The National School District and Network Grants Program

Year 2 Evaluation Report

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This report is the second in an ongoing series of interim reports based on the evaluation of the Bill & Melinda Gates Foundation's National School District and Network Grants Program. The views, findings, conclusions, and recommendations expressed herein are those of the authors and do not necessarily express the viewpoint of the foundation.

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Executive Summary

The National School District and Network Grants Program of the Bill & Melinda Gates Foundation is based on the premise that organizations external to the public school system can catalyze the creation of small high schools that will produce better and more equitable outcomes for students. Although all the grantee organizations funded under this initiative have subscribed to a set of attributes of effective, high-performing schools and classrooms set forth by the foundation, they bring different organizational histories and apply different approaches toward working with schools to put those attributes in place.

A large number of grants have been awarded for the creation of small secondary schools. Nevertheless, it is still very early to assess the outcomes of the foundation's education reform strategy. When the data analyzed in this report were collected in spring of 2003, the first small high schools created under the initiative were in their second year of operation; most of the small schools created through conversion of an existing large high school were in their first year as small entities; another group of small schools had opened just the previous fall or were still in the planning stage. Although it is still early to look at outcomes, the evaluation does have a growing database that can be used to examine some of the key questions suggested by the foundation's theory of change:

- With foundation funding and a conceptual framework stipulating attributes of high-performing schools, are intermediary organizations able to catalyze the creation of small secondary schools with the desired characteristics?

- Are students' instructional experiences in small schools that embody the attributes promoted by the foundation different from and better than those of students in conventional high schools?

- Are the attitudes of students in schools where the foundation's attributes are firmly in place consistent with the hypothesis that they are more engaged with their schoolwork and more likely to stay in school through graduation?

- Do differences in educational engagement among students from different demographic backgrounds appear less pronounced in small high schools?

- Can successful small schools be created by converting large high schools into smaller independent schools or learning communities sharing the same physical plant?

Data Sources

This report is based primarily on two years of data collection from organizations receiving Bill & Melinda Gates Foundation grants and from their affiliated schools and school districts. A previous report[1] presented analyses of data collected in spring of 2002. Analyses in this report use both those data and data collected in spring of 2003. Sixteen organizations receiving grants to foster the creation of small high schools, either as new entities ("start-up schools") or through conversion of an existing large high school into smaller units, are included in analyses in this report. Some of these organizations are working to promote small schools replicating the design of a "model school" that predated the foundation's educational grantmaking.

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[1] AIR/SRI. (2003). *High Time for High School Reform: Early Findings from the Evaluation of the National School District and Network Grants Program.* Menlo Park, CA: SRI International.

Surveys. Quantitative data were obtained through surveys of principals, teachers, and students at 5 model schools, 22 start-up schools, and 10 large schools planning conversion into smaller schools or learning communities ("preconversion" schools). Seven of the small schools that opened in fall of 2001 participated in survey data collections in both spring of 2002 and spring of 2003.

Site Visits. School site visits were conducted in a majority of the schools in the survey sample. Five model small schools, 16 start-up schools, 8 large schools planning conversion, and 6 small schools created through conversion have been visited. Seven of the small schools that opened in fall of 2001 have been visited twice (once in their first year of operation and once in their second). The school site visits entailed interviews with school leaders and teachers, student focus groups, and classroom observations. In addition, in spring of 2003, parent focus groups were held at a subset of the small schools created through conversion. We also interviewed district leaders in those districts partnering closely with one or more of the grantee organizations to create small schools.

Key Findings

The data available 2 years into our 8-year evaluation study shed light on a number of the assumptions in the foundation's theory of change.

- *Intermediary organizations are able to foster the creation of small secondary schools with the characteristics that the foundation considers hallmarks of high-performing schools.* On average, personalization, high expectations, and time for teachers to collaborate as a professional community are strong in the small start-up high schools created under this initiative, whether they are compared with existing large high schools or with the model small high schools the foundation identified as examples of the kinds of schools it wants to promote.

- *More reform-like instruction occurs in those small schools that have the effective-school attributes most firmly in place.* We have characterized instructional practices such as requirements for student-initiated research and analysis, examination of real-world problems, deep exploration of topics, hands-on demonstrations and presentations, and multidisciplinary, group projects as "reform-like." Although there is less reform-like teaching in the small high schools started under this initiative than in the model small schools, there is more in the start-up schools than in conventional large high schools. Within the start-up schools, reform-like teaching is more common in those where teachers and students report that the effective-school attributes have been implemented.

- *Students who attend schools with stronger implementation of the effective-school attributes and more reform-like instruction have more positive educational attitudes.* These students report being more interested in what they are doing at school and more persistent in their schoolwork, as well as describing stronger academic self-concepts. They do not credit their schools with doing a better job of preparing them in areas of academic and social skills, however.

- *Students' attitudes toward school are less related to family socioeconomic status in small schools than in large conventional high schools.* Analysis of the relationship between students' educational attitudes and home socioeconomic status (using mother's education as the proxy for SES) found that the type of school makes a difference. Students' attitudes toward school are positively associated with the level of their mothers' education, except in model small schools, where students express highly positive attitudes regardless of their mothers' education level. Although data patterns are less definitive when attitudes for students of different races/ethnicities are compared, student

attitudes again appear consistently positive, regardless of ethnicity, in the small model schools.

- *A larger sample of small schools created through conversion of a large school and more time for these schools to mature are needed to assess their level of success in meeting the foundation's goals.* Qualitative data from the small schools that were created through conversion of a large school suggest that converting schools find their attention absorbed by issues of facilities, schedules, and staff assignments in both their planning year and their first year after conversion. Converting schools are struggling to find ways to achieve equity without sacrificing perceived excellence. Many parents, students, and teachers remain skeptical that the same class or small school can serve the needs of students at the two ends of the achievement distribution as well as separate ability-based classes do in comprehensive high schools. The evaluation will address these issues through quantitative analyses once survey data from a sample of small schools created through conversion efforts are available.

The early findings for the start-up schools are consistent with the foundation's theory of change and suggest that it is reasonable to look for future differences in student achievement and other outcomes at these small schools. These analyses will be conducted on a district-by-district basis as sufficient numbers of small schools in this initiative mature to the point where they are adequately represented in district and state databases.

Issues Identified by the Evaluation

The experiences of the first small high schools developed under this initiative point to a number of issues that continue to challenge school staff and the grantee organizations working with schools.

Instructional strategies is an area where small schools would like more support. A recurring theme throughout this report is the schools' struggle to implement instructional approaches that are effective for the diverse needs of their students. Although survey responses of teachers in the small start-up schools indicated more confidence in their ability to use reform-like teaching approaches than did those of teachers at preconversion schools, start-up school teachers were candid in their interviews about (1) their need to gain a better grasp of how to execute project-based learning well and (2) their struggle to find the right combination of more reform-like approaches stressing interdisciplinary projects developed around student interests and more conventional approaches focusing on basic skills and content. Small-school teachers realize the need for further development in this area, but only a minority of schools under the initiative appear to get specific, concrete assistance around pedagogy as part of the professional development supported by their grantees.

Curriculum content is an issue in need of greater attention. Although our data suggest that teaching approaches are more reform oriented and students are academically more engaged in start-up schools where the foundation's effective-school attributes are strongly in place, questions have arisen at a number of schools concerning the coverage of essential content and the rigor of the material students are learning through their projects and internships. Some teachers in these innovative schools argue that it doesn't matter if students graduate without an understanding of the concept of gravity or knowledge of the dates for World War II as long as they have "learned how to learn." Accountability systems, college admissions offices, and many parents don't agree, however, and staff at many of the start-up schools are struggling with finding the right balance of teaching approaches and with establishing practices that ensure that their students learn essential content. Although many of the grantees' school models or principles stress building a curriculum around student interests, these innovative schools are still operating in a world where states have accountability systems built around specific standards and where institutions of higher education

look for documentation that certain content has been mastered. The mismatch between school philosophy and capacity and the broader education system is most apparent in the area of mathematics. Some of the small schools have hired "generalist" teachers, who are more likely to have academic preparation and teaching experience in language arts or social studies than in mathematics or science. Some of the small schools have turned to educational software for their mathematics curriculum; some encourage students to take math courses at community colleges. We came away with the impression that these are "Band-Aids" rather than a coherent solution to the problem of providing a high-quality mathematics program compatible with school designs, state standards, and college entrance requirements.

Most schools receiving funding under the initiative are serving significant proportions of high-needs students, but equity issues remain in the areas of student recruiting and differential course offerings. On the basis of available demographic data, we do not see indications that the start-up schools, as a whole, are "creaming" the best students from their districts or geographic regions. The fact that students and parents must go through a school selection and application process does suggest that the level of student motivation or parental support may be a source of potential selectivity, however. Start-up schools, by and large, are serving students with low-income backgrounds and risk factors such as needs for special education or English language learner services, but many of the small schools may not be serving the students most at risk from the standpoint of low student motivation and parental involvement.

Struggles around equity are more obvious at the schools that are undergoing conversion. Thus far, most of these converting schools are working with the same student bodies and sets of teachers they had as large schools prior to conversion. The task of student selection or assignment to small schools brings into play questions of how to meet students' needs and desires for a particular curricular emphasis and teaching approach while also achieving both racial/ethnic and ability-level diversity within each of the smaller units. Students and parents at some conversion schools cite a lowering of academic standards and express concern about access to fewer high-level courses.

In one sense, this equity issue ties back to that of teaching and learning. The lack of a clear, compelling demonstration that higher-achieving students can be challenged and well taught in diverse classrooms leaves the schools vulnerable to criticism from parents and the students themselves. Until teachers are adept at reaching all parts of the achievement distribution within the same classroom, many students and parents are likely to press for the old system of separate classes for high achievers. To provide guidance around achieving equity as well as addressing other challenges, reformers working on school conversion see a great need for a successful "model conversion," both to prove the viability of the conversion strategy and to provide specific guidance in the way that model small schools have done for start-up schools.

The smaller the school, the harder it is to finance a secondary education program with per-pupil general education funds. Foundation funding to grantee organizations provides support for small schools in the form of professional development services and some discretionary funds for conversion or start-up costs. Different grantee organizations have different formulas and schedules for providing in-kind and cash support, as described in *High Time for High School Reform*. In any event, by the conclusion of the grant period, the small schools are expected to be financially viable, operating primarily with their allocations based on average daily attendance (ADA). The smaller the school, the lower the ADA and consequently the less of this type of funding the school will receive. In states with low per-pupil allocations (California being a prime example among the states with many foundation-supported schools), several grantees have raised serious questions about the feasibility of operating a high school of 400 students or fewer on the ADA provided through the state. Although the data available to us thus far suggest that radically

small schools (fewer than 100 students in total) are those most likely to have the foundation's attributes firmly in place, these are also the schools most in financial jeopardy, given funding formulas based on head counts.

Partnerships with districts add layers of complexity and limitations in the short term, but may prove beneficial in the long term. A number of grantees seeking close working relationships with urban districts have found that districts will go only so far in granting hiring, budget, and governance autonomies to small schools or in supporting full conversions, as opposed to creating small learning communities that are more like programs or "schools-within-a-school." Negotiating with districts and teachers' unions and dealing with district political issues place heavy demands on grantee resources. In the long run, though, the short-term burdens entailed in developing and maintaining strong partnerships with districts may be worth incurring. Given the challenge of keeping a small high school alive on the basis of per-pupil funding allocations, the small schools and learning communities created with active district involvement and financial support may have the highest likelihood of survival after their grant funding ends.

Recommendations

On the basis of our evaluation findings and prior experience with education reform efforts, we offer a set of recommendations for refinement of the initiative.

- **Focus on classroom instruction and curriculum.** Both grantees and schools recognize the need to put more of their effort into developing strong curricula and effective instructional practices. Schools are struggling with these issues, and concrete guidance, supporting materials, and professional development from their grantee organizations could be an important enabler of their academic success.

- **In planning for a start-up school's second year, use a deliberate strategy for school expansion and anticipate the need to work on spreading the school culture to a larger group of students and teachers.** As the excitement of the first year fades, leaders of small start-up schools need to inspire continued commitment to their new approach to high school, often in a school that has doubled in size with the addition of a new grade level. This task will be much easier if the school has been careful in recruiting staff and new students who are supportive of the school's mission and culture.

- **Examine school conversion plans for substance and equity.** Subdividing the student population of a large high school, especially when done entirely on the basis of student choice, poses the potential risk of fostering segregation by achievement level or race/ethnicity. Converting schools need to develop procedures for balancing students' preferences with the goal of obtaining diverse student bodies within each of the small schools or learning communities created through the conversion. Further, the small schools or learning communities created through conversion need to have distinctive academic structures and curricula in place if they are to be more than "the same old wine under new labels."

- **Press for recognition of small schools as separate entities in district and state databases.** Small schools created through conversion are finding that bureaucracies can be slow to recognize their status as separate schools (as opposed to the single large school they once were). This issue is important in establishing their public identity and in providing the schools with data relevant for assessing their progress and planning improvements. The foundation can help extract this commitment from districts.

- **Help grantees and schools figure out the economics of sustaining small schools.** Given the current pressure on state education budgets and the increased difficulty of finding grant funding to supplement general education funding based on enrollment, the

economic viability of extremely small high schools is in question. Some small schools are feeling pressure to enroll more students than they would like; others have concluded that annual fund-raising will be a prerequisite for survival. Guidance from the foundation might help point school leaders, who may or may not have fund-raising experience, to viable alternatives.

- ***Provide concrete, compelling models of how to serve low- and high-achieving students well within the same classroom.*** An effort should be made to identify best practices for teaching low- and high-achieving high school students together in the same class. Curricular materials and videotaped lessons illustrating these practices in various academic subject areas (e.g., mathematics, language arts, science) would be a valuable resource for professional development activities with staff at schools participating in the initiative.

- ***Help innovative schools deal with accountability pressures by supporting the demonstration of the relationship between student performance in these schools and valued education outcomes.*** Many of the schools funded under this initiative assess student performance through portfolios, exhibitions, and the products of long-term projects. Although such demonstrations are convincing locally (for teachers, students, parents, and judges brought in from the community), they are less convincing on a broad scale from the perspective of policy-makers concerned with accountability. The foundation could help its schools deal with accountability pressures by funding intermediaries to work with schools to develop assessments of student performance with the psychometric quality needed to permit analyses of their relationship to outcomes such as achievement test scores, school retention, and graduation.

- ***Continue exploring strategies for working with districts.*** Working with districts poses many challenges, and it is doubly difficult to try to change a system while also creating effective schools. Nevertheless, in the long run, schools receiving district support may prove the most viable financially, and these schools may ultimately serve to inspire and support other small-school efforts and to catalyze system-level change.

With its focus on school structure as a strategy for instituting school environments that are both personalized and rigorous, the Bill & Melinda Gates Foundation's approach to education reform is a departure from reform strategies that stress specific academic content, embodied in standards and testing systems. Our data showing that the first start-up schools established under the foundation's initiative are quite successful in putting in place a school climate characterized by close relationships, high expectations, and strong teacher communities suggest that the school-structure approach is a potent one.[2] So far, however, it is less clear how successful the foundation's new-small-school approach will be in terms of providing high-quality curriculum and instruction for all students.

Small high schools that have opened or are in the planning stage as part of this initiative are changing the secondary school landscape in urban districts like Baltimore, Chicago, and New York City. Early evidence from the new small schools that opened in 2001 or 2002 suggests that students in these schools will have a different kind of school experience. As the small schools mature and student achievement, graduation, and college entrance data become available, it will be possible to discern whether the final link in the foundation's chain of reasoning—the connection between a caring environment with high expectations and positive student outcomes—has been forged.

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[2] The small start-up schools, however, are schools of choice. We will have a stronger sense of the relative importance of (1) school size and academic structure versus (2) the fact that students and teachers have chosen to be in these small schools after we have a sufficiently large data sample for small schools created through conversion (which typically draw their students from the neighborhood enrollment area).

1. Introduction

With more than $500 million in funding and the backing of the world's largest private foundation, the Bill & Melinda Gates Foundation's National School District and Network Grants Program is a highly visible effort to fundamentally reshape America's high schools. The initiative is concerned with secondary education writ large, but considers urban schools serving low-income, minority students as its highest priority.

The Foundation's Theory of Change

The theory of change underlying this initiative begins with the premise that many students—and especially low-income, minority students—are poorly served by large, comprehensive high schools. The foundation believes that the fact that fewer than 60% of the Hispanic and African-American students entering ninth grade earn a high school diploma 4 years later is attributable largely to the lack of personalization, fragmented focus, and low expectations found in many high schools. Foundation staff believe that high school students, particularly historically underserved students, would enjoy better high school and postsecondary outcomes if they could choose from among high-quality educational alternatives.

The foundation's theory posits that high schools that offer high-quality educational choices for all students, particularly those in high-need urban areas, share some common characteristics:

- A coherent vision and strategy, shared by all stakeholders.
- Small size (100 students or fewer per grade).
- Seven attributes of high-performing schools: common focus, high expectations, personalized, a climate of respect and responsibility, time for staff to collaborate, performance based, and technology as a tool.
- Powerful teaching and learning, characterized by active inquiry, in-depth learning, and assessments that are performance based.

The foundation has described the attributes of high-performing schools in some detail, as set forth in Table 1. Further, as this high school initiative was taking shape, foundation staff identified a small set of high schools exemplifying the effective-school attributes and began discussions with the organizations supporting these "model schools" to understand what it would take to create many more schools along the same lines.

The foundation takes a "social entrepreneurship" approach to stimulating the creation of high-performing small secondary schools. It invests in nonprofit "intermediary organizations," awarding grants for the development of schools

Table 1
The Foundation's Attributes of High-Performing Schools

Attribute	Description
Common Focus	Staff and students are focused on a few important goals. The school has adopted a consistent research-based instructional approach based on shared beliefs about teaching and learning. The use of time, tools, materials, and professional development activities are aligned with instruction.
High Expectations	Staff members are dedicated to helping students achieve state and local standards; students are engaged in an ambitious and rigorous course of study; and students leave school prepared for success in work, further education and citizenship.
Personalized	The school is designed to promote sustained student relationships with adults where every student has an adult advocate and a personal plan for progress. Schools are small. No more than 600 students (less than 400 strongly recommended).
Respect and Responsibility	The environment is authoritative, safe, ethical, and studious. The staff teaches, models, and expects responsible behavior and relationships are based on mutual respect.
Time to Collaborate	Staff has time to collaborate and develop skills and plans to meet the needs of all students. Parents are recognized as partners in education. Partnerships are developed with businesses to create work-based opportunities and with institutions of higher education to improve teacher preparation and induction.
Performance Based	Students are promoted to the next instructional level only when they have achieved competency. Students receive additional time and assistance when needed to achieve this competency.
Technology as a Tool	Teachers design engaging and imaginative curriculum linked to learning standards, analyze results, and have easy access to best practices and learning opportunities. Schools publish their progress to parents and engage the community in dialog about continuous improvement.

Source: Bill & Melinda Gates Foundation (no date). "Helping All Students Achieve," pamphlet. Seattle: Author.

that embody the design principles in Table 1. Intermediary organizations are being funded to pursue two different high school change strategies. Under the "conversion" strategy, large, comprehensive high schools are divided into smaller autonomous schools, academies, or learning communities, typically sharing the same school building or campus but each having a distinct program and its own set of teachers and students. The alternative, "start-up" strategy involves catalyzing the creation of small schools "from scratch." In most but not all cases, these new schools have been charter schools (AIR/SRI, 2003).[1] Through either strategy, the resulting small schools are expected to exhibit the seven effective-school attributes and to feature classrooms in which teachers use constructivist, performance-oriented pedagogy. In the foundation's theory of change, desired outcomes for students include the demonstration of deep learning, college preparedness, high school graduation, college matriculation, labor market participation, and involved citizenship.

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[1] Some schools are actually hybrids between these models; for example, a subset of the students and teachers of a large, comprehensive high school may move to another facility to start a small school.

Foundation staff believe that if a sizable number of small schools demonstrate their effectiveness and if innovation is systemically implemented and supported through advocacy efforts, demand for more such schools will increase to a point where education systems start implementing them without direct financial support from the foundation.

The small size that this initiative has recommended for high schools (100 or fewer students per grade) is perhaps the most dramatic departure from conventional practice and receives the most attention, but making schools small is not an end in itself. Foundation staff consider small size a necessary but not sufficient condition for high schools that provide a good education for students who have not been well served by large, comprehensive high schools. Small size is expected to enable the creation of a climate where students and teachers know each other well and where teachers have strong ties to each other based on collective responsibility for the same students (e.g., where a math teacher participating in a team responsible for a group of ninth graders works more closely with other teachers on that team than with other math teachers in the same building).

The Evaluation

In March 2001, the foundation asked the American Institutes for Research (AIR) and SRI International (SRI) to evaluate this high school initiative. The primary purpose of the evaluation is to explore—and, to the extent possible, test—the basic assumptions underlying the foundation's initiative to transform American secondary education. Thus, the focus of the evaluation activities is the initiative, rather than the individual grant or school.

The evaluation has been designed around three research questions corresponding to the foundation's assumptions:

- To what extent do the projects funded (wholly or partially) by the foundation initiative lead to secondary schools and classrooms with the desired attributes and to better, more equitable outcomes for students?
- What factors influence the success of the foundation-supported schools?
- To what extent have grantees developed mechanisms to scale up and sustain their efforts when foundation funding ends?

The evaluation design includes four basic data collection activities:

- Interviews with staff of grantee organizations and any closely affiliated school districts.
- Site visits to schools associated with the grantee organizations.
- Teacher, student, and principal surveys in schools associated with the grantee organizations.
- School information forms, requesting data on student body demographics, teaching staff, and school attendance and progression rates from school personnel.

Table 2 lists the names of the grantee organizations included in this evaluation and the abbreviated names or acronyms used throughout the remainder of this report.

The model schools were surveyed and visited once (in spring of 2002) to provide data from which we could develop a reasonable standard for gauging implementation of the school attributes promoted by the foundation in other grantee schools. A sample of start-up schools is being surveyed three times, starting in each school's first year of operation. A majority of the start-up schools participating in the survey study are receiving site visits in the same years in which surveys are conducted. Similarly, a sample of schools undergoing conversion is participating in surveys during the year prior to conversion and then 2 years later, in the second conversion year. A subset of these schools is being visited for three consecutive years, with the first visit during the planning year prior to conversion.

