11	2.00	3.50	3.35
Other Annenberg Schools	0.11	1.77	2.92	3.35
School Safety				
Breakthrough Schools	-0.21	1.86	1.74	1.74
Other Annenberg Schools	-0.03	1.76	1.81	1.86
Press Toward Academic Achievement				
Annenberg Schools	0.24	0.14	-0.52	0.05
Non-Annenberg Schools	0.00	-0.10	-0.86	0.19
Peer Support for Academic Work				
Breakthrough Schools	0.13	-0.23	-1.16	-1.61
Other Annenberg Schools	0.00	-0.35	-1.10	-1.16
Leadership				
Inclusive Leadership				
Breakthrough Schools	0.51	0.31	0.29	0.39
Other Annenberg Schools	0.08	-0.04	0.16	-0.29
Joint Problem Solving				
Breakthrough Schools	NA	0.51	0.51	0.75
Other Annenberg Schools	NA	0.18	0.35	0.00
Teacher Influence in Decision Making				
Breakthrough Schools	0.35	1.08	1.62	1.22
Other Annenberg Schools	0.10	0.65	0.86	0.38

Measures	1994	1997	1999	2001
Principal Instructional Leadership				
Breakthrough Schools	0.61	0.61	0.82	0.73
Other Annenberg Schools	0.13	0.15	0.46	0.07
Teacher Professional Community				
Peer Collaboration				
Breakthrough Schools	0.59	1.20	1.49	1.52
Other Annenberg Schools	0.06	0.60	0.77	0.33
Reflective Dialogue				
Breakthrough Schools	0.39	0.43	0.15	0.70
Other Annenberg Schools	0.00	0.16	0.39	0.02
Focus on Student Learning				
Breakthrough Schools	0.05	0.64	0.98	0.95
Other Annenberg Schools	-0.06	0.21	0.54	-0.02
Collective Responsibility				
Breakthrough Schools	0.04	0.49	0.60	0.59
Other Annenberg Schools	-0.07	0.08	0.11	-0.13
Orientation Toward Innovation				
Breakthrough Schools	0.39	0.77	1.06	1.20
Other Annenberg Schools	0.09	0.37	0.52	0.11
School Commitment				
Breakthrough Schools	-0.37	0.15	0.29	0.53
Other Annenberg Schools	-0.03	0.06	0.08	-0.50
Parent and Community Involvement				
Teacher Outreach to Parents				
Breakthrough Schools	0.00	1.22	1.22	0.70
Other Annenberg Schools	0.08	1.22	1.27	0.78
Parent Involvement in School				
Breakthrough Schools	-0.09	0.41	0.58	0.45
Other Annenberg Schools	-0.02	0.41	0.50	0.13

Measures	1994	1997	1999	2001
Teachers' Use of Community Resources				
Breakthrough Schools	NA	-0.37	0.69	0.34
Other Annenberg Schools	NA	0.03	0.63	0.20
Teachers' Ties to the School Community				
Breakthrough Schools	NA	-0.42	-0.41	-0.22
Other Annenberg Schools	NA	0.23	0.14	0.06
Teachers' Knowledge of Students' Culture				
Breakthrough Schools	NA	0.08	0.13	0.02
Other Annenberg Schools	NA	-0.03	-0.03	-0.13
Human and Social Resources in the Community				
Breakthrough Schools	NA	0.00	0.55	0.38
Other Annenberg Schools	NA	0.17	0.52	0.24
Social Trust				
Teacher-Principal Trust				
Breakthrough Schools	0.64	0.92	0.84	1.05
Other Annenberg Schools	0.08	0.45	0.59	0.18
Teacher-Teacher Trust				
Breakthrough Schools	0.13	0.89	1.00	1.11
Other Annenberg Schools	0.02	0.60	0.56	0.37
Teacher-Parent Trust				
Breakthrough Schools	-0.22	0.51	0.72	0.32
Other Annenberg Schools	0.03	0.45	0.65	0.22
Teacher-Student Trust				
Breakthrough Schools	NA	0.51	0.56	0.10
Other Annenberg Schools	NA	0.17	0.12	0.07
Instructional Program Coherence				
Breakthrough Schools	-0.19	0.30	0.28	-0.09
Other Annenberg Schools	-0.06	-0.12	-0.01	-0.52

Measures	1994	1997	1999	2001
Teacher Participation in Professional Development				
Breakthrough Schools	0.72	0.19	0.84	0.63
Other Annenberg Schools	0.03	0.19	0.47	0.59
Quality of Teacher Professional Development				
Breakthrough Schools	NA	0.48	0.90	1.17
Other Annenberg Schools	NA	0.14	0.55	0.36
Support for Change in School				
Breakthrough Schools	NA	0.59	0.59	0.21
Other Annenberg Schools	NA	0.11	0.26	-0.32

Note. CPS system baseline means are for 1994 or 1997, depending on the earliest year for which data are available. "NA" indicates that a measure is not available in a particular year. * $p \leq .05$. ** $p \leq .01$

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This report reflects the interpretation of its authors. Although the Consortium assisted in the development of this research, no formal endorsement by its Steering Committee members, their organizations, or the Consortium should be assumed.

Improving Chicago's Schools

Sponsored by
the Chicago Annenberg Research Project
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the Consortium on Chicago School Research

The Chicago Annenberg Research Project was a five-year program of the Consortium on Chicago School Research to document and analyze the activities and accomplishments of the Chicago Annenberg Challenge. The project focused on four related areas of inquiry.

1. **Outcomes for students.** Change in academic achievement, including basic skills and higher levels of learning. Also change in social attitudes, conduct, and engagement among students in Annenberg schools.

2. **School development.** Improvement in key organizational conditions of Annenberg schools that affect student learning. These conditions include school leadership, parent and community partnerships, student-centered learning climate, professional development and community, and quality instruction, as well as the Challenge's organizational themes of time, size, and isolation.

3. **Networks.** How networks, their external partners, and other change mechanisms promote the development of Annenberg schools.

4. **Larger contexts needed to support school development.** How the Challenge develops as an organization to support networks and school development. How the broader institutional contexts of Chicago affect the development and accomplishments of the Challenge.

The project's research design included longitudinal surveys and case studies, multiple levels of analysis, and comparison groups. Data was collected from several sources including surveys of teachers, principals, and students; observations of schools and classrooms; classroom tasks and student work products; interviews; documents of Challenge activities; and administrative records from the Chicago Public Schools.

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The Consortium on Chicago School Research aims to conduct research of high technical quality that can inform and assess policy and practice in the Chicago Public Schools. By broadly engaging local leadership in our work, and presenting our findings to diverse audiences, we seek to expand communication between researchers, policy makers, and practitioners. The Consortium encourages the use of research in policy action, but does not argue for particular policies or programs. Rather, we believe that good policy is most likely to result from a genuine competition of ideas informed by the best evidence that can be obtained.

Founded in 1990, the Consortium is located at the University of Chicago.

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