Table 2
Grantee Organizations and Abbreviations Used in This Report

Organization	Abbreviation	Organization	Abbreviation
Aspire Public Schools	Aspire	EdVisions	EdVisions
Bay Area Coalition for Equitable Schools	BayCES	Fund for Educational Excellence	FEE
Big Picture Company	Big Picture	High Tech High Foundation	High Tech
Center for Collaborative Education	CCE	KnowledgeWorks Foundation	KWF
Center for School Change	CSC	Model Secondary Schools Program/KnowledgeWorks	MSSP
Chicago Charter School Foundation	CCSF	National Council of La Raza	NCLR
Chicago High School Redesign Initiative	CHSRI	New Technology Foundation	New Tech
Colorado Children's Campaign	CCC	New Visions for Public Schools	New Visions

In spring of 2002, the school-level data collection activities were undertaken with the model schools, a set of new small schools in their first year of operation, one previously large school that had converted into three smaller schools, and a number of large schools planning to convert in fall of 2002. For the spring 2003 data collection, we added a second wave of start-up schools that had opened in fall of 2002, as well as additional large schools engaged in planning for school conversion.

Table 3 shows, for each type of school, the population and study sample for the spring 2002 and spring 2003 data collections.[2]

Organization of This Report

This report draws on data collected in 2002 and 2003 to provide a portrait of both progress and challenges emerging in the first few years of the National School District and Network Grants Program. Because the high schools to be created are in their first or second year or even just in the planning stage, it is too early to attempt a definitive evaluation of outcomes. We can, however, examine the high school and grantee organization activities to discern whether the predecessor conditions for effective high schools in the foundation's theory of change are in fact being put in place.

Chapter 2 provides a description of the data sets used in this report and the characteristics of the high schools we are studying.

Chapter 3 examines the experiences of new small schools. Both survey and interview data are used to examine the extent to which start-up schools put the foundation's effective-school attributes in place. For a subset of the start-up schools that opened in fall 2001 and participated in both the 2002 and 2003 data collections, we examine the progress made between the first and second years.

Chapter 4 depicts the experiences of four large high schools that have undergone conversion. We examine different approaches to conversion and the extent to which the schools

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[2] The spring 2003 school sample included schools affiliated with 12 of the 16 organizations. An additional grantee had both a model school and a replication site in the spring 2002 sample but had terminated affiliation with the replication school by fall of 2002. Three of the grantees had not yet opened schools under their foundation grants at the time of the 2003 data collection.

Table 3
School Populations and Samples

School Type	Number Working with Grantees in 2001-02	2002 Survey Sample	2002 Site Visit Sample	Number Working with Grantees in 2002-03	2003 Survey Sample	2003 Site Visit Sample
Model schools	5	5	5	5	0	0
Start-up schools[a]	19	9	8	54	21	15
Large schools planning conversion[b]	15	8	6	9	3	2
Converted large high schools[c]	1	1	1	8	0	4
Total	40	23	20	76	24	21

[a] Those expected to open that school year.

[b] Those planning to convert the year following the data collection.

[c] Those converted into small schools by the year of data collection; each formerly large school counted as "1."

are implementing genuine structural change as opposed to putting new names on old practices. Qualitative data are used to shed light on conversion schools' early progress in putting the foundation's attributes in place and to highlight issues with which they are struggling.

Chapter 5 focuses on the teaching that goes on in classrooms. Survey and interview data are used to examine whether the structural changes described in Chapters 3 and 4 in fact are associated with changes in instruction.

Chapter 6 deals with near-term student outcomes, building on the analysis of Chapter 5 by adding measures of student engagement derived from the student survey.

Chapter 7 shifts to a focus on the grantee organizations, exploring the relationship between differences in grantees' strategies and differences in the implementation progress experienced at their schools.

Chapter 8 summarizes key issues cutting across the earlier chapters and draws implications for refining the focus and practices of the initiative.

The technical appendix of this report includes documentation of the quantitative and qualitative data used to address each of the questions in Chapters 3-7. The appendix tables describe the schools and informants in the sample for each analysis; the years the data were collected; the survey, interview, and observation methods used to collect the information; the methods used to analyze the data; and the independent and dependent variables examined.

2. Data Sources and Samples

This chapter provides an overview of the school sample and the data sources used in subsequent chapters. More detailed descriptions of our data collection procedures and analytic approaches can be found in the technical appendix.

Sources of Data

As described in the introductory chapter, the evaluation uses information from three primary data collection efforts: (1) qualitative data from grantee and school site visits; (2) surveys of principals, teachers, and students; and (3) school information forms.

Grantee and District Site Visits

Two-person site visit teams interviewed the grantee organization's principal investigator and additional staff, such as school coaches or internal evaluators, who could provide essential information concerning the grant's goals and progress. Interviews with grantee staff employed protocols designed to capture information concerning the evolution of the grantee's vision for small schools, the specific schools the grantee was working with and resources provided to those schools, barriers and facilitators encountered in their work with schools, and efforts to build organizational capacity. In cases where the grantee was working closely with a school district, one or more district staff members were interviewed to provide context concerning the community in which the schools operated, district reform efforts, accountability requirements, district perceptions of the foundation-supported work, and any ways in which the district planned to support the grantee's work with schools.

School Site Visits

School site visits entailed interviewing the school principal and any other staff member designated as a leader of the reform activities, conducting two student focus groups, interviewing five teachers, and observing four classrooms (where possible, those of teachers who were also interviewed). Both principal and teacher interview protocols covered topics such as conception of the school's mission, supports attributed to the grantee organization, school governance, and academic organization. Teacher interviews probed also for relationships among teachers and between teachers and students, the nature of the school's learning environment, and its ability to serve all students well. Classroom observations examined the nature of teacher and student roles in the classroom—the extent to which students were active learners grappling with challenging content. In focus groups, students were asked to describe how their school was different from or

similar to other schools, the nature of relationships among students and between students and teachers at the school, the nature of their schoolwork, and their assessment of how well the school was preparing them for life after graduation.

In addition, parent focus groups were conducted in six small schools that had been created through conversion efforts at four large high schools. Parents in the focus groups were asked to discuss satisfaction with the new schools, perceptions of teaching quality and effectiveness, and school-parent communication issues.

Surveys

The evaluation includes three surveys, administered to the principal, teachers, and students within each school.

The *principal survey* asked questions about:
- School goals and objectives
- The principal's role in the school
- The school's relationship with the grantee.

More specifically, survey items asked principals to identify the emphasis their schools placed on various goals (e.g., improving test scores). Principals identified what educational goals they considered to be the most important and indicated how they allocated their time to various tasks. Principals also characterized the degree to which typical barriers (such as staff turnover) impeded their efforts and the extent to which common facilitators (such as positive relations with the surrounding community) enabled achievement of school goals. We also asked principals about the school's relationship with the grantee organization in terms of the frequency and medium of communication, the type of support provided by the grantee, and how helpful support received was in facilitating the achievement of school goals. By completing this questionnaire, principals provided a school administrator's perspective on the school-specific context for the foundation-supported reform efforts.

The *teacher survey* asked respondents:
- How they viewed their role as teachers

- How well given descriptions characterized their school
- How they personally taught students in a selected instructional period
- For general and professional background information.

Teachers provided information on their role as teachers by responding to a broad range of survey items. These items addressed issues such as how often they collaborated with their colleagues and how well they knew their students. Teachers also indicated how well multiple descriptions of administration, faculty, and student attitudes and behaviors applied to their school. The survey asked teachers to indicate how often they used specific teaching strategies in their first "teaching period" of the week. This section of the survey measured how teachers chose their curriculum, measured student performance, and presented materials to students in the classroom. Teachers also characterized the nature of the work they assigned to students and how frequently they used technology in their instruction. The background section of the questionnaire asked teachers to indicate how prepared they felt to meet challenges such as teaching students with mixed abilities or implementing state or district standards. In completing this section, teachers also described their current position, teaching experience, education, certification, gender, and ethnicity.

The *student survey* asked students:
- How they viewed the adults working in their school
- How they viewed the other students attending their school
- How they were being taught
- How they felt about the education they were receiving
- For general background information.

More specifically, the survey administered to students asked them to indicate how many adults in their school had helped or would be willing to help them in various life situations (e.g., personal problems, meeting graduation requirements). The survey also asked them to indicate how well various descriptions of

positive adult attitudes (e.g., believing all students can do well) and behaviors (e.g., teachers' keeping promises) applied to their school. Students also indicated the frequency with which they engaged in various types of learning activities. The questionnaire asked students how often they had specific reactions to their schoolwork (e.g., got frustrated, sought help). Students indicated the degree to which they felt a part of their school, how safe they felt, and how common problematic student behaviors (e.g., vandalism, cheating) were at their school. The survey asked students how far they thought they would go in school, as well as how well they thought their current education was preparing them for various aspects of life.

We used multiple survey items to measure each of the foundation's seven effective-school attributes—common focus, high expectations, personalized, a climate of respect and responsibility, time to collaborate, performance based, and technology as a tool—because each attribute is a complex concept that could not be adequately measured with a single survey item. For this reason, the analyses presented in the chapters that follow typically employ combinations of multiple survey items that form a single scale or index.

Throughout the remaining chapters of this report, we will make use of a summary "school attribute implementation index" that combines data for multiple constructs developed to tap the foundation's school attributes. The summary index reflects the degree to which a given school embodies six of the seven effective-school attributes identified by the foundation. The index is based on teacher and student scales that measure common focus, high expectations, personalized, climate of respect and responsibility, time to collaborate, and technology as a tool. We excluded the seventh school attribute—performance based—because the six "yes-no" principal survey items used to collect data on this dimension did not yield an index with sufficient variation to allow us to reliably combine it with other indices. (The technical appendix provides a full description of the construction of individual teacher, student, and principal scales and of the school attribute implementation index.)

School Information Form

The data we collected with the school information form documented key features of the school context by providing counts of students enrolled in each grade and of those who were members of specific subpopulations, such as English language learners. This form also called for data on the distribution of the student body across race/ethnicity categories. Schools also supplied the numbers of full- and part-time staff members working in various positions. Finally, the form asked schools that had enrolled students in the previous year to account for the 2002-03 enrollment status of those students by grade. This school information form was a primary source of the data used in compiling the descriptions of schools presented later in this chapter.

The school information form also supplied the basis for a second key summary construct—the relative risk index—that will be used throughout the remaining chapters of this report. We use this index to take the student demographic composition of schools into account when making comparisons between schools. The index reflects the average of standardized measures of: (1) percent of students with an individualized education plan (IEP) for special education, (2) percent of students classified as English language learners (ELL), (3) percent of students who receive free or reduced-price lunches, and (4) percent of historically underserved students (African American, Hispanic, and Native American).

School Descriptions

The presentation of school descriptive information in Tables 4 through 7 is organized by type of school. For these tables, we grouped schools into four categories: model schools, converting large schools ("preconversion" schools), new small ("start-up") schools that opened in 2001-02, and start-up schools that opened in 2002-03. (A fifth school category—small schools created through school conversions—was included in the site visit sample but not in the survey or school information data collections in the spring of 2003.) Except for the five model schools, all school names in this report are pseudonyms.

Use of School Pseudonyms

To protect the anonymity of school staff, students, and parents, we use pseudonyms for start-up and conversion schools throughout this report.

Actual names are used for the five model schools and for the grantee organizations working with the schools in our study.

Using data from the school information form, principal survey, and site visits, we provide basic descriptive data for each school in our survey samples.

Table 4 provides basic characteristics of the model schools in the evaluation sample. Data were collected from these schools during the 2001-02 school year and are included in this report to provide a context for interpreting the status of start-up and preconversion schools. Foundation officials visited these and other innovative schools in 1999 and 2000, and these schools provided foundation leaders with inspiration concerning high school renovation. As illustrated in Table 4, the model schools are indeed small (enrollments range from 104 to 335). Moreover, the majority of them are located in urban districts and serve historically underserved students.

Table 5 provides information on large schools that were planning to convert into smaller schools or learning communities. These data describe converting schools in the planning year prior to their conversion. (Data on the small schools or learning communities that were developed through conversion of these schools will be provided in next year's report.) As illustrated in the table, most of the converting schools are in urban districts. All of them are public schools serving the common secondary grade levels (i.e., 9-12). These are large high schools with enrollments ranging from approximately 900 to more than 2,000 students

and 50 to more than 100 teachers. Most of the schools enroll relatively high proportions of historically underserved (minority) students. These schools draw most of their students from the surrounding neighborhood attendance areas.

Finally, we also present characteristics of start-up schools in the evaluation sample. Table 6 provides two points of data for schools that opened in 2001-02: 2001-02 data from their first year of operation and 2002-03 data from their second year of operation. Table 7 provides the single year's data available from schools that opened in fall 2002.

Looking at start-up schools' characteristics during their first year of operation, we see that, like converting and model schools, a majority of the start-up schools in this initiative are in urban settings and serve traditionally underserved students. Like model schools, start-up schools are small—sometimes very small (e.g., 30-60 students). They serve a variety of grade levels, but many have decided to begin operation serving only 9th or 9th and 10th grades with plans for adding a grade level each year until they are enrolling students in grades 9-12. The start-up school sample includes charters, public magnets, and regular public schools. Most of them are "schools of choice."

Looking at school enrollments in start-up schools' first and second years of operation (Table 6), it is clear that a number of schools increased their student body size dramatically from Year 1 to Year 2. In most cases, this enrollment growth resulted from the planned addition of another grade level (see the "current grade levels" column in Table 6). But one school (Del Monte) sought to increase its student enrollment by accepting a larger cohort of freshman students, with the result that the school's enrollment increased 300%. Even so, all of these schools remain small by public school standards (i.e., ranging from 153 to 360 students).

Table 4
Characteristics of the Model Schools

	School Characteristics				Teacher Characteristics				Student Characteristics			
School Name	Grantee Name	Community Type	School Authority	Title I Eligibility	Current Grade Levels	Number of Teachers	Average Years Teaching	Percent Certified	Number of Students	Percent Nonwhite	Percent Eligible for Free/Reduced-Price Lunch	Percent English Language Learners
High Tech High School, San Diego	High Tech	Urban	District Charter	No	9-12	22	4.8	69	280	55	24	3
Leadership Academy	BayCES	Urban	District Charter	No	9-12	25	6.3	68	335	80	22	Not available
Metropolitan Regional Career & Technical Center	Big Picture	Urban	State Public	Yes	9-12	9	4.2	56	104	66	74	39
Minnesota New Country School	EdVisions	Rural	District Charter	Yes	7-12	12	8.2	82	124	7	18	0
New Technology High School	New Tech	Suburban	Public	No	11-12	10	7.9	100	223	32	4	6

Source: School information form, principal survey, and site visits.
Note: All data were collected during the 2001-02 academic year.

Table 5
Characteristics of the Large Schools Undergoing Conversion

School Name	School Characteristics					Teacher Characteristics			Student Characteristics			
	Grantee Name	Community Type	School Authority	Title I Eligibility	Current Grade Levels	Number of Teachers	Average Years Teaching	Percent Certified	Number of Students	Percent Nonwhite	Percent Eligible for Free/Reduced-Price Lunch	Percent English Language Learners
Campbell	CSC	Urban	Public	No	9-12	68	13.8	91	2,156	67	64	36
Clearwater	CCC	Urban	Public	No	9-12	56	3.4	71	1,129	65	80	2
Hillside	CSC	Urban	Public	No	7-12	63	15.7	88	1,341	78	29	3
Lincoln*	CSC	Urban	Public	Yes	6-12	51	19.0	80	894	98	62	<1
Logan	CSC	Urban	Public	No	9-12	54	15.0	65	1,415	51	49	12
Montezuma*†	FEE	Urban	Public	Yes	9-12	114	NA	NA	2,031	99	50	0
Morristown	CSC	Suburban	Public	Yes	9-12	63	15.5	78	1,379	2	7	<1
Parkview*	FEE	Urban	Public	No	9-12	82	15.0	63	1,652	91	43	9
Salazar	CSC	Urban	Public	Yes	9-12	91	19.2	78	1,650	66	41	0
Von Humboldt	CSC	Suburban	Public	Yes	9-12	67	15.1	96	1,247	2	4	<1
Western	CCE	Suburban	Public	No	9-12	77	11.4	68	1,131	49	51	9

Source: School information form, principal survey, and site visits.

Note: School names are pseudonyms. All data were collected in the year prior to a school's conversion. In most cases, this was the 2001-02 academic year. An asterisk (*) indicates that data were collected during 2002-03. One school, which converted for the 2001-02 school year, had its planning year prior to the inception of the evaluation and is not included in this table.

† This school was not included in analyses of preconversion schools' survey data because of low response rates (<60%).

Table 6
Characteristics of Start-up Schools That Opened in 2001-02

School Name	School Characteristics					Teacher Characteristics								Student Characteristics					
	Grantee Name	Community Type	School Authority	Current Grade Levels		Number of Teachers		Average Years Teaching		Percent Certified		Number of Students		Percent Nonwhite		Percent Eligible for Free/Reduced-Price Lunch		Percent English Language Learners	
				02	03	02	03	02	03	02	03	02	03	02	03	02	03	02	03
Cedar Hill	NCLR	Urban	Charter	9	9-10	8	14	9.9	9.3	75	62	120	226	72	56	75	84	28	31
Del Monte	EdVisions	Suburban	Charter	9-10	9-11	7	10	3.5	5.5	91	80	50	153	30	58	22	36	2	6
DeSoto	CCE	Urban	Public Magnet	9-12	9-12	24	28	9.6	9.3	71	81	351	360	83	85	54	75	7	8
Freedom	High Tech	Urban	Charter	9	NA	7	NA	4.8	NA	65	NA	105	NA	95	NA	61	NA	0	NA
Green Gables	EdVisions	Urban	Charter	9-10	9-11	11	8	6.9	8.2	90	82	108	120	32	23	15	15	1	2
Lakeshore	MSSP	Urban	Public	10	10-11	NA	8	NA	8.5	NA	25	255	380	NA	100	NA	75	NA	0
Lancaster†	MSSP	Urban	Public	9	9-10	NA	11	NA	9	NA	62	NA	154	NA	100	NA	91	NA	0
Somerville	Aspire	Urban	Charter	9	9-10	5	12	12	8.4	100	100	80	163	100	100	98	98	5	25
Springtown	BayCES	Urban	Public	9-12	9-12	16	15	5.9	7.1	56	58	250	253	99	100	56	66	53	51

Source: School information form, principal survey, and site visits.

Note: School names are pseudonyms. Data were collected during the first and second years of a school's operation. "NA" indicates that data are not available because of nonresponse or because the school and grantee no longer were in partnership. The Title I column is omitted from this table because this information was not yet available for many start-up schools.

† This school was not included in analyses of first-year start-up schools' survey data because of low response rates (<60%).

Table 7
Characteristics of Start-up Schools That Opened in 2002-03

	School Characteristics				Teacher Characteristics			Student Characteristics			
School Name	Grantee Name	Community Type	School Authority	Current Grade Levels	Number of Teachers	Average Years Teaching	Percent Certified	Number of Students	Percent Nonwhite	Percent Eligible for Free/ Reduced-Price Lunch	Percent English Language Learners
Audubon	New Tech	Suburban	Public	9	4	6.5	75	61	18	2	3
Biotech Academy	CCE	Urban	Public Magnet	9-12	8	10.2	92	325	50	53	2
Front Street	Big Picture	Urban	State Public	9-11	4	3.5	50	56	68	50	25
Glenbrook	New Visions	Urban	District Public	9	6	4.3	83	81	99	91	0
Irvington	Big Picture	Urban	District Public	9	1	6.0	100	32	94	56	9
Lakeport	EdVisions	Urban	Charter	9-10	7	4.2	90	102	7	33	0
Metro Academy	MSSP	Urban	Public	9	8	10.3	75	82	95	100	0
New Media Academy	CCE	Urban	Public	9	4	4.0	50	75	95	100	5
Patterson	Big Picture	Rural	District Charter	9	2	14.5	50	30	10	7	0
Riverside	New Visions	Urban	District Public	9-12	11	5.5	62	112	96	97	0
Trenton	Aspire	Urban	Charter	9-10	15	9.2	40	248	100	100	2
Twin Bridges	New Tech	Suburban	District Public	11	5	11.0	100	57	15	18	0
Universal Arts Academy	MSSP	Urban	Public	9	8	9.4	86	117	90	100	0

Source: School information form, principal survey, and site visits.

Note: School names are pseudonyms. Data were collected during the first year of a school's operation. The Title I column is omitted from this table because this information was not yet available for many start-up schools.

3. Developing New Small Schools

In this chapter, we look at the extent to which the new small schools in our study exhibit the foundation's seven effective-school attributes. To do so, we used teacher, student, and principal survey responses to items concerning school organizational structures and processes that provide evidence for each of the attributes. We first combined data from the most relevant survey respondents (teachers, students, principals, or some combination thereof) to create a measure of each individual school attribute. We then combined data for six of the seven individual attribute metrics to create an aggregate measure of a school's reported implementation of the effective-school attributes. As mentioned in Chapter 2, this school attribute index does not include the performance-based attribute.[1] The methods we used to create the individual and aggregate attribute implementation measures and the psychometric characteristics of the indices are described more fully in the technical appendix.

The Attributes of Effective Schools in First-Year Start-up Schools

We used the school attribute index to address two main questions in this chapter:

- To what extent do foundation-supported small high schools exhibit the attributes of effective high schools one year after opening? What processes and challenges characterize these schools' first year?
- For start-up schools that opened in fall of 2001, to what extent did implementation of the desired attributes improve during these schools' second year?

We began our analysis of these questions by examining the school attribute index based on first-year survey data available for 21 start-up schools.[2] To provide a context for interpreting the attribute index values for these first-year small schools, we added data for model and preconversion high schools to the data set and used hierarchical linear modeling (HLM) to examine differences in school attribute index values by school type, taking into account differences in the characteristics of enrolled students and teacher backgrounds. After presenting these results below, we will discuss three of the attribute measures included in the index (personalization, high expectations, and time to collaborate) in more

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[1] We gathered data on this construct from the principal survey, and the resulting measure did not correlate well with the other six constructs. The performance-based measure comprised six questions concerning the basis for promoting students to the next course or the next grade, for graduation, and so on. Between 65% and 75% of principals responding to these items reported making these decisions on a performance basis.

[2] Some of these schools opened in fall 2001 and some in fall 2002.

Topics Addressed by Survey Items in the School Attribute Measures

Common Focus
- The extent to which faculty feel they share beliefs about the school's central mission and their vision for student learning, are collectively committed to developing strong relationships with students and partnerships with parents, and have adequate opportunities to meet with one another.
- The extent to which faculty feel that professional development supports common curricula, instructional strategies, and assessments and feel that support programs link these together.
- The extent to which faculty feel they are familiar with the curricula and instructional strategies used by colleagues.

High Expectations
- The extent to which teachers feel they set high standards for teaching, make instructional expectations known, and track academic progress.
- The extent to which students feel faculty believe all students can do well and work hard to make sure all students learn.

Personalized
- The extent to which teachers know students' academic aspirations, backgrounds, and cultures.
- The extent to which teachers help students with academic difficulty by diagnosing needs, accessing resources, making referrals, giving them extra attention and time, and meeting with parents.
- Students' perceptions of the numbers of school staff who are willing to give them extra help with schoolwork, help with personal problems, and help with planning for graduation and college application.

Respect and Responsibility
- The extent to which teachers feel that students treat each other with respect, teacher-student relationships are based on mutual trust and respect, teachers feel they can get through to difficult students, and teachers make a difference in students' lives.
- The extent to which teachers trust and respect one another, model responsible behavior for students, and feel safe in and around the school.
- The extent to which students say they respect one another; get along; avoid racist or sexist remarks; avoid cheating, bullying, fighting, vandalism, and stealing; and feel safe in and around the school.

Time to Collaborate
- The frequency with which teachers observe other faculty teach and are observed by colleagues, receive feedback from colleagues on their teaching and provide feedback to others, and co-teach with or mentor other staff.
- The frequency with which faculty discuss school goals, structures, curricula, teaching practices, and school management with other teachers.
- The extent to which teachers involve parents in setting goals for students, in demonstrating and judging student work, and in mentoring.
- The extent to which faculty invite community members to the school, take students into the community, and discuss the community's different cultures.

Technology as a Tool
- The frequency with which teachers say students use technology to express themselves, communicate about academic subjects, explore ideas and information, and analyze and present information.

Note: Complete item listings for each attribute appear in the technical appendix.

detail, using qualitative data to illustrate the strength of start-up schools on each dimension.

School Attribute Implementation Index

Figure 1 arrays school values on the attribute index for the 21 first-year start-up schools in our survey sample. Higher values on the index indicate that a school's teachers and students reported greater presence of the characteristics and practices associated with the foundation's school attributes. The number at the end of each school bar is the number of enrolled students for the school. The four vertical lines in the figure show the school attribute index values for the preconversion school with the lowest attribute index, the preconversion school with the highest

index value, the model school with the lowest attribute index, and the model school with the highest index value.

The data in Figure 1 show large differences among the 21 start-up schools in the extent to which they implemented the foundation's school attributes during their first year. This variability notwithstanding, it is clear that start-up schools come much closer to the foundation's ideal than do the large high schools planning conversion. All but one of the start-up schools have higher school attribute index values than that of the highest preconversion site. This makes sense, given that preconversion schools are in the planning stage for conversion into small schools and not yet implementing their new school

Figure 1
Values of the School Attribute Index for First-Year Start-up Schools
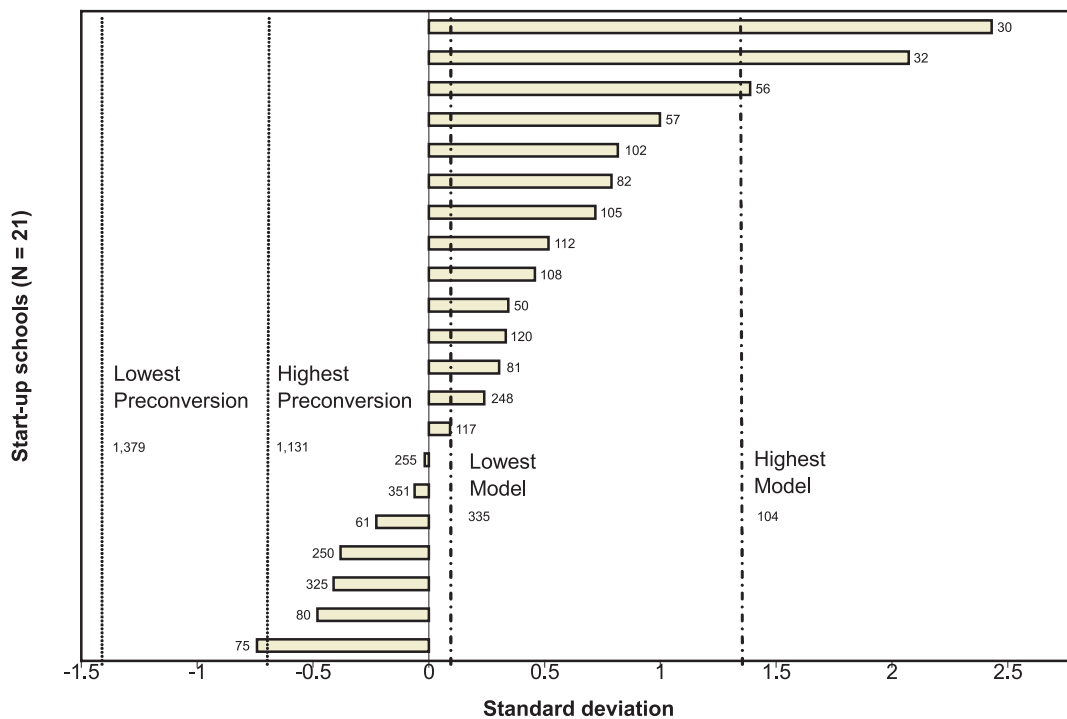
Note: The four vertical lines in the graph represent the lowest and the highest values of the 10 first-year preconversion schools and the 5 model schools (from left to right: -1.44, -.69, .09, and 1.36). Numbers next to the bars and the vertical lines are the 2002 school sizes.

models.[3] The differences between start-up and preconversion schools on the school attribute index are statistically significant.

Figure 1 also shows that attribute index values for many of the start-ups overlap with those of the model schools; in fact, the values for three of the start-up schools exceed the highest value among the model schools. Given the longer life spans of model schools, this strong showing by first-year start-up schools appears surprising, but the reader will note the low student enrollments for these three schools. As we will discuss below, low enrollments appear to make it easier to implement school attributes such as common focus, personalization, respect and responsibility, and time for teachers to collaborate.

Exhibit 1 describes a start-up school where both survey and qualitative data suggested that many of the foundation's attributes were in place during the school's first year. Exhibit 2 describes a first-year small school struggling to implement the attributes.

Analysis of Individual School Attributes

In this section of the chapter, we take a deeper look at the work of start-up schools on three of the effective-school attributes: personalization, high expectations, and teachers' time to collaborate. We focus on these because foundation staff and others believe they lie at the heart of high school improvement. As mentioned in Chapter 1, foundation staff don't believe the student outcomes they seek will result from small size alone. They place heavy emphasis on strong ties between teachers and students, on rigorous expectations for all, and on opportunities for teachers to help each other reflect on and improve their practice. Although we present findings for just these three key attributes here, we note that in terms of differences among school types, findings for the other four attributes were similar. (The full set of findings is available in the technical appendix.)

HLM analyses of survey data on these three attributes by school type suggest that teachers and students in first-year start-up schools report more emphasis on personalization, higher expectations, and more time to collaborate than faculty and students in preconversion schools. The differences in teacher and student reports for the two school types are statistically significant. In contrast, most differences between teacher and student reports for start-up and model schools are very small and not significant. These data are displayed and discussed in the technical appendix to this report.

Personalization

In spring 2003 site visits, students and adults in every one of the first-year start-ups we visited commented on the close personal relationships that characterized the school environment. Students reported that they could count on faculty for help with their academic and personal needs. Teachers talked about the use of advisories, house structures, looping plans that keep teachers and students together across years, block scheduling, and individualized learning plans to support personalization. Some of these structures are catalogued in Table 8.

Advisories were the most common structure for promoting personalization, with five of the seven first-year start-up schools implementing them. In the schools with operating advisories, faculty said they met daily or weekly with advisees to build community, check on academic progress, provide academic support, provide time and project management support, and talk about postsecondary options and plans. Although not all teachers were satisfied with the structure and content of their advisories, they generally regarded them as invaluable opportunities to get to know their students' interests, goals, and life circumstances.

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[3] These results mirror findings for the individual school attributes in 2001-02 start-up schools in last year's report (AIR/SRI, 2003).

Exhibit 1
A New Small School with a High School Attribute Index in Its First Year

In its first year, Twin Bridges wasn't much to look at on the outside. While its permanent facility was being developed, the school was housed in a wing of one of the comprehensive high schools in this rural district. Watching the activities of the school's 60 eleventh-graders and five teachers, however, quickly revealed the school's special character.

In spring of 2003, Twin Bridges students were busy on a number of projects. In the 2-hour period that combines history and language arts, pairs of students were using their laptops (the platform for much of their research and project work) to write up their interview with a local World War II veteran as part of their study of the war. At Twin Bridges, students told us that projects that send them out into the community are commonplace and help to make what they're learning seem relevant to their lives. Teachers told us how far students have come this year in taking responsibility for their own learning.

The project-based nature of students' work, although stressful at times, also helps to promote the observably collaborative and positive school atmosphere at the school. We were told that there are none of the usual high school cliques, and students are unusually accepting of each other's differences. When asked why, one student responded, "Because you know down the road you might end up working with that person, so you *have* to get along." Students consistently described feeling supported by their teachers, both academically and personally:

> *At my previous school I felt like an ant … I had no voice. Here, one of the teachers called my work[place] and put in a good word. It's more like a friendship.*

> *They're not there as teachers; they're there as peers and friends.*

This particular school's early success has several key enablers. The first is a close and supportive relationship with the district superintendent and the school board, which has positioned the school well with local political and community groups. The second is early financial positioning: a team that included the superintendent and the school leader successfully applied for an assortment of start-up grants and received funds (from sources other than the Bill & Melinda Gates Foundation) totaling $3.3 million. Among other things, this funding has supported a laptop for every student, a laser printer and other technology in every classroom, and a complete redesign of the building the school would move in 2003-04. The school was also able to recruit an experienced staff from among the top teachers in the district, an important factor that facilitated the unusually smooth implementation of a project-based curriculum within the school's first year. Said the school leader, "We've been blessed."

At the same time, there is evidence that achieving this progress was not easy. We were told of less-successful early experiments with project-based curricula and the learning that continues on how to make such an instructional strategy effective, of the draining efforts to secure and redesign the new facility while making do with the current restrictive space, of the tremendous workload placed on the teachers to design everything while school is in session, and of the lack of time to reflect or to "look at the big cross-curricular picture." Despite the challenges of start-up, however, Twin Bridges teachers were unanimous in characterizing their work life as significantly more positive than in previous schools, thanks largely to their close and rewarding interactions with students.

Exhibit 2
A New Small School with a Low School Attribute Index in Its First Year

Trenton is a new small school serving an inner-city community whose students, say Trenton teachers, deserve a better chance. The faculty with whom we spoke were unanimous in their vision of college readiness for all students. Said the principal of his goals for student outcomes, "I want to prove that no matter where you are, what zip code you live in, that all kids can learn and they can go to college." While Trenton has taken many steps forward in serving their students, staff learned that the process of putting the school model in place was more complicated than it first appeared.

Some of the school's challenges were related to capacity. Lacking a full-time internship coordinator, for example, the school could not implement the internship program that was part of its original design. Despite the fact that they were in a brand new building with many architectural features designed to support the school model, the physical plant had limitations: there was no space appropriate for physical education, music, or drama, for example. One person speculated that the absence of physical outlets for students' energy may have contributed to the discipline problems that the school encountered during its first year.

More commonly, however, teachers here described their struggles to serve inner-city students with histories of low achievement, many of whom tend to rebel when they are no longer permitted to "just get by" academically. One teacher said that her greatest challenge this year was "how to hold high expectations for kids who are not intrinsically engaged," and several acknowledged the degree of acculturation that was required for students to adapt to a college prep environment or for students with low levels of basic skills to meet the demands of a challenging curriculum. For their part, students told us that they were overwhelmed with the demands of homework (a new requirement for many), service learning projects, and an upcoming internship program. Said one student, "[Teachers'] expectations are too high for us. We can't handle it."

Staff at the school are experimenting with solutions on a number of levels, including a new student orientation program, after-school homework time for students whose home environments are not conducive to study, and opportunities for greater student voice and input into the code of conduct and the discipline system in the hope of improving student behavior.

Although Trenton encountered a number of difficulties in its first year, the overwhelming attitude at the school remained positive. Students and teachers described the closeness that people in the school felt with one another, with teachers getting to know their students on a much deeper level. In one student focus group, several students stated that they appreciated the care and trust teachers had for them. One student commented, "We really trust them [the teachers]. If you say something, they will help you out with your problems." Another student said the teachers "are like friends," and a third noted, "They care about us more than the other teachers in other schools."

Many pieces are in place to help the school culture develop—from the decorations to the weekly meetings of the whole school to the "problem board" that was created to give students a voice to share their complaints and actively look for useful solutions. The culture may be coming along more slowly than anticipated, but it does seem to be growing.

Table 8
Academic Organization of the Start-up Schools

School	Academic Theme	Structures That Support Personalization		Structures That Support Instruction					Assessments		
		Advisories	Individualized Learning Plans	Mixed-Ability Groupings	Block Scheduling	Mandatory Internships	Offer AP, IB, Honors Classes	Partnership with Local Higher Ed Institution	Competency-Based Promotion	Exhibitions, Presentations	Portfolios
First Year											
Twin Bridges	N	N	N	F	F	PL	N	F	N	F	F
Patterson	N	F	F	F	N	F	F[a]	F	PL	F	F
Glen Brook	PL	F	N	F	N	PL	N	N	F	P	F
Trenton	F	F	N	F	F	PL	DK	DK	P	P	P
Audubon	F	N	F	F	P	PL	F	F	N	F	P
Riverside	N	F	F	F	N	N	F	F	N[b]	P	N
Irvington	N	F	P	F	N	F	F[a]	F	F	F	F
Second Year											
Lakeshore	F	P	PL	P	F	PL	N	PL	N	P	N
Cedar Hill	N	F	P	F	N	N	P	P	PL	P	P
Springtown	P	F	P	F	F	N	F	F	N	P	F
DeSoto	PL	F	F	F	F	N	PL	PL	F	F	P
Lancaster	F	N	PL	F	P	N	N	N	DK	F	N
Somerville	N	F	P	F	F	P	P	N	P	F	P
Green Gables	N	F	P	F	F	N	P	P	F	F	F
Del Monte	F	F	P	P	F	N	N	F	P	F	P

Source: Implementation and School Environment Inventory.

F = Fully implemented.
P = Partially Implemented.
PL = Planning to implement in future.
N = Not implemented and not planned.
DK = Don't know.

[a] School does not formally offer AP, IB, and honors classes, but students are allowed to take these courses at nearby high schools and schools will negotiate how this meets course requirements.
[b] Students must fulfill certain course requirements in order to graduate. The school does not have grade levels because it enrolls students who have dropped out of high school, so students are put in courses they need to take to graduate.

As also noted in the sample of first-year small schools described in AIR/SRI (2003), while the majority of descriptions of personalization were overwhelmingly positive, at least one teacher or student in five of the seven 2002-03 first-year start-ups we visited mentioned that personalization also has its drawbacks: some teachers are struggling to balance kindness and discipline, and some students lament their teachers' involvement in their "business."

High Expectations

Faculty at all of the 2002-03 first-year start-ups in our case study sample gave heavy emphasis to raising the bar for student opportunities and achievement. Among the structural components meant to motivate students to succeed, support student achievement, and hold students accountable for their learning were individualized learning plans, mixed-ability grouping, required internships, tutoring, after-school homework sessions, honors or college coursework (in a couple of cases), competency-based promotion, and student exhibitions, presentations, and portfolios. Many of these elements are documented in Table 8.

The two schools profiled in Exhibits 1 and 2 highlight both the opportunities and the complexities of the goal of high expectations for all students. At Twin Bridges, students told us that they were working harder than in the past because their assignments were interesting and meaningful, and the combination of personalization and pedagogy was effective at promoting new levels of academic engagement. At Trenton, where the student body as a whole had difficulties with basic skills and work habits, staff were challenged to balance the need to meet students where they are with the need to develop certain required competencies: a tension between personalization and high expectations. While models exist that successfully use project-based pedagogies to promote student engagement and skill development for students historically deemed at risk, it is clear that implementation of this approach is far from simple, and, for many teachers, it is fraught with unanswered questions.

Time to Collaborate

A third very important dimension of the small-school environment is the sense of professional community experienced by adults: the degree to which they share a common vision, have time to collaborate on student-centered and curriculum-centered issues, and support each other both professionally and personally. The majority of teachers we interviewed in 2002-03 first-year start-up schools described having a strong professional community characterized by close peer-to-peer relationships and regular discussions on topics that ranged from student needs and school practices to curriculum and reflective group discussions on pedagogy. Staff at all the first-year start-up schools reported some amount of collaboration among teachers, general awareness of what other teachers are teaching, and the ability to "make connections across the classes." However, teachers at six of the eight schools explicitly described wanting to collaborate more deeply and said they had inadequate time to meet with other teachers and to design and implement interdisciplinary curriculum. Some teachers saw lack of time to collaborate as a function of being a first-year start-up school (an expectation of a less labor-intensive Year 2 that was not borne out by many teachers in second-year schools).

Academic Organization Supporting the Effective-School Attributes

Table 8 displays some of the features of the academic organizations in place in the start-up schools in our case study sample. The top half of the table provides first-year data for schools that opened in fall of 2002; the bottom half documents 2002-03 structures for schools that opened in fall of 2001. The table provides data on the school structures in place to support personalization in the new small schools, documents some of the instructional features of the schools, notes whether competency-based promotion is in place, and documents the types of assessment that were in use. The table shows which structures were in place, partially implemented, or being planned in these schools.

Among the 15 start-up schools in our case study sample (either in 2002 or in 2003), mixed-ability grouping and exhibitions or presentations

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Teach Basic Skills First?

Many of the teachers' comments at both start-up and converting schools reflect the assumption that students need to attain a certain level of mastery of basic skills before they are ready for complex, long-term projects involving higher-order reasoning and problem solving. Means and Knapp (1991) noted the pervasiveness of this assumption in *Teaching Advanced Skills to At-Risk Students.*

> *A critical theoretical assumption underlying much of the curriculum and instruction provided to educationally disadvantaged students is that academic skills are hierarchical in nature. Some skills are "basics," and these must be mastered before more "advanced," "higher-order," or "complex" skills can be attained. This presumption is very deeply ingrained in the American curriculum. It is assumed that students must master the basics of vocabulary and phonics before they work on reading comprehension skills or critical literacy. In the area of writing, the mechanics of penmanship, grammar, and spelling are treated as prerequisites for learning to compose. The math curriculum presupposes that students must learn to execute basic numerical operations with accuracy and some speed before they tackle problems that require reasoning with mathematics.* (p. 4)

Teachers and school systems with this implicit theory of learning believe they should hold back students who cannot demonstrate mastery of basic skills from participation in learning activities involving reasoning, design, and problem solving.

This skill hierarchy assumption—while widespread both among educators and the general public—stands in contrast to the foundation's assumption that basic skills can be taught in the context of broader projects with real-world connections. Moreover, research by Newmann, Bryk, and Nagaoka (2001) in Chicago urban schools demonstrated a positive relationship between teachers' assignment of complex, authentic tasks and students' performance on standardized tests emphasizing basic skills.

Means and Knapp (1991) contend that an unfortunate corollary of the skill hierarchy assumption has been the emphasis on teaching basic skills in isolation to the exclusion of more interesting, complex topics within schools serving historically underserved populations:

> *Ironically, the decontextualized measures of discrete skills that we have come to regard as basic offer less opportunity for connecting with anything children know from past experiences than would more complex exercises emphasizing skills we regard as advanced. As preparation for learning writing skills, children from different linguistic backgrounds are drilled on the conventions of written English. These will be harder for them than for other children because conventions often conflict with the children's spoken language … In contrast, a task that focuses on higher-level issues of communication—for example, formulating a message that will be persuasive to other people—is perfectly consistent with many of the children's out-of-school experiences … Instruction in advanced skills offers opportunities for children to use what they already know in the process of developing and refining academic skills.* (pp. 6-7)

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were fully or partially in place at all the schools. Advisories and portfolios were fully or partially implemented in 12 schools and block scheduling in 10 schools. Structures and processes to support individualized learning plans were at least partially in place in 10 schools and in planning in 2 schools. Nine schools had fully or partially established partnerships with higher education institutions, and two were planning such partnerships. Competency-based promotion was at least partially in place in seven schools and in planning at two additional sites. AP, honors, or college courses were offered at seven schools and in planning at one. Only three schools had implemented mandatory internships, although five were planning to do so.

Eight of the 15 start-up schools were developing their programs around academic

themes. Several schools have science and technology themes—one focuses on science, math, engineering, and technology; another on agriculture and food sciences; a third on health and biosciences; and a fourth on technology more broadly. The other types of school themes include social entrepreneurship; arts and technology; and youth development, community service, and preparation for work. To varying degrees, the themes provide a focus for curricula at these schools.

Curriculum in Start-up Schools

Course offerings in the new small schools ran the gamut from fairly conventional core classes in English, mathematics, science, and social studies to seminars that integrated content across subject matter areas (such as mathematics and science or English and music) to thematic courses on topics such as globalization or animation. In some of these schools, students also got credit for project work; in these programs, students and teachers negotiated how particular knowledge and skill sets would be explored, how students would demonstrate mastery, and how student products would be

judged. At most of the start-up schools, a combination of classes or seminars and projects was required for graduation. Some of the small schools supplemented their programs with local college offerings or AP classes at neighboring high schools. The kinds of electives common in comprehensive high schools—courses such as physical education and drama—were in short supply at most of the small schools.

In interviews, school leaders and teachers at most of the schools said that state standards played an important role in their design of classes, seminars, and projects. Faculty talked about the need to balance attention to jurisdiction standards with work on the inquiry and learning skills targeted by their programs. At several schools, faculty reported difficulty in striking the right balance between instruction to state standards, particularly in mathematics, and their more general aims for teaching and learning. This year, some of the faculty used software-based instructional programs, such as *Boxer Math* and *Accelerated Math*, to deliver content consistent with state standards. They noted that they instituted these programs out of expediency, even though they considered the

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Mathematics and New School Designs

For many schools, mathematics seemed to be the most difficult subject to teach well in a way that satisfied both content standards and the school's pedagogical priorities. Some teachers reported exciting ways to make math come alive, by guiding students to "discover geometry" or to develop a business model in keeping with a school's "social entrepreneur" theme. Nevertheless, faculty at five of the seven first-year start-up schools reported that approaches to mathematics were still works in progress. Primary challenges they cited include:

- Finding a math curriculum that combines rigor in defined subject areas with student-driven approaches. Most off-the-shelf options schools had found were described as either too traditional or, in the words of one student, "not enough subject … it's too touchy-feely."

- Achieving meaningful integration across subject areas through a problem-based curriculum that combines content from specific course standards (for example, algebra II and physics).

- Finding ways to deal with the various mathematics skill levels in the incoming class, ranging from advanced math readiness to basic math literacy needs.

- A lack of mathematics depth among the teaching staff that would allow them to resolve these issues, particularly in schools with staffing models that position teachers as mentors rather than subject matter experts. Said one teacher, "We don't have the skills to integrate the math into the projects. It's probably the toughest thing to do."

To address these issues, schools are seeking mathematics expertise in their new hires, supplementing staff capacity with tutors, adding seminars in such basic skills as arithmetic, and continuing to seek or develop problem-based curricula that offer rigorous instruction in mathematics.

programs to be incongruent with their school models.

Factors Affecting Start-ups' Attention to the Effective-School Attributes

Among the 2002-03 qualitative data on the foundation's school attributes were a number of themes that also emerged in the analysis of 2002 qualitative data that we conducted for last year's report. These included findings on teacher workload, facilities, and finances. The larger data set available for analysis this year also points to some interesting relationships between school size and the effective-school attributes.

Teacher Workload, Facilities, and Finances

Like their predecessors, school leaders and teachers in the spring 2003 first-year start-up site visit sample talked about unmanageable workloads. Staff at each of the seven schools said that curriculum development was extremely time-consuming, but that in addition the chaotic pace of their worklife results from a combination of distributed leadership models and lack of support staff, leaving teachers responsible for everything from school scheduling committees, hiring practices, and guidelines for portfolio assessment to organizing recreational activities and coordinating substitute teachers, in addition to their teaching responsibilities and "being there" for the kids. One teacher told us that the school's success to date "didn't happen by accident. We worked really hard … [It took] blood, sweat, and tears," at a pace that is not sustainable forever. Nevertheless, teachers at each of the schools we visited also emphasized the profound reward of "creating a system that is making a difference in these students' lives": a key enabler born of teachers' passion for the work.

As in the previous year, facilities were a significant challenge for start-up schools: of the seven first-year start-ups we visited this year, five characterized their facility as temporary or under construction and struggled with the cost and politics of building procurement and renovation. All but one school were either temporarily or permanently housed on the grounds of another institution, either in a wing

of a larger high school, on a college campus, or with a community organization. These arrangements offered a range of benefits and challenges. Some were strategic partnerships, sometimes characterized as essential facilitators that provided the small school with important access to services and support or college courses as a curriculum supplement. At the other end of the spectrum, however, staff at a start-up housed for its first year on a wing of a very rough inner-city comprehensive high school reported that it was a constant challenge to separate and protect their students from the violent and "unhealthy" environment of the larger school. Staff at both schools housed temporarily in a wing of a larger school talked of challenges in establishing their schools' identity and looked forward to moving in the upcoming year to schools of their own design.

One school had layoffs pending for four of its five teachers at the time of our visit.

Fiscal challenges, of course, are commonplace at these schools with few students and therefore limited per-pupil allotment. This year, however, state and district budget shortfalls reached crisis proportions—an issue that had several implications specific to these new small schools. Because new small schools tend to employ younger, less-experienced teachers (AIR/SRI 2003), several were facing the prospect of 2003-04 layoffs to free up vacancies for more senior teaching staff displaced from other schools; the transferred teachers were not expected to share the small school's teaching philosophy. One school had layoffs pending for four of its five teachers at the time of our visit. In addition, staff told us that layoffs at these schools would be particularly hard for the students, since they disrupt the close personal relationships on which the school is founded: said one teacher, "You can't build a small school community this way." Faculty at some start-ups worried that district hiring freezes would thwart their ability to add a grade in the coming year.

It should be noted that while district turmoil (due to budget cuts; superintendent turnover; or, in one case, a pending state takeover) was a significant challenge for some schools, close and supportive relationships with the district could also serve as a key enabler. Three of the seven Year 1 schools were in large districts with established small-schools programs from which they benefited in 2002-03. Two other schools were conceived initially by staff at the district office and enjoyed very close and supportive relationships that ranged from conceptual support for school design to grantwriting partnerships and navigation of relationships with community members and teachers at other district schools—support the school leaders characterized as essential to their success.

School Size

In reviewing the data in Figure 1, we noted that school attribute index values for some of the new small schools exceeded those of the more mature model schools. Among the start-up schools with the highest values were schools with low student enrollments. We examined the relationship between school size and implementation of the effective-school attributes by correlating school enrollment data with the school attribute index values for new small schools. The correlation between school size and attribute index values for the start-up schools was -.51. When we added preconversion and model schools to the data set, the correlation between student enrollments and the school attribute index was -.77. Both correlations are statistically significant. These data suggest that even among high schools that would all be considered small (fewer than 400 students), manifestation of the effective-school attributes is more likely in schools with lower enrollments. As noted earlier, this result may be attributable to the fact that in extremely small schools the work of developing common aims and procedures, tailoring instruction, and working collaboratively entails coordinating with fewer students and adults.

Start-up School Development from Year 1 to Year 2

In this section of the chapter, we describe implementation of the foundation's school attributes in eight small schools that opened with foundation sponsorship in fall of 2001 and continued their work with grantees in the 2002-03 school year. We used the school attribute index value based on spring 2002 survey responses to gauge implementation of the foundation's school attributes during the first year of activity at these schools. We then used teacher and student response data from 2003 surveys to calculate second-year school attribute values for these same schools. Figure 2 shows the first- and second-year school attribute values for these schools. The 2001-02 values are represented by the left bar in each pair; the 2002-03 values are represented by the bars on the right. Because we've already seen the association between school size and the implementation of the effective-school attributes in a small school's inaugural year, the changes in student enrollments as schools moved from their first year to their second year are also shown in Figure 2.

The data in Figure 2 indicate that schools made variable progress as they moved from their first year to their second year. While teachers and students in some schools reported stronger evidence of the effective-school attributes in Year 2 than in Year 1, other schools appeared to lose ground on the attributes in Year 2. Explanations for the differences in year-to-year changes in the school attribute index can be sought in the qualitative data on school contexts. One of the schools in Figure 2, for example, had had such a difficult year in 2001-02 that we were unable to collect survey data from it; under new school leadership in 2002-03, on the other hand, its data look quite positive. Two schools added fewer than 10 students between their first and second years; three schools increased enrollment by more than a hundred students. We illustrate differences in school progress by providing an example of a site that appeared to struggle as it moved from its first to its second year (in Exhibit 3) and an example of a school that made good progress from Year 1 to Year 2 (Exhibit 4).

Figure 2
**Comparison of First- and Second-Year School Attribute Indices for Eight Start-up Schools
That Opened Fall 2001**
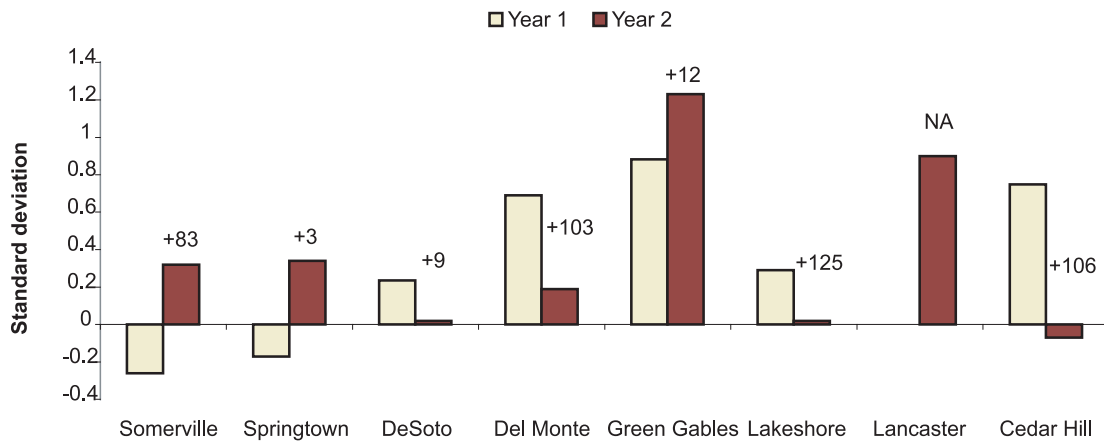
Note: 2001-02 survey data were not available for Lancaster High School. Numbers above the bars represent changes in enrollment.

These vignettes and the data in Figure 2 suggest that the effective-school attributes do not automatically become more evident in a small school's second year. Some of the new small schools in our study made good progress in Year 2; others faced formidable challenges (some of which are described in the next section) and had to regroup in their second year.

Factors Affecting Start-ups' Attention to the Effective-School Attributes in Their Second Year

The teachers and students at three of the schools in Figure 2 reported what appears to be greater emphasis on the foundation's school attributes in Year 2 than in Year 1. In interviews, school leaders and teachers at these schools said they were capitalizing on what they'd accomplished in their first year. One school's second year was described as "more about stabilization [and gaining] clarity about roles, systems." A teacher explained that "the seed is there, and we have to nurture and nourish it." These faculty talked about consolidating past gains, stabilizing school environments, and "settling in" to their roles and processes.

At four of the second-year start-up schools, however, teachers' and students' survey responses indicated a trend toward diminished

presence of the effective-school attributes. Two of these schools experienced a change in leadership and significant turnover of teaching staff. With these changes, the faculty faced many of the challenges of a first-year school, including establishing leadership structures, enculturating staff, and reaching agreement around their goals for student learning. The leader of one of these schools said, "It's a second-year program but feels like a first-year start."

Importantly, three of the four schools with lower school attribute values in Year 2 than in Year 1 increased their student enrollments by more than 100 students in 2002-03. Because of the schools' very small size, this infusion of new students and the teachers to work with them may have been enough to challenge formative school cultures and cause staff to rethink other elements of school design. At one of these schools, for example, financially driven growth targets resulted in a freshman class that was larger than the combined 10th- and 11th-grade classes and that included many students with incomplete understanding of the school's learning model. Many of these ninth graders began the year with lower academic aspirations and without some of the skills perceived as necessary for student-centered and project-based learning. These students changed the school climate dramatically;

Year 2 Growth in New Small Schools

The most common pattern in the new small schools we visited was to open with ninth grade only and add a grade each year. In Year 2, this strategy resulted in a doubling of the student population, and in some schools that had small first-year classes the population tripled, accompanied by commensurate increases in teaching staff. Second-year schools typically experienced a number of by-products of this rapid growth:

- *Changing student populations,* which could be a challenge or an enabler of the school environment, depending on the readiness of the new students for the school model.
- *Ongoing curriculum development needs* as teachers prepared for additional grades and upper-class programs.
- *An evolving teacher community* as teachers were added to the original core, requiring attention to acculturation and offering new opportunities such as collaboration within subject matter teams.
- *Changing leadership roles,* with some staff lamenting the necessity of an increased focus on discipline with more students to manage.

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the student body was less cohesive, the environment was less orderly, and safety issues became a concern. In response to the new students' behavioral and learning needs, teachers added more structure to the program. They used more guided instructional methods, and student-directed projects were assigned less frequently.

In at least three of the eight schools, new student populations in the second year challenged leaders' visions of serving "all students" and resulted in expulsions, a policy requirement the schools had not anticipated in their first year. Said one teacher, "Last year we wouldn't have even dreamt that we'd have an expulsion here, and this year we've already had two." Such actions were deemed necessary to protect the school environment in the face of students who threatened the well-being of their peers. As a result, seven of the eight schools we visited described refinements to their recruitment policies: each is finding better ways to communicate the school model and its academic requirements to new student candidates, targeting an applicant pool characterized not by high-performing students but by "buy-in on the part of the child." While understandable, this focus on recruiting students with a positive attitude may undercut the foundation's goal of serving the neediest students.

Increasing the size of the faculty at these schools also required adjustment: the work of developing common aims and procedures,

tailoring instruction, and working collaboratively was spread over more faculty, some of whom had not shared in the team-building experience of early school design. As new teachers joined the founding faculty, the schools' nascent teacher communities were sometimes challenged, but teachers at four of the eight second-year schools indicated that teacher professional community was strengthening over time. In these larger small schools, school leaders and faculty also saw changes in administrative and governance responsibilities. Administrators said they spent more time on discipline and other student needs and less time on instructional leadership and community building. Teachers said that they spent more time working with new students and enculturating new teachers; they spent less time on distributed governance.

As a result of the above influences and challenges, overall Year 2 development for these schools combined increased stability and building on past progress with new starts and continued evolution. We found some evidence in each of the eight second-year schools we visited that teachers firmly believed in the school and were happier in this job than in previous positions. Nevertheless, ongoing change and the structure of the school designs meant continued heavy workloads for teachers; in at least six of

Exhibit 3
A Difficult Second Year at Del Monte

In its second year of operation, Del Monte seemed a lot like a first-year school. Turnover of most of the teaching staff and a shift in leaders had created a need to reestablish the school vision. Only 2 of the 10 teachers at Del Monte in 2002-03 were returning staff. The first-year principal had become the "executive director," and a new principal had been hired to provide day-to-day leadership.

In addition, a financially driven decision to target a dramatic increase in student headcount had led to a nearly fourfold increase in the number of students, recruited mainly from nearby urban middle schools. The student population increased from 43 in 2001-02 to 152 in fall of 2002. Staff generally felt that many of the new students came to the school without a full understanding of project-based learning and the responsibilities associated with self-paced learning. Some teachers intimated that many new students heard "free computers" instead of "project-based learning" during the recruitment meetings and thus were not motivated or prepared for the school's student-centered instruction.

Del Monte began the 2002-03 school year by following the grantee's advisory structure (advisories composed of about 15 students and 1 advisor) and project-based learning model. To accommodate a student population deemed unprepared for project-based learning, the staff created seminars providing more structured learning experiences and reinforcing basic skills. They added required courses and course sequences. At the same time, school leaders and new teachers struggled to maintain discipline—working backwards from the freedom students had in the fall to instituting hall passes for the restrooms by winter break.

By winter break, more than 20 students had left the school, in many cases because there wasn't a "good fit." The departing group also included a few returning students whose parents did not like the new environment. This midyear drop in enrollment had serious implications for the school design and for its staff. Staff morale—already low because of changes to the school—faltered again before winter break when two staff members had to be laid off because of the decline in enrollment.

Negotiating school management with a staff who were largely new to the school, working hard to meet new student needs, and struggling with project-based learning methods was difficult and time-consuming. Some school design issues remained unresolved in 2002-03. Few of the teachers we interviewed (particularly the new teachers) articulated knowledge of the grantee's "vision" and its association with the school.

Despite the multiple changes and challenges faced in 2002-03, Del Monte staff said they were optimistic about 2003-04. Teachers characterized the new principal as a "great leader," and indicated that she was extremely supportive of the needs of teachers and students. Changes to school design planned for the new year include: (1) a "family" or "pod" structure, in which the same three teachers share students at each grade level; (2) moving toward having fewer classes and more time for project-based learning; and (3) seeking funding through new grants to continue refining their model beyond the grant period. In addition, staff told us of improvements to the school environment over the course of the past year, and of increasing academic performance and engagement from students. As one student said, "[This school] makes you wake up and smell the education."

the eight second-year start-up schools, teachers indicated that the stressful pace they had hoped was a feature of the school's first year had not yet slowed.

Expectations for the Future

School leaders and teachers in these second-year small schools had many of the same worries about the coming year as faculty in first-year schools. Fiscal concerns loomed large. They worried about state and district budget shortfalls,

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Exhibit 4
Making Good Progress at Somerville High School

Somerville High School is a small charter school in its second year of operation. In 2002-03, the school served 163 ninth- and tenth-grade students, having grown from a school of 80 ninth graders in the prior year.

In its second year of operation, Somerville had made considerable progress in creating a school culture and improving teaching and learning. Classroom observations and interviews conducted during the spring 2002 site visit had made it clear how preoccupied staff were with the need to create an orderly and respectful environment. Concerns in these areas were far less apparent in spring 2003. In fact, the principal and some of the teachers who were interviewed for a second time in 2003 remarked on the distinct change in student behavior. One teacher commented, "The culture has gotten better … We've had some kids with behavioral and motivational problems that have totally turned around." These changes helped to elicit more productive class discussions and more meaningful student involvement, as observed during the site visit. To create this more productive academic culture, Somerville staff implemented several systems changes affecting leadership structure, professional development opportunities, curriculum development, and definition of roles, with the grantee and a nearby university providing support in the areas of curriculum, instruction, and assessment.

The school's leadership structure changed in 2002-03 from two co-directors to one principal and one vice-principal. In 2001-02, the co-directors had shared a large space with other staff; in 2002-03, the principal had her own office. According to one teacher, "Now there is definitely a chain of command." Somerville also created positions for lead teachers in math and humanities, who were jointly working to implement a "portfolio process for teachers." In addition, Somerville added a full-time literacy specialist to the staff to establish a more organized approach to dealing with low literacy skills. In addition to teaching two literacy classes to high-needs students, the literacy specialist provided weekly professional development to all teachers on how to promote literacy skills in their classrooms. The principal noted an improvement in reading skills: "Our first year, 69% of our students scored below their grade level. Now 86% have increased by one or more years." The service-learning component of Somerville's plan was put on hold in 2002-03 to allow staff and students to concentrate on academic learning. Also put on hold was the development of individualized learning plans for all students.

Project-based learning was slowly becoming more a part of the Somerville ethos in 2002-03, in part because portfolios remained a requirement for graduation and promotion. According to the principal, project-based learning time "is when we see the kids be most productive. The kids really rise to the occasion, and they care about their work."

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hiring freezes, layoffs among the younger faculty, and possible forced changes in staffing or autonomies based on changing political winds in the district. At the time of our visit in the spring, one school leader reported that 13 of their 16 teachers had received pink slips; after only 2 years, the school was being challenged to produce enough demonstrable results to support strong arguments for its continued existence.

As they approached their third year of grant funding, these schools' anxieties about funding issues took on additional weight. In the face of

dwindling start-up funds from their supporting grantee organizations and other sources, school leaders and faculty worried about shortfalls between their operating budgets and their average daily attendance (ADA) funds. Interviewees at six of the eight second-year schools, representing four different states, said they couldn't run on ADA alone and were looking for new sources of grant and special program funds. "We've all had to become active fund-raisers," said one teacher. One school was finding that it is not financially sustainable with

125 students, which is the current building's maximum capacity. At least three schools were seeking money for special programs, such as technology, science instruction, or literacy, because the money they receive from the state supports only "bare bones" operations. Said one school leader, with the funds available "we can't do what we need to do for kids."

Nevertheless, staff at most of these second-year schools spoke of looking forward to a bright future. Students and staff alike commonly described these schooling environments in positive terms, emphasizing solid philosophically grounded foundations and deepening relationships and signs of growing stability: seven of the eight second-year startup schools we visited had waiting lists by the end of their second year, for example, suggesting that word was spreading within their respective communities that these schools are desirable places to be.

Conclusion

Looking across the multiple sources of data on new small schools partnering with the foundation, we can identify some key findings. First, we note that as a group the start-up schools have been quite successful in putting into place the school climate and structures embodied in the foundation's school attributes. Most new small schools emphasize personalization, a climate of respect and responsibility, high expectations for learning, performance-based decision-making, technology as a tool, common focus, and time to collaborate in their first year of operation. Schools that began with very small student bodies tended to exhibit these school attributes more strongly than did schools with larger enrollments.

As schools moved from their first year to their second year, progress in terms of deepening implementation of the effective-school attributes was variable. Several of the schools in our sample made good progress on these attributes in Year 2. Others experienced rapid growth, significant staff turnover, or both in their second year, changes that sometimes resulted in a less positive school climate and a less cohesive teacher community. The experiences of these small schools strongly suggest that early progress must be viewed in the context of a multiyear path to full implementation and that each year of the early developmental process may bring a new set of challenges.

4. Converting Large High Schools

In addition to the small start-up schools discussed in the preceding chapter, the evaluation team also visited six large high schools in spring of 2003. Two of these schools were in the planning stage and had yet to start their conversion into small schools. This chapter focuses on the four schools that had begun or completed their conversion into small schools or learning communities.[1] One of these schools, Sullivan, was in its second year after conversion, giving us the opportunity to look at what may be ahead for the first-year conversion schools.

This chapter is organized around three main questions:

- What does "conversion" look like?
- To what extent have conversion schools implemented the foundation's school attributes?
- How well are conversions meeting the needs of all students?

In this chapter, we examine the conversion process, attributes, and challenges at the four schools to derive some preliminary insights into what it takes to convert existing large high schools into multiple small schools. The research design for this evaluation calls for surveying the large, comprehensive high schools twice, once in their preconversion year and again in their second year after conversion, giving them time to work out some of the particulars of their design. Since postconversion survey data have yet to be collected for these schools, this chapter relies solely on qualitative data.

The Implementation Process

Among the schools we visited, conversion took multiple forms. For example, Sullivan, the second-year conversion school, has three fully functioning small autonomous high schools. These schools, each with a unique theme, share a building but are housed on separate floors or wings. Von Humboldt, another school that chose to convert schoolwide all at once, has five small schools, each with a unique theme. Von Humboldt's small schools are less independent than

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[1] The term "small learning community" (or SLC) encompasses both autonomous small schools with separate identities and programs within a larger high school that have a distinct identity but may lack autonomy in terms of school leadership, policy, and budget. Some of the schools described in this chapter use one term and some another. When describing a conversion, we have attempted to use the terminology favored by the particular school, but we have grouped small schools and small learning communities created through conversion of a large school together for purposes of analysis.

What Makes a Conversion an Independent Small School?

There is no commonly accepted definition of an independent small school created through conversion of a high school into smaller units. Rather, there is a set of features associated with school autonomy that help to distinguish independent small schools from other small learning community structures. The more of these features a conversion school possesses, the clearer the case that it is indeed an independent entity rather than a school program or school-within-a-school.

Features cited in the education reform literature (Cotton, 2001; U.S. Department of Education, 2001) and by the Bill & Melinda Gates Foundation grantees are:

- A distinctive set of students and teachers (not shared with other schools or programs)
- Its own principal or school director
- Designated classroom space, whether in its own building or in contiguous classrooms within a building shared with other schools
- Control over its own structure and budget
- Autonomy from the larger school in teacher hiring and firing
- Autonomy from the larger school in developing its own learning program
- Ability to set its own school-day schedule
- Having its own identification number in district and state data systems.

Sullivan's, however; currently, students and teachers take classes and teach across the different programs. Logan, one of the schools that chose to convert in stages, has developed four theme-based communities for students in the 10th and 11th grades. The curriculum for these learning communities is under development, and currently there is a great deal of crossover of students and teachers among the SLC programs. Western High School is also converting in stages, and at the time of our spring 2003 site visit had just one of its three planned small learning communities in place—a restructured health science magnet program. Western's additional small schools were expected to be in place for the 2003-04 school year.

Thumbnail sketches of the four large high schools in our sample that had begun conversion by fall of 2002 are presented as Exhibits 5 to 8.

In the first year of a school conversion, the primary tasks for schools appear to be staff assignments, student recruitment and placement, curriculum and course offerings, and facilities. Variations in school strategies for dealing with these issues are discussed below.

Staff Assignments

Staffing, in one sense or another, proved to be a challenge for the conversion schools. For example, having the right number of teachers with the right background, knowledge, and skills was reported as a major concern by all the conversion sites. Three of the conversion sites felt they had the right number of teachers to keep the student-to-teacher ratio low. The fourth conversion, Logan, didn't have enough teachers to teach "some of the courses students wanted" and was unable to keep class size down—ending up with some classes with as many as 50 students. One school dealt with the challenge of not having the type of teacher needed to teach a specific subject by using university teachers "to fill the void." Because the same school didn't have enough chemistry teachers to be able to assign one to each of its small schools, administrators had to create a complex schedule that allowed teachers and students to cross over to other small schools to either teach or take chemistry. Some administrators and staff felt that this "bleeding" of students and teachers into classes outside their SLCs compromised the "purity of independence" between small schools that they were trying to achieve. In cases where such crossover was limited or forbidden, some

Exhibit 5
Sullivan High School

Sullivan, a neighborhood school serving a culturally diverse population of 900 students in grades 9 through 12 with African American and Latino students collectively representing about 53% of the population, converted in 2001-02 to three small autonomous high schools. Each of the small schools attained a separate budget, schedule, and curriculum in the 2002-2003 school year.

In its second year of conversion in 2002-03, Sullivan was on its way to becoming a "real" conversion, with some of the attributes of high-performing schools in place. For example in a student survey, the results of which were analyzed by the grantee, 81% of the students said they "loved the personalization." Students' perceptions of a personalized environment were apparent also in one of the student focus groups conducted for the AIR/SRI evaluation. Several students stated that the teachers and students know each other well. One student commented, "We know the teachers more personally. They know our personalities. " Another student stated, "They [the teachers] show they care. They look at you, not at the sky."

Sullivan has also improved its teaching practices to incorporate more active-inquiry and in-depth learning. Three fourths of the students in one of the student focus groups reported that they have been, or were currently, in an internship. One student reported working in a dental clinic, while another student reported interning at the local hospital. Students at the Academy for Math, Science, and Medicine (AMSM), one of Sullivan's small schools, were able to see real-world applications of their school work and described their post-secondary plans in fields such as dentistry, medicine, real estate, journalism, architecture, law, and interior design.

Other systems and structures had also fallen into place for Sullivan by 2002-03. The addition of two secretaries and a school counselor for each small school, the elimination of cross over of teachers and students, improved student behavior, and a group called Friends of Sullivan, which was keeping the school in front of the district's board, are a few of the school's accomplishments.

Although Sullivan's small schools' second year was a marked improvement over their first, they continued to encounter difficulties, including dissatisfaction with the loss of some of the opportunities available in a larger school. In one student focus group, several students cited the lack of electives and not being able to cross over to take classes in other small schools as what they liked least about the school. One student commented, "Band and choir are only offered on the third floor … ceramics is offered on [AMSM's] floor but drawing is on the third floor. French is gone, we have Spanish but that doesn't make sense since about 70% of students already speak Spanish."

Working with the district also continued to offer some challenges for Sullivan. One school leader reported that while the superintendent was wonderful, other district administrators were "absolutely putting up barriers." The school leader at another of the small schools reported that the district was not supportive of her need for science labs for each small school and in fact "tore down the walls" the school leader had put up to subdivide the labs, even though they met building code.

District personnel reported that the relationship between Sullivan and the district has been strained because the reform effort at Sullivan was "brought forth by one person [the transition principal at Sullivan]. It wasn't like the central administration said, 'let's do it.'" In spite of this tension between the school and the district, district personnel acknowledged that Sullivan's "second year has been more steady because there are some systems in place that weren't there last year" and that teaching at Sullivan was better than that at any other high school in the city. "They've bought into things hard to get at comprehensives, like standards-based lessons and unit planning."

**Exhibit 6
Logan High School**

Logan is one of seven comprehensive high schools in its district, all of which are converting to a varying number of small learning communities (SLC). Logan enrolls approximately 1,400 students in grades 9 through 12, serving a culturally diverse population with a fairly equal distribution between white and nonwhite students. Fifty-five percent of the students are eligible for free or reduced-price lunch, and 30% are designated as English language learners (ELL).

Although Logan was farther ahead in the conversion process than many of the other high schools in its district, school staff acknowledged that implementation had been slow. Implementation progress at Logan was hampered primarily by a lack of direction about the implementation process. The school's leadership structure had changed to allow for at two or more lead teachers for each of the four new SLCs (World Perspectives, Health Services Academy, Humanities Academy, and School of Science and Technology). However, the school relied heavily on an SLC coordinator to craft the overall conversion plan, including steps for implementation. The coordinator worked closely with the school's administrative team, teachers, and the district office. Medical problems experienced by both the school and district staff were cited as factors slowing down the conversion process.

As a result, Logan operated with four SLCs, all of which had implemented mainly just an advisory system in 2002-03. Ninth-grade students were not part of the SLC structure but rather had their own program that provided an introduction to high school and to the new SLCs. Students in 12th grade also operated outside of the SLC structure in 2002-03 but there were plans to include 12th grade in the SLC structure in the 2003-04 school year. As curricula for the advisories were still under development, and course selection and classroom activities had not been greatly affected by the conversion, students were less aware of the conversion in spring 2003 than were the school staff.

Also limiting students' awareness of the change to SLCs was Logan's maintenance of an International Baccalaureate (IB) program, open to students from any SLC. Additionally, the school continued operating specialized courses, athletics, clubs, teams, musical groups, and other activities on a building-wide basis, with students from all SLCs participating.

Logan staff reported being able to see the light at the end of the tunnel but acknowledged having a lot more work to do. Logan now has designated staff and physical space for each SLC, and plans are in place to finalize advisory curricula and continue work on developing SLC-specific courses.

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students complained of having fewer "higher-level classes" and less "variety of classes."

Some parents reported that the conversion to small schools had led to an influx of "younger, friendlier, cooler teachers." Parents saw this change as an improvement of the school's faculty. For some students, however, having younger, less-experienced teachers was a mixed blessing. One student described a new teacher: "She's like a little kid teacher; we just sit in class."

Another staffing challenge that conversion schools were grappling with was teacher placement. All of the conversion schools allowed some element of teacher choice in selecting and placing teachers in small schools and SLCs. While honoring teachers' preferences for where they wanted to teach, these schools inadvertently created another challenge for themselves—the uneven distribution of teachers across schools. In one of the conversions where both students and staff self-selected into SLCs, all of the athletic coaches were teaching in one SLC while another SLC ended up with most of the International Baccalaureate (IB) students and teachers.

In spite of problems created by allowing teachers to choose the small school in which they taught, at least one administrator felt that

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Exhibit 7
Von Humboldt High School

From the outside, Von Humboldt looks like a traditional comprehensive high school. The school serves 1,300 students in grades 9 through 12. Most students are from white, middle-class backgrounds; 13% are eligible for free or reduced-price lunch; and fewer than 1% are designated as English language learners (ELL).

On the inside, walking through the school's hallways revealed the physical reorganization that supported Von Humboldt's conversion to five small schools of choice. Most striking was that each of the small schools (American Studies Academy, Health Academy, Technology & Communications Academy, Academy of the Sciences, and Performing Arts Academy) had its own bell schedule that marked the class starting and ending times it had chosen. Banners and insignia specific to each of the five small schools were prominently displayed in the hallways.

By 2002-03 the administrative structure of Von Humboldt had been changed to support the needs of small schools. There was still a campus principal who oversaw all of the activities affecting the larger school and assisted the individual teams responsible for each of the small schools. New structures were a director, counselor, and secretary responsible for every two small schools. Each small school also had designated lead teachers—teachers who worked on the original design and vision of the small school.

Changes in the administrative structure to provide leadership at the small-school level, the development of distinct curricula for each small school, and a move to differentiated instruction, which allowed for students of varying academic abilities to learn together in classrooms suggest that Von Humboldt was beginning to function as a "real" conversion school. District and school administrators, teachers, students, and parents agreed that the changes "have not come without serious bumps in the road," but as the superintendent explained, "We will never go back to the way things were. We've irrevocably changed some teachers."

Although Von Humboldt was making progress toward conversion, it had some challenges ahead. The adoption of heterogeneous-ability grouping of students within classes met with strong opposition from some parents and students, especially those excelling in the traditional school setting.

The issue of autonomy from the district also posed challenges for Von Humboldt. District administrators explained that some school staff interpreted the conversion as a means toward full autonomy over all matters at the small-school level. District staff noted that the tension was being worked through as they explained to school staff that there was still a need for the district to support the schools and ensure adherence to state and national standards.

"in the long run, this is the way to do it." She said, "If I start telling them [teachers] where to go, we'll never get this [conversion] on the road."

Staff Workload

As with new small schools, teachers and school leaders in the first-year conversion school site visit sample talked about unmanageable workloads and burnout. They described a work life that included designing new curriculum reflective of the small-school theme, serving on small-school design committees, planning intersession courses, and reworking curricula to fit new teaching approaches. Teaching classes while assuming additional roles, such as small-school coordinator, and participating in additional meetings and on various conversion-school-related committees meant a longer work day. As one teacher reported, "We are working ourselves to the bone and not seeing the results right now. We still feel like we're dancing the small-school dance to a large-school orchestra."

The experiences of staff in the second-year conversion school site visit sample suggest that the burden that conversion places on teachers

Exhibit 8
Western High School

Western is a medium-sized conversion high school that serves a culturally diverse population with a fairly equal distribution between white and nonwhite students. The school serves approximately 1,200 students in grades 9 through 12. About half of Western's students (51%) are considered low-income.

In its first year of the conversion process, Western looks and functions much as it did before the "conversion." The School for Health Sciences (SHS), established as a magnet program over 15 years ago, was reopened as a small learning community in 2002-03 and is the first of three SLCs envisioned at Western. Two others were scheduled for implementation in 2003-04.

As a preexisting program, SHS continues to act as a magnet, drawing students from around the city. Consequently, it is oversubscribed. In the focus groups, students highlighted SHS's good reputation and reported that many students go to Western for the SHS. As the two new SLCs are implemented, school staff must address the need for an equitable distribution of students across SLCs. Staff are considering racial composition, special education needs, and the balance of high and low achievers, as well as whether a student was already a part of SHS.

As with many of the converting schools, facilities pose a serious challenge for Western. The school was originally built as a junior high school designed to hold no more 800 students. Approximately 1,200 students attended the school in 2002-03. With classes held in the gym and auditorium, buckets placed throughout the building to catch dripping water, cracking tile, and asbestos, one parent said, "the physical plant is an abomination." In one student focus group, students noted that the building is not big enough and is falling apart. Although Western has been approved for a new building and has been told it might happen in the 2003-04 school year, one parent reported that they "have been told that five times in the past."

Students and teachers at Western are not in agreement about whether to allow "crossover" of students across SLCs.

For students, this policy felt restrictive. For example, psychology was cut from the SHS curriculum, and many students in that SLC wanted to take that course. Students did acknowledge interacting with non-SHS students during elective courses or extra curricular activities and felt this was an essential part of the "full high school experience." However, according to SHS teachers, one of the greatest challenges to implementing their SLC has been "bleeding" of students into other classes outside their SLC. Teachers felt that this practice has slowed the development of a strong common ethos among all members of the team.

During the site visit, staff members made it clear that Western High "as a whole will retain its school identity" and that "the SLCs will not, for now, be completely autonomous." This presents a conundrum for Western as the SHS teachers try to develop an SLC identity while retaining a Western identity. Western has put in place a decision- making structure that reflects this dual identity. Decisions are made by the school district, the principal of the larger Western High, and the vice-principals assigned to each SLC.

Despite the multiple challenges faced in 2002-03, Western did have some systems in place that were making teaching and learning more relevant and more personalized. For example, SHS students participated in an internship during their senior year that allowed them to experience firsthand the real world of work. Student interns selected their sites and were held accountable to professional standards. In the parent focus group, one participant acknowledged that the internship at the university medical center "opened up an interest in nursing for my niece." In addition to internships, Western also instituted looping—a practice that allows students to have the same teacher(s) for multiple years.

The district superintendent and parents were optimistic about Western's future. The superintendent described Western as a model school. The SHS parents, in comparing SHS with other schools in the city, felt the internship program, block scheduling, increased communication with the school, and rigorous curriculum were signs of progress.

The Many Versions of Small Learning Communities

Many of the school conversion efforts are trying to obtain the virtues of a small learning community without going so far as to establish independent small high schools. While lacking the earmarks of independent small schools, the resulting units:

- Have a clearly identified set of teachers and students who are scheduled together.
- Have a separately defined curriculum or learning plan, which may be created around a specific focus or theme.
- Usually have a common area of the school in which to hold all or most of their classes.

These units may go under a variety of names. Although labels may be applied rather loosely, their characteristic features can be catalogued, as shown below.

House	- Students assigned to smaller groupings within larger school. - Usually coexists within the larger school's departmentalized structure. - Shares the larger school's curriculum, instructional approaches, and sometimes extracurricular program. - Divides students by grade level or may encompass two or more grades. - House students take some of their core courses together and share the same teachers. - Year-long or multiple-year structure. - Has its own discipline policies and student government.
School-within-a-school	- Students are grouped together each year to take core course with the same teachers. - Operates within a "host" school. - Typically has its own personnel, program, students, budget, and school space. - Generally responsible to the district and formally authorized by the superintendent or school board.
Academy	- Subgroup within a school. - Organized around a particular grade or theme. - Often includes work-based learning experiences with businesses in the community ("career academies").
Magnet program	- Operates within a "host" school. - Draws students from the entire school district. - May or may not have admission requirements to attend. - Usually has an academic focus or a career theme. - Generally responsible to the district and formally authorized by the superintendent or school board.

Sources: Cotton, K. (2001). *New Small Learning Communities: Findings from Recent Literature.* Naperville, IL: Northwest Regional Educational Laboratory.

U.S. Department of Education. (2001). *An Overview of Smaller Learning Communities in High Schools.* Washington, DC: Author.

will lessen, at least for some staff, but that teaching in a small school will remain taxing. One Sullivan teacher reported, "It's calmer than last year. I don't have to work as hard on things that don't pertain to my classroom." Another teacher said, "Because of this being a small school, we tend to take on more than the average teacher … I wouldn't call this a burden, but a responsibility." The school leader at one of Sullivan's small schools reported that while the school has an "awesome" staff, "I feel like we're all overworked and can't spend time with students. We're all so overworked having three to four different jobs [within the school]."

Student Recruitment and Placement

Two of the four conversion schools reported specific recruitment activities targeted at eighth-grade students. For example, Von Humboldt sent a team, including the coordinators and some students from each of the five small schools, to area middle schools to promote the small schools to the eighth graders. They also hosted a small school fair for eighth-grade students, with every small school operating an informational booth. School leaders at Western assumed responsibility for recruiting eighth-grade students and did a round of presentations at feeder middle schools. Additionally, they coached the guidance staff at the middle school on the SLCs and on helping eighth-grade students select an SLC.

Three of the four conversion schools allowed students to self-select a small school or SLC and also specified a process that allows students to change small schools. For example, all students at Von Humboldt are allowed to self-select a small school; they can change from one small school to another only once during high school, and the change must occur at the end of an academic year. Logan held a Spring Jamboree, where students picked their SLC. Students rank-ordered their preferences, and most students got their first choice. Students who did not choose an SLC were assigned to one. Logan has a form that students complete to switch SLCs after a minimum of a year. Western used videos, PowerPoint presentations, and brochures in the recruitment process and

allowed students to self-select an SLC. Although students at Western can change SLCs without hurting their chances of doing an internship or graduating on time, the school had yet to set forth a clear process for making the switch. The process for placing students in small schools was least clear for Sullivan, the second-year conversion school, where the district role in student assignment was still under negotiation. School leaders at Sullivan have asked the district not to arbitrarily send students to the small schools and to develop additional criteria for student assignment. To change small schools at Sullivan, a student has to get all of his/her teachers to sign a paper and then conference with the principal. If it's too far along in the school year, students are not allowed to switch small schools.

Student self-selection created challenges for at least three of the four conversion schools. At Von Humboldt, student self-selection resulted in a disproportionate number of boys (more than two-thirds) in one of the small schools. At Logan, most of the International Baccalaureate students chose two of the four small learning communities. Consequently, Logan's "best and brightest" students were not evenly distributed across the four small schools. At Western, students were using their right to self-select as a way of avoiding particular teachers and principals. All of the schools reported that the desire to be with friends was often the determining factor in student selection of a small school or SLC.

Curriculum Development and Course Offerings

The small schools and SLCs we visited were struggling to develop curricula comparable in breadth and depth to those of the large schools from which they were formed. These small schools found that their students wanted curricula reflecting the chosen academic theme, as well as the right number and mix of core courses, a rich set of electives, a variety of honors and college prep classes, and extras such as art, music, and drama. Additionally, the schools needed to find a way to blend the new courses developed by teachers specifically for

the small schools with existing courses that came from the district or were already part of the large-school curriculum.

The conversion schools in our sample took different approaches to curriculum development. For example, Von Humboldt, with its five small schools, had a schedule for the development of new courses but was limited by the district to two new courses per small school. Additionally, each small school was directed by the school board to require the same core classes. Sullivan, the second-year conversion school, started its curriculum development process by modifying an interdisciplinary curriculum that it adopted from another school. While the staff for three of the Logan SLCs had plans to do most of their curriculum development over the summer of 2003, the Humanities Academy, which had been in place for 10 years, was using core courses based on that 10-year-old curriculum.

Facilities

Most administrators and staff in conversion schools expressed dissatisfaction with their facilities. For example, teachers who wanted a classroom of a reasonable size sometimes found themselves in the gym or a closet. An administrator who wanted each small school to have its own science lab on its designated floor or wing had to work around the fact that all the labs were located on the same floor. Students, finding themselves restricted from some areas of the school and noting portions of the facility that were in need of repair, were dissatisfied with the condition and appearance of their school. Small schools that wanted their own identity and autonomy from the other schools found themselves having to share the gym, cafeteria, nurse's office, and computer lab.

In response to such facilities challenges, some of the conversion schools found workarounds. One school devised a complex scheduling matrix that allowed for separate use of shared space by each small school. Staff at another school slated for conversion said they were going to create virtual small schools because their school was built like a box and "there's no way to reconfigure the space to make sense." One school leader took a more

traditional approach to the facilities challenges: she ordered temporary or movable facilities. Although none of these workarounds is ideal or long-term, administrators and staff have risen to the challenges presented by their facilities. As one school leader said, "We don't have them [the right facilities], but we're working on it."

In most conversion schools, keeping focused on curriculum and instruction while dealing with facilities and design issues proved difficult. It seems that reconfiguring the facility to accommodate small schools that feel distinct and function separately often took precedence over focusing on teaching and learning. Given the interdependence of the two, facility design changes that were not made in concert with changes in curricula and pedagogy may adversely affect the possibilities for teaching and learning.

The Attributes of Effective Schools and Classrooms

This section describes the extent to which personalization, high expectations, and time to collaborate as a teacher professional community—three of the foundation's attributes of high-performing schools—are beginning to appear in the conversion schools.[2]

"Anonymity is way less … If I stick my head in the hall, I know them."

Personalization

In each of the four conversion schools we visited, students, teachers, and parents reported that people in the small schools seem to know and care about one another to a greater degree than in larger, comprehensive high schools. Said one school leader, "Anonymity is way less [since the conversion]. If I stick my head in the hall, I know them [the students]." Another teacher observed, "It's easy to be anonymous if

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[2] This subset of the foundation's school attributes was chosen because of their centrality in the foundation's thinking and the availability of pertinent data from site visit observations and interviews.

Primary Tasks for School Conversion	
Tasks	*Inherent Challenges and Tensions*
Curriculum development and course offerings	• Developing distinctive curricula that are coherent and support the theme or focus while adhering to district and state content requirements. • Offering the desired number of higher-level classes and electives. • Motivating students to engage in challenging inquiry into topics that matter. • Designing courses that work with reform-oriented instructional strategies and structures, such as project-based learning and block scheduling.
Staff assignment	• Having the right number of teachers with the right background, knowledge, and skills for each small school. • Fostering teacher buy-in by allowing teachers to choose the small school in which to teach while keeping an even distribution of teachers across all small schools. • Avoiding teacher burnout due to conversion-school-related responsibilities in addition to teaching.
Student recruitment and placement	• Helping students make informed school choices based on criteria that matter. • Allowing student choice while ensuring equitable distribution of students. • Reassuring high-achieving students and their parents. • Providing special services needed by ELL and IEP students without putting them all into the same small school.
Facility and schedule modification	• Giving each small school a physically contiguous space that is set off in some perceptible way from the rest of the school. • Allowing shared access to areas, such as gym, science labs, and cafeteria, that are too expensive to duplicate.

you choose to be, and SLCs help to not let students be anonymous."

In large high schools, some students slip through the cracks because no one knows them, or no one knows them well. One conversion school leader said that happens less frequently in small schools because "you know all the kids, and not as many can slip through." Another school leader said that with the conversion to small schools came changes in the nature of staff conversations about students. When a student's name comes up, the school leader said, "all of the teachers know that student and have something to say." Students from all of the conversion schools reported that students and teachers were getting closer and that they knew each other on a personal level. They reported feeling more comfortable with their teachers

because their teachers listened to them and got to know them. Said one student, "You get to know them better, not just like a teacher, but kind of like a friend, too." Another student concurred but said it depended on the teachers, and "treating us like friends is true but only for very few teachers."

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*"They used to call your parents and say **your child** is not in school; now they know your name."*

In some of the conversion schools, better communication between parents and teachers was reported as a sign that personalization had improved. A parent from one of the conversion schools talked about teachers who gave out their home phone numbers or sent home interim report cards every 5 weeks. A parent from another school talked about the support and communication she and her son received when he was absent for an extended period and said, "Everything just fell into place. My son could still learn and not miss anything." For students, the fact that teachers knew their names was regarded as an indication that interpersonal relations had improved. Referring to the school practice of calling home when a student is absent, one student said, "They used to call your parents and say *your child* is not in school; now they know your name."

All the schools we visited had instituted a number of schoolwide organizational mechanisms and structures to promote personalization. One of the schools implemented a ninth-grade "bridge" program that provided organized activities, special advisories, and a Connections class to support students' transition to the senior high school. Another school had established advisory periods during which students could meet with their assigned advisor or write themselves a pass to "go see other teachers if they had questions or issues to deal with." Table 9 summarizes academic structures put in place to support personalization in these schools.

Students at three of the conversion schools talked about how personalization meant that teachers were more accessible and how they liked not having to "wait a week" to see them. Small schools did not necessarily mean small class sizes, however. Students at the school with class sizes up to 50 had a different experience. "You never get personal time with the teacher, never time to talk one on one," said one student. A parent at the same school concurred: "Having 50 students in one class is too many. When my daughter had less students in a class, she knew the teachers and students a lot better."

While relationships among students and staff within most SLCs were improving, some teachers were worried about their relationships with teachers and students in other SLCs. Said one teacher, "The downside is I'm out of touch with a lot of kids from the other small schools." This teacher said that although this might not be a "problem," it was "situation" they should think about. Another teacher said she was concerned about how she would interact with students who weren't a part of her SLC and wondered "if there is a plan for dealing with that." These concerns suggest that the new small learning communities had not fully replaced the large high school as the organizational identity for teachers in the SLCs.

"The downside is I'm out of touch with a lot of kids from the other small schools."

Interpersonal relationships among teachers also seemed to be more positive in small schools created through conversion than in large schools. Said one student about the teachers, "They seem to be really close friends." Another student said he has "never really seen disrespect between teachers and other teachers" and that the teachers are "like regular friends" who "do stuff after school." This student thought these friendships were important to the morale of the school.

Table 9
Academic Organization of the Conversion Schools

School	Structures That Support Personalization			Structures That Support Instruction					Assessments		
	Academic Theme	Advisories	Individual-ized Learning Plans	Mixed-Ability Groupings	Block Scheduling	Mandatory Internships	Offer AP, IB, Honors, Classes	Partnership with Local Higher Ed Institutions	Compe-tency-Based Promotion	Exhibitions, Presenta-tions	Portfolios
Von Humboldt[a]											
- ASA	F	F	N	F	P	P	F	F	F	P	N
- TCA	F	F	N	F	N	P	F	P	F	P	N
Logan[b]	F	F	N	F	F	P	F	F	N	N	PL
Western[c]											
- SHS	F	PL	N	N	F	F	F	F	F	F	F
Sullivan[d]											
- LA	P	F	N	F	F	N	P	F	N	F	P
- AMSM	P	F	N	F	F	N	P	F	N	F	P

Source: Implementation and School Environment Inventory.

F = Fully implemented.
P = Partially implemented.
PL = Planning to implement in future.
N = Not implemented and not planned.

[a] Lists the two small schools visited. There are a total of five small schools at Von Humboldt.

[b] None of the four planned SLCs were fully operational at the time of the visit.

[c] Lists the one small school visited. Two other SLCs were scheduled to open in 2003-04.

[d] Lists the two small schools visited. There are a total of three small schools at Sullivan.

Although each conversion school we visited showed signs of improved relationships between teachers and students, all reported that there was "still a lot of work to be done." One teacher talked about how change takes time, and that you have to "have faith." He said:

> *Kids don't come up to me and tell me that SLCs changed their lives. But I think there's more of a connection between students and teachers, and that's the point of it.*

High Expectations

When evaluators visited the conversion schools, they looked for evidence that all students were held to high standards, had equal access to advanced courses, and were challenged by rigorous curricula. The small schools that the foundation is supporting are supposed to be places where students are encouraged to work hard, be academically focused, and prepare to succeed in later life. All the schools we visited had been promoted to students and parents as places that were academically challenging, held all students to the same high expectations and standards, and made internships and college or career counseling integral parts of the program.

Respondents from half of the conversion schools we visited reported that the curriculum was academically rigorous. Said one student, "The schoolwork here is challenging … and, after school, help is available every day [for those who are having difficulty]." Said another student about the schoolwork, "It's hard work, but it is not too hard, as long as you pay attention." Students at the other two conversions didn't find the work challenging, or at least not as challenging as during the year prior to conversion. Said one student, "Last year they gave you more work and they helped you more, and you learned faster." Said another student, "I would think that they could try a little harder to give us harder work, but our school's not really been that hard." Teachers at these same schools did not concur with student sentiments and felt that the courses offered were challenging. But as

a school leader reported, teachers were frustrated because "they are told to make the courses rigorous and challenging, but then the students fail."

"I don't have as much homework as last year."

Several students reported that homework practices differed from last year to this year. Said one student, "I don't have as much homework as last year." Another student said, "I go home free almost every day … I don't really do anything at all, and I take advanced courses." One student offered an explanation for the lack of homework, saying that the classes are longer and teachers "never lecture for all 70 minutes … and always give you 20 minutes at the end of class to do your homework." This student's comment suggests that some teachers may not have known how to use the extra time that block scheduling creates.

Schoolwide academic press was often equated with college preparedness. Said one student, "I hear from graduates [who would have gone through the school prior to the conversion] that they are not prepared in college … don't have the skills, studying, homework." Another student blamed the conversion process for the inadequate preparation.

> *No, I don't [think I was well prepared]. I would say, because we was going through so much [with the conversion], I don't think they had time to focus on students.*

Teachers, for the most part, did not agree with student sentiments about college preparedness and felt they were preparing students for college. At least two teachers put the onus on the students. Said one teacher, "The main barrier … is their [the students'] attitude." Another teacher said that the students "want the bar to be lower" and are "trying to do a minimal amount of work."

Time to Collaborate

In spite of resistance from some staff to what was in some cases a district mandate to collaborate, the conversion schools were making progress toward establishing professional community among their staff and were explicitly involving teachers in decision-making.

Faculty at the second-year conversion school, Sullivan, reported experiencing growing collegiality and a sense of common purpose as a staff. One teacher described how, as a staff, "We are different personalities and have different teaching styles, [but] our philosophies as far as strong academics and high standards are similar." Elements of teacher professional community are displayed by an increasing teacher commitment to each other and a willingness to work on behalf of student learning. This claim is supported by ninth-grade teachers in one conversion school who reported that they met as a team regularly to discuss how they were addressing the needs of their students. In the second year of the conversion, faculty reported sharing teaching ideas freely with colleagues, participating on curriculum design teams, and engaging in team teaching with colleagues to improve their collective practice and help students. One teacher, in discussing the change experienced in his school, said that he was a "better teacher because I have been rejuvenated. I am a part of a team that is trying to do something innovative to help kids." Additionally, numerous teachers gave credit to the small-school principal for supporting teachers and promoting a sense of teamwork among the faculty.

Teacher professional community at Sullivan, however, was developing in the shadow cast by memories of the larger school out of which the small schools were formed. Although teachers were developing a sense of identity in their small schools, there was an undercurrent of sentiment as they fondly recalled the time when they were part of a department in the larger school. One teacher, describing the change since the conversion to small schools, put it this way: "[Sullivan] has never really been a big school—it was about 900. There was much more

communication and collaboration when the department [staff] were all on one hall."

"I know now that I'm not the only teacher who's expecting things out of the students, whereas last year, I never knew what people wanted."

First-year conversion schools are in the process of developing a common vision for teaching and learning and the specifics of good practice. Teachers reported that there were a variety of supports for teachers in the form of varied professional development opportunities, instructional coaches who work with teachers, and teacher committees that foster collegiality and professional learning. In one school, there were teacher committees designed to support teachers. Additionally, a number of teachers reported participating in dialogue and sharing ideas with their colleagues in an effort to promote teacher reflection and hold students to high standards. In describing learning goals for her students, one teacher said that she and her colleagues "are holding students to the same standards. I know now that I'm not the only teacher who's expecting things out of the students, whereas last year, I never knew what people wanted."

Mixed allegiances and the long-established culture of the large school have the effect of impeding collaboration, team teaching, and the development of small-school faculty identity, however. Teachers reported that the need for faculty and students to operate within different small schools, with different bell schedules, constrained their interactions with colleagues in other small schools, including the extent to which they could team teach with staff in other schools or carve out common planning time. These concerns suggest that teachers in the new small schools had not fully replaced the large-high-school departmental identity with their small-school identity and were struggling with forming the requisite new bonds and letting go of old ones. All these challenges were further compounded by budget constraints. As one

school leader noted, "It is hard to change culture during a budget crunch." Budget cuts reduce the available supported time for professional development and collaboration activities and inevitably lead to cuts in programs and to teacher layoffs.

Teacher leadership and distributed governance are described in the school reform literature as an important component of teacher professional community (Lee & Smith, 2001). Teachers in the conversion schools reported playing an active role in determining policy on a number of school committees, including grading, interdisciplinary curriculum, student behavior, and attendance. Before the conversion, teachers in one school were members of a shared governance committee for the school, and teacher participation continued on this committee. There was also broad teacher participation on the design teams that developed new vision statements for their respective schools.

The new structures resulted in small-school teaching faculties' taking on administrative responsibilities and making tough decisions consensually.

All the newly converted schools reported implementing policies and processes promoting shared decision-making. As a result of the conversion process, multiple leadership roles were created. Some of these roles reflected vestiges of the original school rather than needs of the emerging small schools, however. For example, one school had multiple department chairs, in addition to five small-school directors and five small-school coordinators. Many of these leaders formed the campus council, which was overseen by the large-school principal. They met regularly and made decisions collectively, as well as making decisions within their individual small schools. The new structures resulted in small-school teaching faculties' taking on administrative responsibilities and making tough decisions consensually. One teacher said that in terms of teacher decision-making, "staff get to deal with a lot more in

those [small-school meetings] than would be reasonable in large schools, such as integrating curriculum, administrative issues, and funding."

Grantee and District Supports

The experiences of the four conversion schools offer insights into the kinds of support needed to create small schools within large, comprehensive high schools. In this section, we look at the roles of the grantee and the district. Staff at all the schools created as a result of the conversion process expressed a need for professional development support focused on curriculum and instruction, as well as support for the change process itself. Additionally, staff spoke positively about participating in networks and visiting other schools engaged in similar change efforts.

Grantee Support

The grantees that supported the schools we visited provided a wide range of supports. Supports cited by school staff included professional development, meeting planning and facilitation, materials and other information, coaching, networking, and, of course, money.

One school leader reported that grantee staff visited the schools frequently. "He [the head of the grantee organization] feels welcome here and attends all the council meetings." Conversely, two of the schools noted that they saw more of the grantee in the beginning of the project, but less as time passed. Some school leaders described grantee support as more reactive than proactive. Said one school leader, "I'm confident if I have a question, I can contact him." Said another, "Were there anything we needed, I think they'd find it for us." Not knowing what they needed from the grantee was a problem for two of the schools. A parent from one of these schools was quite vocal on this issue, insisting that the grantee and other consultants should have known what the school needed and what challenges the school would encounter. She said, "Our school board didn't know how to implement this [small schools] without experience. These consultants/experts should have known these issues."

All the schools acknowledged the importance of the money received from the grantee and reported using it to pay for things such as professional development, teacher release time, and visits to other schools. Although there were some complaints about not being able to spend the money for staff salaries and construction, one school leader acknowledged, "It's not the money so much as the human resources that's important." This school leader described the grantee evaluator as "invaluable" and the grantee human resources staff as "great."

In two of the conversion schools, school leaders seemed to have significantly more interaction and familiarity with the grantee than did teachers. Said one teacher, "I have heard the name, [but] I have not gotten any materials from them or been to anything they have done."

A couple of the schools reported that communication between the grantee and the school was sometimes a problem. One school leader said she asked for professional development and was "just given a book" and told to teach herself. Another school leader had explicit needs and felt the grantee didn't come through. Said the school leader, "I thought [the grantee] would bring us examples of things, ideas, best practices, etc., but there are none." Another school leader felt the grantee was not clear about expectations:

> *In some ways, I feel like they are a monitoring organization. They are there to tell us when we're not doing something right. There hasn't been a solid decision-making format with [grantee organization]. They want us to make decisions, but there are guidelines out there that aren't written down but we still have to meet them.*

District Support

All of the conversion schools reported ways in which the districts have been supportive of the conversion process, such as allowing SLCs to use district professional development time for SLC planning, working with the grantee to establish a teacher leadership network,

encouraging the small schools to "reinvent ourselves and create new roles," and providing professional development for teachers on the advisory system.

However, the schools saw need for additional district supports for restructuring large, comprehensive high schools. At Logan, the student information system is at the district office and is the system used to report data about the schools. This arrangement is problematic because it forces Logan to report student data as if it were still a single school. The school leader said, "The system needs to be more SLC friendly … it needs to categorize students by SLCs." At Von Humboldt, the district still has a major role in providing professional development—professional development that often felt insufficiently relevant to the small-school staff. One teacher said that professional development time would have been more useful if it had been given to small schools specifically instead of used by the district because "some of the inservice days by the district are curriculum days that aren't as useful as the small schools planning together."

One school leader, while "giving the central district office a lot of credit," also said, "Our history [in the district] is of being top down, and the district hasn't changed much from this." He said this relationship created tension for the school because "the change [at the school] is teacher driven." For Sullivan, there is a sense that "the administration and the board of education don't have an understanding of what's going on." The school leader said it had been a challenge working with the district because each department in the district had a "different perspective toward the small-school initiative." However, the school leader at Sullivan commented that the superintendent was "wonderful." School leaders in at least one of the schools were looking for more district involvement. As one school leader said, "I would like the district to continue to show some interest and support. Largely, we've been left to our devices." School leaders were not uniform in their attitude toward district involvement. The school leader in another school expressed the opposite sentiment: "The school board and the

board of education need to establish parameters and then leave us alone to do the work."

Autonomy, defined as authority at the school level over curriculum, instruction, assessment, budget, staffing, schedule and calendar, governance, and facilities, is another issue for conversion schools. Schools believe that some amount of control over these assets is critical to their success, but districts tend to want all their high schools to operate the same program—an approach that is incompatible with small-school entities with their own theme and curriculum. Although none of the conversion schools in the sample had complete autonomy from the district, most had some autonomy with respect to scheduling and curriculum.

In terms of district and grantee relationships, one superintendent said:

> *You can't have solely grantee-school relationship. You need a district arm and conversation between all three … My interpretation is that with funders who are into reform, they want to ignore the district because they feel [the district is] the problem, so the more you work with people at the [school] site, the better. A happy medium would be to have checkpoints along the way. Find that administrator who understands both hats.*

The Challenge for Conversion Schools: Equity and Quality of Opportunity

One of the primary reasons the Bill & Melinda Gates Foundation staff cite for downsizing high schools, through either new start-ups or conversions, is the fact that large, comprehensive high schools fail to provide a high-quality education to *all* students. Typically, such schools sort students into different academic tracks based on their performance or ability. Often, students who do not have strong academic records (e.g., historically underserved populations such as racial/ethnic minorities or impoverished students) wind up in classes with

less-experienced teachers, low-level instruction, and uninspiring content (Oakes, 1986).

Conversion schools are susceptible to two different forms of tracking. The first is the kind of tracking seen in most conventional high schools—different courses offered to different students within the same school (e.g., basic math versus calculus)—as described in the preceding paragraph. The second is a form of tracking that is intertwined with the conversion process—different course offerings across a set of smaller schools or learning communities serving different kinds of students. Specifically, a large high school could convert into three small learning communities—one enrolling high-performing students, one enrolling mid-level-performing students, and one enrolling low-performing students—and offer different levels of courses and instruction in each of these small schools. Although none of the conversions had this intention and none has produced tracking in this extreme, several have come close. Moreover, the incorporation of a theme for each small learning community can exacerbate the problem of similar students tending to select the same SLC. Science and technology schools, for example, tend to attract many white and Asian boys and few girls.

While the conversion schools in the sample are coping with the mechanics of assigning staff and students to small schools and with the challenges of facilities and bell schedules, they have not made demonstrable progress in balancing the divergent needs of students who exhibit different levels of performance. Eliminating the traditional structure of tracking is very challenging. Moreover, many parents, staff, and students are "not on board" to end tracking, largely because a convincing model of how classes in small schools can serve all students has not been provided. Said one teacher, "There are three levels of students in every classroom: low-end, college prep, and honors. Putting all three of them together doesn't work."

In Von Humboldt, which made a good-faith effort to avoid tracking by SLC, administrators eliminated honors classes and integrated those students into regular classes. The administrators

were accused of "dumbing down" the school. Said one parent:

It seems like they're serving the 20% that are in the lower end versus the ones that are at the higher end. It feels like they are dumbing down our schools to meet the needs of the lower-achieving students. My daughter says it's too easy and she is not challenged. None of my kids are benefiting from this at all.

Several staff at this school concurred. According to one teacher, "The honors students are definitely suffering [because now that they] have been placed in regular classes, they are not getting the honors work." A couple of students in the focus group expressed similar concerns about the focus on the low- and middle-achieving students. Said one student:

I don't want them just to be thinking about the middle percentage of kids and trying to help the lower and then forgetting about the higher percentage of kids. I still want to be challenged.

Changes such as the elimination of tracking and honors classes require teachers to teach heterogeneous groups in the same classes, to challenge high-achieving students, and to provide extra assistance to those lacking numeracy and literacy skills. However, the professional development that teachers are receiving in schools undergoing conversion does not appear to offer specific strategies for tackling this issue. As one teacher said, "I still have idealism about trying to reach all students. I don't know how to reach all students. I need help with it." Classroom strategies that accommodate diverse learner levels and give every student an appropriate level of challenge are neither well understood nor common among teachers.

"I still have idealism about trying to reach all students. I don't know how to reach all students. I need help with it."

Data from three of the conversion schools show that the staff are sensitive to the issue of equal educational opportunity and have instituted a number of changes to meet the needs of high- and low-performing students, as well as the needs of English language learners (ELL). However, eliminating tracking by small school has proven to be a major challenge for converting schools. An approach used at Von Humboldt is to distribute AP course offerings equally across the small schools.

This arrangement reduced the "bleeding" of students who move from one small school to another to take classes and also ensured equal opportunity to take AP courses in each of the small schools. However, distributing AP courses across schools, rather than consolidating them, reduced the number of AP classes that any one student could take.

Although the vision of small schools is one in which all students have access to the same challenging courses and are held to the same high standards, most of the schools we visited were struggling with making their school work for all students, and often school staff felt compelled to compromise. One teacher, when asked how the conversion to SLCs was affecting students, especially those at the high- and low-performing levels, likened it to the kind of triage the crew had to perform on the Titanic:

and the people in the boats [are] saying, "What about us?" I think we're doing this movement not for the people in the boats [the high performers], because they're going to be OK. We're doing this movement for the people in the water [low performers], because they need more help.

Equity and quality of opportunity also touch on racial/ethnic issues in some of the conversion schools. At one of the schools, it was manifested as a racial divide between African American and Latino students, with the majority of Latino students placed in one small school. Although school leaders resorted to this arrangement as the best way to provide language acquisition support for these students, many parents and students felt this was just another form of

segregation. At another of the schools, the racial composition of some classes was the issue. As a school leader at that school noted, "The honors classes are all white … this is something we want to deal with."

Although there is research to support the conclusion that small schools can help close the achievement gap (Lee & Smith, 2001), where and how students get placed for courses becomes an issue for conversion schools when students are allowed to select the small school or SLC to which they will belong. All the conversion schools we visited were sensitive to issues surrounding the distribution of students. As these small schools develop, we must, as students at one of the conversions noted, pay attention to whether the move toward SLCs is affecting racial distributions positively or negatively.

If the conversion schools don't find a way to address equity and quality of opportunity for high- and low-achieving students, as well as for students of color and ELL students, they will not fulfill the vision of the Bill & Melinda Gates Foundation small-school initiative.

Conclusion

Converting large high schools carries challenges beyond those associated with new small schools because of the need to keep the existing organizational structures, policies, and procedures operating while implementing new ones. Surrounded by outmoded practices and facilities built with a different form and function in mind, conversion schools are struggling to get the particular supports needed to survive and to thrive. While much of the schools' attention is consumed with nuts-and-bolts issues of staffing, facilities remodeling, and bell schedules, the more fundamental challenge facing these schools is how to provide a rigorous program serving the needs of historically underserved students while also providing the level of challenge needed by those students who previously took advanced courses reserved for high achievers. The survival of the conversion schools may well depend on their ability to meet this challenge.

5. The Teaching Process

Chapters 3 and 4 examined implementation of the foundation's effective-school attributes in new small high schools and conversion schools. In this chapter, we focus on teachers and their teaching, investigating whether the school-level changes described in Chapters 3 and 4 have corollaries in the classroom. It is important to ask this question because the research literature provides many examples of well-intentioned, carefully implemented reforms that prompted only superficial changes in classroom practice (Berends, Bodilly, & Kirby, 2002; Bodilly, 1998; Smith et al., 1998; Stringfield, Millsap, & Hermann, 1997). Here, we examine instructional practice in foundation-supported schools to see whether the school-level changes already discussed help set the stage for classroom innovation.

As described in Chapter 2, the foundation's theory of change specifies that foundation-supported schools will display a set of attributes common in high-performing schools: these schools are expected to be personalized, authentic, and rigorous; to prompt students to take responsibility for learning, make choices, and do high-quality work; and to be linked to the broader community and real-world concerns. The theory further assumes that schools with these attributes will offer learning environments that promote active inquiry and in-depth learning and will use performance-based assessments to support student learning.

Drawing on the last two decades of learning research (Bransford, Brown, & Cocking, 1999), the foundation's explication of desired instructional practices includes starting with students' current knowledge and skills and drawing on students' interests and experience. The foundation staff advocate involving students in decisions about what and how they learn and having them explore topics in depth. Opportunities for students to collaborate with each other and with teachers and to participate in community- and work-based projects are promoted. The foundation's description of powerful teaching and learning also includes clear learning goals and ongoing monitoring of progress toward those goals through mechanisms such as exhibitions, portfolios, and other assessments that make visible students' understanding, reasoning, and skill levels (Vander Ark, 2001).

As discussed in Chapters 3 and 4, reformers in foundation-supported small start-up and conversion high schools are implementing a number of structures and approaches intended to promote active inquiry and in-depth learning. Among them are multidisciplinary instruction, extended learning periods, project-based learning, individualized learning plans, self-pacing, collaborative learning, community internships, and mentoring.

Reform-like Practice Index

Teachers frequently …
- Guide student research and analysis.
- Help students explore topics in depth.
- Assess student performance through hands-on demonstrations, exhibitions, and oral presentations.

Students frequently …
- Collect, organize, and analyze information and data.
- Evaluate and defend their ideas or views.
- Decide how to present what they have learned.

Conventional Practice Index

Teachers frequently …
- Lecture to the class.
- Lead practices on basic facts, definitions, computations, skills or procedures.
- Assess student performance using multiple-choice tests.

Students frequently …
- Memorize facts, definitions, or formulas.
- Practice computations, procedures, or skills.
- Prepare to take standardized tests.

In this chapter, we deal with learning objectives and instructional practices in 36 preconversion, start-up, and model schools. We examine survey data for two types of teaching in these schools: reform-like instructional practice and conventional instructional practice. We used teachers' survey responses concerning the extent to which they implement various instructional practices consonant with the two types of teaching to create measures of these two types of classroom practice. (See the technical appendix for additional information on how the teacher responses to survey items were used to create the instructional practice measures.)

We created the *reform-like instructional practice* index by combining response data on the extent to which teachers said they structure instruction to guide student-initiated research and analysis, as well as student evaluation and discussion of their views; stimulate deep exploration of topics; and assess student learning through hands-on demonstrations and presentations, group and multidisciplinary projects, portfolios, and performance-based assessments.

We created an index of *conventional instructional practice* by combining responses to survey items on the extent to which teachers lecture to the class as a whole; focus instruction on basic reading and math skills and on core knowledge, facts, and procedures; lead practices on definitions, computations, and formulas;

spend time preparing for standardized tests; and assess learning through multiple-choice tests.

While concerns have been raised in the research literature about the value of teacher survey data to measure instructional practice, we believe the comparisons supported by these analyses and triangulated through the interview data are useful. The teacher responses reported in this chapter show considerable variance within and between schools and recognize practices that run counter to the reform rhetoric. (See the technical appendix of this report for additional information on the reliability of the instructional practice measures.)

We used the instructional practice indices to address three questions in this chapter:

- To what extent do teachers in foundation-supported small high schools follow each of these models of instructional practice?
- Is there a significant change in reform-like and conventional teaching between Year 1 and Year 2 of small start-up high schools?
- What is the relationship between implementation of the foundation's school attributes and reform-like instructional practice?

The analysis method we used to examine these questions was hierarchical linear modeling (HLM). We began the analyses by examining differences in teachers' use of reform-like and conventional teaching practices in the three

types of schools, taking into account differences in school characteristics, instructional resources, and teacher backgrounds. We then used the school attribute index described in Chapter 3 to examine instructional practice data for schools at different levels of implementation of the foundation's school attributes. We used qualitative data from interviews with students, teachers, and other school leaders to triangulate, help explain, and illustrate the findings based on the survey data. (See the technical appendix for additional detail about the HLM analyses and results.)

Differences in Teaching Practices across School Types

Figure 3 shows the extent to which teachers employed reform-like teaching practices and conventional teaching practices in preconversion, start-up, and model schools. The three bars on the left show differences between teacher survey reports on their use of *reform-like instructional practice* at the three school types. The three bars on the right show differences in teacher responses concerning their use of *conventional instructional practice* in the three types of schools. The results are shown as effect sizes.[1]

The data in Figure 3 show large differences between faculty in start-up and preconversion schools in their use of reform-like instructional practices; these differences are statistically significant. Although differences between the responses of model and start-up school faculty with respect to reform-like teaching are not statistically significant, the effect sizes suggest a trend toward reporting of more reform-like practice by model school teachers than by start-up school teachers. On the conventional teaching practice index, differences between the three groups are all large and statistically significant,

with preconversion teachers reporting more conventional instruction than do start-up school teachers and start-up school teachers in turn reporting more conventional practice than model school teachers.

Instruction in Small Start-up Schools

The qualitative data collected on instructional practices in foundation-supported schools provide some examples of reform-like instruction in small start-up schools. The vignettes provided in Exhibits 9 and 10 are examples of start-up school teachers' efforts to promote students' active inquiry and in-depth learning.[2] Among the start-up schools that reported efforts to implement a common pedagogy across all classes, project-based learning (PBL) was the most commonly cited instructional strategy.

These examples of innovative practice in new small schools present only one aspect of the instruction that goes on there, however. It is important to note that while start-up school teachers report using reform-like practices more than teachers in preconversion schools do, in our interviews with them, 40% of the faculty in 2002-03 first-year start-up schools talked about the need to balance reform-like teaching with more conventional practice. Many also expressed dissatisfaction with their efforts at reform-like teaching thus far. We think it is important to feature teachers' reflections on their own practice because they provide fodder for teachers' continuing inquiry and innovation and for the design of assistance to schools.

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[1] Effect sizes are standard deviation units that support inferences about the size of effects in substantive terms; they supplement information about the statistical significance of differences. Effect sizes with absolute values of .5 standard deviation units or more are generally considered large. Those between .2 and .5 standard deviations are considered of moderate size. Effect sizes between .1 and .2 standard deviation units are regarded as small (Rosenthal & Rubin, 1994).

[2] We have not included descriptions of classroom practice in preconversion and conversion schools. We did not observe striking examples of reform-like teaching in those settings. In our interviews with them, teachers in converting schools focused on their plans for school-level structural changes. Many said they and their colleagues would focus on classroom-level change in the future. It is important to note, however, that many of the systemic pressures toward conventional instruction that we describe next affect the work of reformers in large high schools as well as those in small schools.

Figure 3
Reform-like and Conventional Teaching, by School Type
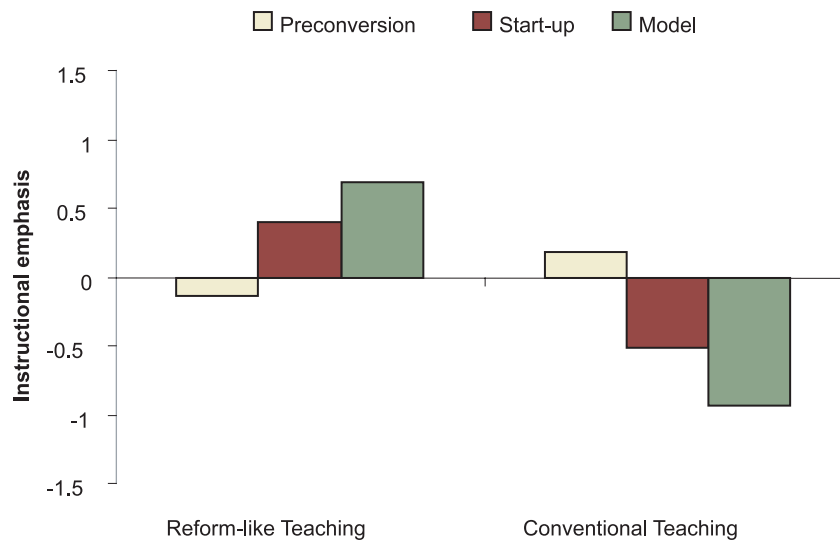
Source: Data from the school information form and teacher surveys from 2001-02 and 2002-03. The figure reports mean differences in effect-size units.

Note: School N = 36; teacher N = 676. For reform-like teaching, the difference between preconversion and start-up schools is significant (p<.01), while the difference between model and start-up schools is not significant. For conventional teaching, the difference between preconversion and start-up schools is significant (p<.001), as is the difference between model and start-up schools (p<.01).

Some highlights from the comments of teachers in small start-up schools:

- Many teachers said that their students need to develop stronger basic reading and math skills and better work habits. Faculty said that these skill sets provide a foundation for the innovative teaching and learning models their school designs promote.

- Teachers reported that the external pressures of accountability systems and jurisdiction- or charter-sponsored standardized tests encourage inclusion of conventional instructional content and approaches.

- Teachers said that preparing students for successful college application and for the workplace requires a balance of reform-like and conventional instructional practices.

- Finally, teacher informants said that although they know how to teach in conventional ways, they need more help

developing the expertise and strategies for effective teaching in reform-like ways. Teachers asked for additional professional development, useful instructional materials and models, and ongoing coaching.

Before providing examples of these pressures to use conventional practices in some of their teaching from interviews with start-up school staff, we note that there is no one "right" approach to instruction. The most effective teaching strategy will vary, depending on the goals of instruction, the teacher's skill set, and the students to be taught (Bransford, Brown, & Cocking, 1999). In a study of 384 Chicago elementary schools, Smith, Lee, and Newmann (2001) used teacher survey items to develop measures of contrasting approaches to teaching (much like the procedure used in this study). Teachers in their sample were more likely to use interactive instruction (similar to our reform-like practice construct) in classes where students

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Exhibit 9
Reform-like Instruction at Twin Bridges High School

At Twin Bridges, teachers are proud of their students' progress. One teacher explained:

My kids are maturing at just an incredible pace … I could put out a … project, and they could start with complete disorder and chaos, and they would quickly figure out some steps to take—and you know how hard that is.

He explained that at the start of a project, he gives the kids a problem context and a lot of background information and resources.

We dump 300 pages of information on these kids … and then we just walk away, and they know what to do with it. They say, "OK, how are we going to split this up, what's our schedule, what's our plan, and how are we going to attack it?" And I've told them this—and I really believe it—"I don't care if the kids in my class don't remember when the second world war started because I know they know how to find out and because they're learning skills that are so much more valuable." To me, it's just a miracle to see these kids and how they … can make order out of chaos.

The teacher went on to describe a project tied to the state standards that demonstrated impressive student initiative. This "Meet Me in St. Louis" project was intended to help students learn what happened in the United States between the Civil War and the turn of the century. Students worked in groups of five and focused on a world fair from that time period (e.g., the St. Louis World's Fair, the Philadelphia Exposition, etc.). Students were instructed to recreate the fair, conveying information about technological advancements, neglected minority groups, recent presidential elections, and other relevant issues.

Students created exhibits about their fairs and invited residents from a local senior citizen center to judge the exhibits. On their own initiative, one group of students cooked pancakes for the seniors because pancake mix was introduced at the fair they had studied; another group brought in Christmas trees for the entrance to the exhibit. The students dressed in period costumes. The teacher noted, "They didn't just rise to the occasion—they rose above the occasion, and some of the exhibits were just breathtaking."

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were performing above grade level and where there was little problem behavior, and in schools with relatively small proportions of low-income students. Didactic instruction (similar to our conventional practice construct) was more prevalent in schools with lower-achieving students, many behavior problems, and high proportions of low-income students. Students in schools using more interactive instruction experienced larger gains on standardized tests of reading and mathematics.

Smith, Lee, and Newmann did not conclude that interactive instruction is the right way to teach; rather, they suggested that good teachers use a mix of instructional strategies depending on what is being taught. The low incidence of interactive or reform-like practice in schools in urban settings, such as those where they conducted their study, suggests that many low-

income students may experience little or no interactive instruction in urban schools.

Attention to Basic Skills, Content Knowledge, and Work Habits

When students walked in the door of the start-up schools in our study, teachers were surprised by the weakness of their basic skills and work habits. Teachers said that these learning issues prompted them to make greater use of conventional teaching methods than they had anticipated.

Many teachers said that their students entered ninth grade unprepared for rigorous instruction and lacking the basic skills and subject matter knowledge required by the curriculum and reform-oriented instruction they had planned. Teachers talked about the need to

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Exhibit 10
Reform-like Instruction at Green Gables High School

Drawing from Bob Peterson's "Rethinking Globalization: Teaching for Justice in an Unjust World," the teacher distributed brown paper bags with construction paper, cardboard, and other materials to five teams of two to three students each. Each team was tasked with building a house in 15 minutes using all the materials in the bag. Students were told that their houses must have doors and that their products would be judged on aesthetics, practicality, and durability.

The five bags contained different sets of materials and varying amounts of material. One team had paper and some pencils but no tape. Other groups had paper, pencils, tape, and other materials. One group had string, markers, glue, scissors, a ruler, a hole-punch, pencils, markers, and tape. Students called that group the "first-world" group.

Groups dealt with the inequality in the materials available to them in different ways. A student on the resource-rich team said, "Gee, we've got all this stuff we've got to use. How are we going to use it all?" A student on another team commented. "They've got all that stuff. We don't have anything. Three sheets of paper and three pencils."

One pair of girls went quietly to work. They tore off the top section of their paper bag, created a four-sided base, and propped up the different pieces of cardboard and paper. The group without tape did the same thing. A third group built a tent with their materials, and a fourth created a trapezoid house with pencils to hold it together.

After 15 minutes had elapsed, the groups described to each other the work they had done and the features of their houses. The teacher then led students in a discussion about resource allocation and justice. She asked how students felt about their materials, about their differing resource levels, about the waste of materials, and about the potential consequences of inequity.

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adjust early instructional plans to provide more reading and mathematics skill building, content review, and structured experiences. One teacher explained:

Their needs for literacy skill development were really strong. We made a major shift to focus more on literacy in the beginning so [we would be] able to do critical thinking in the long run. We really worked hard to find different strategies to help students improve in literacy. We'll keep this focus this year.

Although concerns around literacy were most common, teachers made similar comments about students' mathematics facility and knowledge of science content.

Beyond the issue of basic skills and content knowledge, teachers noted students' lack of readiness to take responsibility for their own learning in the early months of high school. One teacher said her students weren't prepared for the responsibility associated with student-directed projects. As a result, she said, she and her colleagues provided more guidance and direction than anticipated. She explained, "We made a mistake. We started out too abstract. Kids didn't know what we were talking about. They had never done this before."

A number of teachers in start-up schools talked about the continuing need for conventional instruction. They said that on some topics students need to master basic concepts before they can usefully begin self-directed learning. Teachers in mathematics and the sciences, in particular, held this view. One start-up school scheduled voluntary seminars at the beginning of study units. One of the faculty described these seminars as "topic-based, interest-driven, and need-to-know instruction." He said that the seminars included some lecture-based and other fairly conventional instruction. Several start-up schools turned to software packages, like *Boxer Math* and *Accelerated Math*, to bolster students' mathematics knowledge and skills.

What Is Project-Based Learning?

Among the schools in this initiative that reported efforts to implement a common pedagogy across all classes, project-based learning (PBL) is the most commonly cited instructional strategy. Curriculum developers and teachers tend to use the term *project-based learning* to cover a wide range of approaches, including everything from semester-long group efforts resulting in a complex product (such as a functioning robot or a museum exhibit) to individual research projects to classroom exercises where students have some hands-on involvement with materials before writing a report.

Although there is no generally accepted definition of project-based learning, the Buck Institute for Education (n.d.), a leading proponent of the approach, defines project-based learning as:

> *a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks.*

An initiative promoting project-based learning in Silicon Valley schools identified six essential components of an exemplary project:

- Built around instructional objectives in the core curriculum
- Real-world connection
- Extended time frame
- Opportunities for student decision-making
- Opportunities for student collaboration but with each student making a unique contribution
- Assessment of the project's products and processes.

A related pedagogy is *problem*-based learning. The Center for Problem-Based Learning at the Illinois Mathematics and Science Academy (n.d.) defines problem-based learning as:

> *a curriculum development and instructional approach that simultaneously develops problem-solving strategies, disciplinary knowledge bases, and skills by placing students in the active role of problem solvers confronted with an ill-structured problem which mirrors real-world problems.*

In addition to sharing the same acronym, project- and problem-based learning share the emphasis on complex, multipart tasks requiring active engagement in solving a realistic problem. Both approaches seek to motivate students' acquisition of knowledge by presenting them with interesting, complex problems or tasks that require the knowledge.

Advocates of project-based learning often cite the work of John Dewey (1902) as the intellectual root for the approach. Problem-based learning, on the other hand, grew out of instructional practice in some medical schools, where particularly illuminating problems (cases) were used as the mechanism for conveying the curriculum.

The chief difference between the two versions of PBL lies in the extent to which a problem (as opposed to a topic) is developed before students are involved, either by the teacher or by a curriculum developer. Students are more likely to be involved in negotiating the nature of their project than they are in negotiating a problem. Given its greater degree of advance structure, problem-based learning tends to occur over shorter time frames than project-based learning. The distinction between the two approaches is fuzzy, however, and many educators will refer to the same activity interchangeably as "project-based" or "problem-based" learning, or simply "PBL."

External Accountability Pressures

School leaders and teachers cited external accountability pressures as another reason they had to balance reform-like teaching with conventional instruction. Faculty recognized the need to attend to standards and to help their students do well on external tests. Some teachers reported using a mix of reform-like and conventional strategies to strike a balance between covering the content addressed by jurisdiction standards and promoting the inquiry and learning skills targeted by their reforms.

A leader at one small school said that careful attention to the range of content in jurisdiction

standards would "help the school survive." Teachers talked about the need to systematically cover specified content and prepare their students for standardized tests. One California teacher explained:

> *We have to [test the kids] for funding, for research purposes, and for tracking. We have to get the kids ready and tell them they have to do well. With all the monitoring and tracking, we have to be really conscious of what happens.*

At another California school, the principal talked about the need to score well in the state's school accountability system:

> *Standardized testing is a reality of California public education ... We certainly want to score well on the API [Academic Performance Index]. So it is important to us.*

Not all start-up school teachers were happy about the time they had to spend preparing students to perform well on mandated tests, however. Reflecting on this requirement, one teacher said:

> *Learning things for a test is not true learning. When something is in front of you and you are touching it and taking it apart and also do traditional things like writing and reasoning on the side, they are equally important. That creates true understanding and experiences students remember, not for an exam but because they enjoyed it or it was hard.*

Preparing Students for College and the Workplace

Teacher informants also said they recognized the need to balance conventional and innovative methods in their efforts to prepare students well for college application, admission, and performance. They talked about the need to systematically cover the content in state standards while also preparing their students for college and helping them develop the learning strategies they will need both in college and beyond. One start-up school teacher explained:

> *We have to make sure the kids have the requirements they need and make sure they are living up to standard...meeting criteria for their own development as learners, as well as meeting state standards and standards for the UC [University of California] system.*

To address advanced content, some start-up and model schools supplement their offerings with coursework at local colleges. Others offer Advanced Placement (AP) courses. The local college and AP courses generally follow more conventional methods than those promulgated by the grantee organizations.

On the other side of the ledger, faculty use reform-like methods to help students develop the higher-order and problem-solving skills their learning models stress. In some of the small schools we visited, faculty were helping students decide what they would learn and how they would learn it. Staff at these schools were guiding student inquiry and deep exploration of topics, and they were helping students decide how to present what they had learned. One teacher described how she worked with students to develop a project proposal that includes:

> *outcomes of the project, guiding questions, and that connects guiding questions and outcomes to learning goals. [It also includes a] brief description of the project, timelines by task, and lists of tasks. Students are willing to sit down and work things out in a mature way ... work out the time management piece and project proposal draft, and connect the proposal to goals. Then I sit down with the student to work out the details, such as helping them link the learning goals, in an authentic way, back to tasks in the project.*

Schools also used new methods to prepare students for employment through service-learning and internship opportunities. In interviews, teachers talked about their plans and early experience with school-required community service, job shadowing, and workplace-based internships. These experiences generally require students to assume responsibility for their learning and are intended

to help prepare students for successful participation in the world of work. The internship is a central component of a few grantees' education model (e.g., the Big Picture model); in these models, much of students' learning during secondary school is expected to occur at internship sites. Other schools treat internships as part of their program but less central, as evidenced by the fact that some start-up schools planning internships did not try to implement them in the schools' first year. Most start-up schools were in the early stages of structuring their service-learning or internship programs and were still identifying promising placements. Some of the schools that were providing internship experiences were grappling with the issue of how to make sure that students have worthwhile learning experiences when they go to the workplace. Some workplace mentors expressed concern about receiving little or no training on how to make the internship an educationally meaningful experience.

Teacher Development and Support

This year, many informants said that they found themselves underprepared and under-resourced for reform-like instructional practice. In interviews, teachers were candid about their lack of preparation for innovative practices and the curricular demands of a new small school. Faculty at a number of schools said there was little time for teacher professional development in a school's first year and few available development opportunities on reform-like practices, particularly project-based learning and other inquiry-based approaches.

Informants noted that teaching for active inquiry requires substantial new learning on their part. Teachers described the challenge of being ready for unanticipated project content when students' learning took unexpected turns. In addition, teachers reported that some of the content of the multidisciplinary curricula they were trying to teach was new to them, and that adding new content while still learning how to implement project-based learning methods was a challenge. Exhibit 11 describes the classroom of a start-up school teacher whose weaknesses were exacerbated by the need to take on this challenge.

Informants in new small schools also highlighted the lack of curriculum resources as a difficulty. They said that reform-like instructional materials were hard to find and that multidisciplinary materials and models were especially elusive. Teachers lamented the fact that at this early point in their work they lacked models of successful lessons and high-quality student work. Given few available instructional resources and no previous classes or students to use as guides for teaching practices and curricula, many teachers felt that they needed to "start from scratch." One teacher said he worked 12 hours every weekend, mostly on curriculum development. He commented, "Curriculum development is just huge, especially when it's something that hasn't been done before." This teacher was anticipating that curriculum development would get easier once established curriculum units were in place; after that, he expected that he and his colleagues would "still need to adapt each year, but there'll be less need to develop from scratch."

Reform-like and Conventional Teaching in Second-Year Start-up Schools

The broader literature on school reform suggests that extensive teacher professional development, practice opportunities, instructional materials and models, and time are required for changes in classroom practice (Richardson, 1991).

In addition to the HLM analyses described above, we used paired t-tests and ordinary least squares analyses to compare first- and second-year instructional practices in seven small schools for which we had data on both years of operation. Informed by the literature on school change and the school attribute results described in Chapter 3, we hypothesized that there would be very few differences in instructional practice between the first and second years of operation in these new small schools.

Our examination of school-level data on differences in conventional teaching practices between the first and second years of operation in the seven second-year start-up small schools showed no noticeable differences in practice between the two years. The school-level data on reform-like practice, however, suggest that there

Exhibit 11
Juggling New Content and New Instructional Practices

This start-up school's science classroom was large with multiple lab-type tables. The teacher demonstrated the use of a stethoscope and a blood pressure gauge for the 33 students, who were sitting two to four to a table. He then instructed the students to "play around" as they moved through five human biology stations set up on different lab tables. In addition to the table with the blood pressure gauge and stethoscope, there was a table with a device for measuring lung capacity, one with a hammer for measuring reflexes, an eye/hand coordination game, and a reaction time meter. Several of the learning stations had accompanying learning activities developed by the equipment vendor or a university-affiliated curriculum development organization.

As eight students worked with the reflex hammer, they tried it on one student's knee and got no reaction. The teacher tried it on the same student, also with no reaction. The teacher tried it on several more students; the third one exhibited the reflex. One student pretended to stab another with the handle of the reflex hammer, then tried the reflex hammer on his elbow.

The eye/hand coordination activity involved two game boards with slots of different shapes into which 1 of 25 pieces will fit. A handout that went with the materials described an activity in which a student puts the 25 shapes in the proper slots as quickly as possible while another student times him or her and a third records the time. Each student is supposed to do the task five times, according to the handout, and then compute an average and look at the improvement in time from the first to the fifth trial. Students timed each other on the activity but did not go through the multiple trials specified in the directions. When the teacher came over and asked the students what they were learning, one replied, "Use two hands." (The instructions say to use one hand only.) The teacher asked, "What kinds of things do you think you could do to improve your reaction time?" The students didn't answer, and the teacher moved on.

The activity handout for the reaction timer described how the timer could be used to compare the time it takes someone to react to visual v. aural v. tactile signals. It also described a warm-up activity in which the teacher drops something that will make a large noise to introduce a discussion of reactions to unexpected noises and how people obtain sensory information. (The teacher did not do this.) The students did not appear to pay any attention to the handout; they did not systematically obtain reaction times to different stimuli or record any of their times.

At one point, the teacher said to the class, "I want to make sure that everybody gets a chance to get or give a blood pressure." When a student asked the teacher if he could make up some work, the teacher looked at the clock and replied, "Better do it after class so I can monitor these clowns now."

In site visitors' interview with the school's lead teacher, she observed that some of the elements of the school's integrated science/engineering curriculum were things the observed science teacher hadn't taught before. She believed that this unfamiliar content, combined with the project-based learning pedagogy of the school, posed a challenge for him.

In his interview, the science teacher said that it was "nice to teach things you've taught before and from a book." His next unit (after the one described above) was going to be on genetics, and he noted that he would have to bone up on the material before teaching it. The science teacher said that he was relying on his colleagues for help with the biology part of the course he teaches. He concluded: "I think I'm doing OK under the circumstances … I'm flying by the seat of my pants a lot."

Misconceptions about Teaching

In *How People Learn*, a synthesis of learning research and its implications for education prepared by the National Research Council (Bransford, Brown, & Cocking, 1999), two common misconceptions about teaching are highlighted.

The first is the notion that anyone with content knowledge in an area can teach that subject effectively. Good teaching requires not only knowledge of the academic discipline, but also what Shulman (1987) terms "pedagogical content knowledge"—knowledge of the structure of the discipline (i.e., its most important principles and their interrelationships), an awareness of those specific areas within the discipline that are often conceptually difficult for students, and a set of techniques for overcoming those conceptual difficulties.

The second common misconception about teaching is the belief that a teacher with a strong set of instructional strategies can teach in any content area. The *How People Learn* authors note, "This notion is erroneous, just as is the idea that expertise in a discipline is a general set of problem-solving skills that lack a content knowledge base to support them." (p. 176). According to *How People Learn*:

> *Different disciplines are organized differently and have different approaches to inquiry. For example, the evidence needed to support a set of historical claims is different from the evidence needed to prove a mathematical conjecture, and both of these differ from the evidence needed to prove a scientific theory.* (p. 143)

Part of what makes interdisciplinary projects so hard to do well is the need for teachers or other mentors who are knowledgeable in the many different domains that might come into play as students' work on the project progresses.

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was significantly *less* emphasis on reform-like teaching in 2002-03 in the seven start-up schools that opened in fall 2001 than there had been in the 2001-02 school year. The reader will recall from Chapter 3, however, that there was a strong relationship between school size and the foundation's school attributes in 2002-03. When our analyses accounted for differences in school size among the seven schools, differences between the reported use of reform-like instructional practice in the first and second years became nonsignificant. (See Table A-13 in the technical appendix for detail on these analyses.)

Relationships between the Effective-School Attributes and Instructional Practice

In Chapter 3, we described the status of preconversion, start-up, and model schools with respect to implementing the foundation's effective-school attributes. We created a single school-level variable that measured the extent to which teachers and students reported that the foundation's attributes of common focus, high expectations, personalization, respect and

responsibility, time to collaborate, and the use of technology as a learning tool were in place in their schools. In this chapter, we relate this school attribute index to classroom teaching. Here, we look at the relationships between the school attributes and the use of reform-like and conventional instructional practices in foundation-supported schools. As mentioned earlier, among the innovative structures in planning or in place at foundation-supported schools are multidisciplinary instruction, extended learning periods, project-based learning, individualized learning plans, self-pacing, collaborative learning, community internships, and mentoring. In this section of the chapter, we test the hypothesis that higher levels of innovation at the school level will facilitate reform-oriented instruction in the classroom.

Figure 4 shows the school attribute index data for the 36 schools in our sample in relation to reform-like instructional practice and conventional instructional practice. The top line shows the relationship between the school attribute index and reform-like teaching; the bottom line shows the relationship between the effective-school attributes and conventional teaching.

Figure 4
Estimated Relationship between the Effective-School Attributes and
Instructional Practice
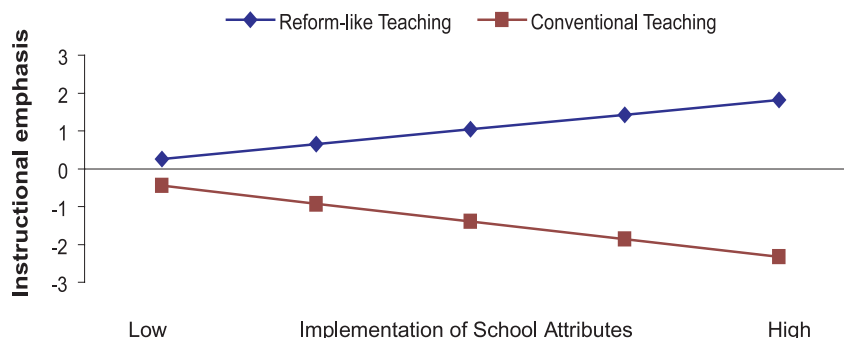
Source: Data from the school information form and teacher surveys from 2001-02 and 2002-03. The figure reports estimated differences from the HLM results.

Note: School N = 36; teacher N = 676. The estimated relationship between reform-like teaching and the school attribute index is significant (p<.001); even after controlling for school type, teachers exhibit more reform-like teaching with more school attributes. The reverse is true for conventional teaching (p<.001); teachers exhibit less conventional teaching with more school attributes.

The data in Figure 4 show that schools making greater progress implementing the foundation's school attributes also have significantly higher levels of teacher-reported reform-like instructional practice. The graph shows also that schools making more progress on the foundation's school attributes report significantly less use of conventional instruction. Both relationships are statistically significant.

Examples of the relationships between implementation of the effective-school attributes and instructional innovation are found in the qualitative data, as well. Some of the factors teachers described as conducive to reform-like instructional practice relate to the foundation's school attributes. We conclude this chapter by discussing several of them.

Personalization as a Support for Reform-like Teaching

Many of the teachers and school leaders we interviewed talked about the important relationship between instruction and the school attributes of personalization and responsibility. Most fundamentally, faculty said that knowing their students well allowed them to address students' individual learning needs more

capably. Teachers said that the relationships they developed with students paid dividends in the classroom, allowing them to better target students' academic strengths and weaknesses and engage them in learning. Close relationships allow faculty to appeal to students' interests. One teacher said, "There aren't the moans and the groans and the 'Why do we have to learn this?' Here, there's a level of self-direction and management." Teachers said that when the work was intrinsically interesting, students took responsibility for their learning and their work.

Time to Collaborate as a Support for Reform-like Teaching

Teachers also stressed the importance of time to collaborate (another effective-school attribute) and professional community as supports for their efforts to employ reform-like instructional practices. They said that the opportunity for faculty to work together and the flexibility they have—to plan, develop curricula and assessments, team-teach, and observe each other's teaching—help their efforts to innovate. Teachers reported that some summer professional development experiences furthered their thinking about reform-like practice. One teacher described how the professional

community at his school and the new "critical-friends" process helped promote reform-like instruction. He said that, through the critical-friends process, faculty developed an organized way of walking though new units with peers and getting constructive feedback. The process helped keep staff "honest" about the defining features of project-based learning. Another talked about how working together helps teachers cope with the "messiness" of combining traditional and innovative approaches:

> *Many of those who were successful with more traditional curricula do want the freedom [for students to learn through inquiry methods] but then have a hard time with the "messiness" that results. Learning to balance needed structure with freedom and messiness has been an important lesson ... this year.*

Conclusion

The data in this chapter suggest that teachers at start-up schools do more reform-like teaching, characterized by active, in-depth inquiry approaches, than do teachers in preconversion schools. Moreover, among the start-up schools, there is greater emphasis on reform-like teaching in those schools where the foundation's school attributes are more firmly in place. Faculty in start-up schools reported less conventional practice than did preconversion school teachers. However, our picture of instructional practice in new small schools is more complex than these data suggest. In interviews with researchers, start-up school teachers expressed a need to balance reform-like practice with conventional teaching methods. They said they had to have a well-stocked toolbox of instructional methods if they were to meet the diverse learning needs of their students, prepare students well for college application and entry, and respond to the requirements of external testing and accountability systems. Teachers in the new small schools expressed a desire for professional development, useful instructional materials and models, and ongoing coaching to help them better develop their practice.

6. Early Student Outcomes

In Chapter 5, we described the relationship between foundation-supported reforms and the teaching process. Here, we examine the relationship between reform efforts and early student educational outcomes—specifically, student attitudes about their academic skills, schoolwork, and teachers. Because many of the start-up schools in our sample were in their first year of operation and all data analyzed in this chapter are cross-sectional, longer-term student outcomes, such as graduation or college entry, cannot be addressed yet. Small schools started under this initiative are just starting to appear in district databases, often with just one or two grade cohorts. The first analyses of district achievement, attendance, and behavioral data for schools started under this initiative are under way and will be reported in 2005. In the interim, we examine students' attitudes toward education and their school because previous studies have established the theoretical and empirical connections between subjective student attitudes and specific educational outcomes (Newmann, Wehlage, & Lamborn, 1992; Osher, Woodruff, Smerdon, & O'Day, 2003).

We begin our analyses of student attitudes by examining observed differences between the three types of schools (i.e., first-year start-ups, preconversions, and model schools). We continue our examination by assessing the relationship between student attitudes and schools' implementation of the foundation's attributes of effective schooling. Finally, we examine the relationship between both reform-like and conventional teaching practices and early student outcomes.

More formally, this chapter will address the following four questions:

- What is the relationship between school type and early student outcomes?
- What is the relationship between the implementation of the foundation's school attributes and early student outcomes?
- What is the relationship between teaching approaches and early student outcomes?
- Is there a significant change in student attitudes between Year 1 and Year 2 of small start-up schools?

We used hierarchical linear modeling (HLM) to examine these questions. These models allow us to address the questions while taking into account differences in the characteristics of students attending the schools supplying data. (See the technical appendix of this report for additional detail about the HLM analyses and results.) We use data from focus groups with students to illustrate and help explain the survey-based findings.

Differences among Types of Schools

By combining the responses to multiple student survey items, we were able to develop measures for five dimensions of students' attitudes toward their education to examine their relationship with school type. The dimensions are:

- *Academic interest* – how often students asked questions or contributed in class, met with teachers, and talked about schoolwork outside of class.
- *Academic persistence* – how often students gave extra effort on challenging assignments, got help with difficult homework, and resisted giving up when work was hard or not interesting.
- *Academic self-concept* – the degree to which students felt they were good at reading, writing, learning mathematics, getting help, and working with others.
- *Social responsibility* – how well students felt they had been taught to be responsible members of the community, respect diverse opinions, and think critically.
- *Academic progress* – how well students felt they had been taught to read, write, analyze math problems, and learn on their own.

In addition to reporting results for each of these five measures, we combined all five into a single student attitude index. (See the technical appendix for a complete list of survey items used, reliability statistics, and a description of the creation of the overall construct.)

As Figure 5 illustrates, students in preconversion schools expressed significantly less positive educational attitudes than students in start-up schools (p<.01). Students in model schools had significantly more positive attitudes than students attending start-up schools (p<.01). Figure 5 also illustrates the relationship between school type and the five individual attitude constructs that comprise the overall attitude index. Note that student attitudes in start-up schools were significantly different from student responses in preconversions on academic interest, persistence, and self-concept (p<.01). All three of these constructs reflect student appraisals of their own attitudes, actions, and abilities. On these three constructs, the data we

collected from start-up school students resembled those of students in the model schools. In contrast, start-up school students were significantly less positive than model school students (p<.01), and no more positive than preconversion school students on the two remaining attitude constructs—their assessment of how well their school had prepared them in academic skills (such as being a good reader or writing clearly) and in areas of social responsibility (such as respecting the opinions of people of different backgrounds or being ready for the world of work). These latter two measures reflect students' attribution of credit for the specific end result of education to their school rather than a rating of their own interest in or capacity for challenging schoolwork.

Students in preconversion schools indicated that they were not always engaged in or challenged by their schoolwork.

Student focus group data provide insight into some of the possible reasons why students attending preconversions had less positive student attitudes, as measured by our survey. Students in preconversion schools indicated that they were not always engaged in or challenged by their schoolwork. In these settings, students often claimed that their engagement varied, depending on the teacher and the subject. For example, students made sharp distinctions between classes and teachers that were "good" and "challenging" and those that gave "busy work" or were "overly easy." The focus groups with students in start-up and model schools were more consistently positive. Many of these students were motivated, took schoolwork seriously, were finding their projects to be challenging, and felt that they were being held to high standards. Comparing their current experiences with those in middle school or previous high schools, students at start-up and model schools said they appreciated the flexibility and freedom they had to direct their own learning. Students described learning valuable skills in collaboration (group work),

Figure 5
Student Attitudes, by School Type
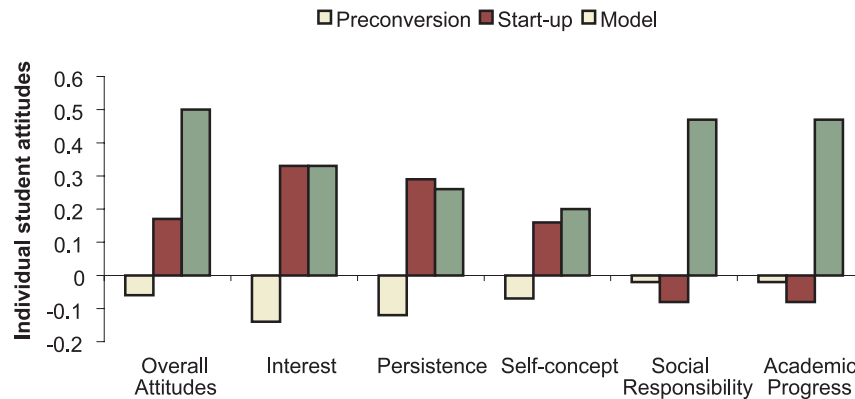
Source: Data from the school information form and student surveys from 2001-02 and 2002-03. The figure reports mean differences.

Note: School N = 36; student N = 8,637.

public speaking, organizational skills, and time management. One student said her small school helped her "experience success and the pleasure of learning." Another said, "Previously I had a carefree attitude. I did it [schoolwork] because I had to. Now nobody makes me do it. I do it because I want to. I care about school."

Student Attitudes in Second-Year Start-up Schools

In addition to the HLM analyses, we used paired t-tests to compare first- and second-year student attitudes in seven small schools in their second year of operation during 2002-03. Given the results described in Chapter 3, we did not anticipate seeing a substantial change in student attitudes between the first and second years of operation of these new small schools. We thought that the uneven level of progress schools were making as they moved from Year 1 to Year 2 would make any drastic change in student attitudes unlikely.

As expected, we did not find a change in overall student attitude index from Year 1 to Year 2 in start-ups. We found the same result (i.e., no change) when we examined the individual dimensions of academic interest, persistence, and self-concept. However, we actually found a significant decline in students'

sense of how well they felt they were taught social responsibility and how well the school contributed to their academic progress from Year 1 to Year 2. This decline remained statistically significant even when controlling for change in school size. (See Table A-23 in the technical appendix for detail on these analyses.)

Educational Attitudes among Historically Underserved Students

Figure 5 displays student attitudes by school type for all types of students collectively. However, one of the important goals of the school reform movement is to address disparities in student outcomes experienced by historically well-served and underserved populations. To address such issues, we explored whether or not the relationship between student group and student attitudes varied across different school types. By reformulating the HLM model that generated Figure 5 to allow the effect of school type on student attitudes to vary for particular groups of students, we were able to determine whether any of the school types were more successful than the others in reducing gaps that may exist between different types of students. We created two separate groupings of students for this analysis. The first is based on mother's education level as a proxy for the student's

socioeconomic status. The second is based on the student's race/ethnicity, particularly looking at African American and Hispanic students. We examined these two student classification schemes separately.

Figure 6 presents the relationship between school type and our composite student attitude measure for three categories defined by student responses to our mother's education survey item. We divided students whose mothers had at least some college from students whose mothers had a high school education or less. Because a sizable proportion (17%) of students completing the survey indicated that they did not know their mother's education level, we grouped students responding this way into a third category.

The most striking finding in Figure 6 is the uniformly high levels of student attitudes in model schools. Regardless of mother's education level, students in model schools scored significantly higher than students in other schools on our composite measure of student attitudes. In sharp contrast, Figure 6 indicates that within both start-up and preconversion

schools, attitudes were significantly higher for students whose mothers went to college than they were for students whose mothers did not go beyond high school ($p<.05$). While students attending start-up schools had higher composite attitude scores than their counterparts in preconversion schools for each maternal education category, only at model schools were students uniformly positive toward their education, regardless of the education level of a student's mother. The apparent success on the part of model schools in promoting positive attitudes across maternal education categories must be interpreted with caution. Figure 6 is based on a single data collection from each school. Therefore, we are not in a position to conclude whether this finding is the result of model schools' consistently raising student attitudes to a high level or the result of their managing to recruit students with uniformly positive attitudes.

Figure 7 displays the relationship between school type and our composite student attitude index for three ethnic groups: African Americans, Hispanics, and Whites. We did not
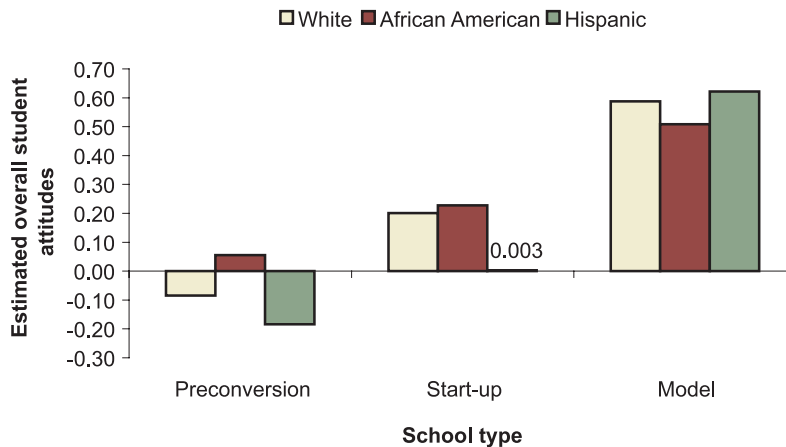
Figure 6
Overall Student Attitudes, by School Type and Mother's Education
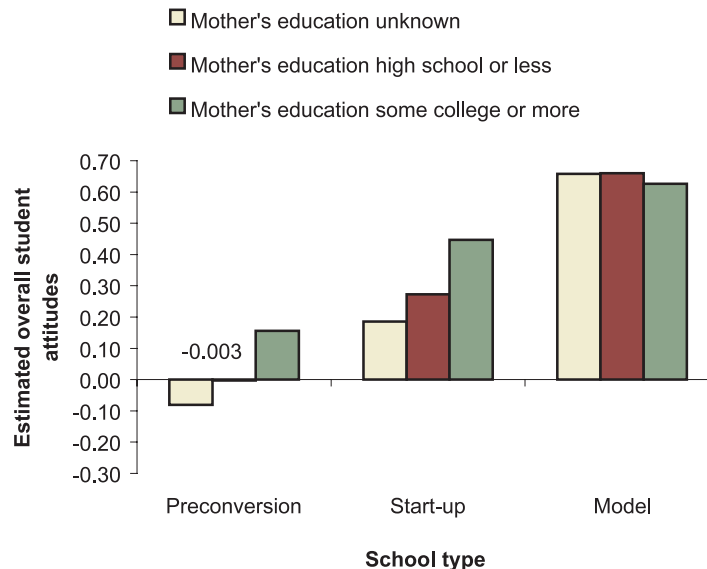
Source: Data from the school information form and student surveys from 2001-02 and 2002-03. The figure reports mean differences.

Note: School N = 36; student N = 8,637.

Figure 7
Overall Student Attitudes, by School Type and Student Race/Ethnicity

Source: Data from the school information form and student surveys from 2001-02 and 2002-03. The figure reports mean differences.

Note: School N = 36; student N = 8,637.

have a sufficient number of cases to explore the interaction between other ethnic categories (e.g., Asian, Native American) and school type. The findings for ethnicity mirror the findings for mother's education. Again, we see high scores on our composite measure of student attitudes for students attending model schools, regardless of student ethnicity. Our HLM model found a statistically significant advantage in student attitudes for Hispanic students attending a model high school, above and beyond the overall positive association between model schools and student attitudes ($p<.05$). Some caution is warranted in interpreting the results for African Americans presented in Figure 7 because differences implied in the figure were not statistically significant.

Reform Implementation and Early Student Outcomes

In this section, we examine the relationship between the school attribute index that was created in Chapter 3 and student attitudes. As in the preceding section of this chapter, we examine this topic first with survey data and then use the information gathered from student focus groups to help explain the survey results.

We looked at the relationship between the school attribute index and the composite student attitude variable, as well as the individual constructs that comprise it. As Figure 8 illustrates, there was a statistically significant association between the school attribute index and the composite student attitude measure. Schools that reported higher levels of the foundation's school attributes had students who expressed more positive educational attitudes. However, an analysis of the five individual constructs reveals a significant relationship only for academic interest, persistence, and self-concept. It is interesting to note that the individual student outcome constructs that varied by a school's score on the school attribute index were the same ones that differed significantly between preconversion and start-up schools. That is, a relationship with the foundation's attributes exists only for the constructs that measure student appraisals of their own actions, attitudes, and abilities. The two constructs that reflect students' assessments of how well they were taught—social responsibility and academic progress—do not appear to be related to the school attributes.

The focus groups we held with students attending start-up schools revealed student

Figure 8
Estimated Relationship between the School Attribute Index and Student Educational Attitudes
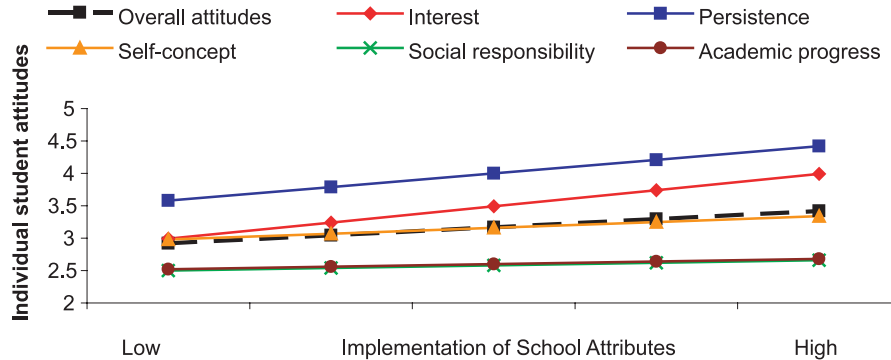
Source: Data from the school information form and student surveys from 2001-02 and 2002-03. The figure reports estimated differences from the HLM results.

Note: School N = 36; student N = 8,637. The estimated relationship between overall student attitudes and school attributes was significant (p<.001), even after controlling for school type (p<.05), where students expressed more positive attitudes with higher implementation of school-level attributes. Similar patterns hold for the individual attitudes.

perceptions of the linkage between characteristics of the school climate and their attitude toward education. Just as teachers and school leaders (in Chapter 5) indicated that knowing their students well allowed them to address individual student learning needs more capably, the students said they appreciated being known academically and socially by their teachers. Recall that two of the six scales—personalization and respect and responsibility—that we used to build the school attribute index measure student-teacher relationships.

When we talked with students, they often stressed the importance of relationships with their teachers. As one student attending a small school put it, "Whatever you are struggling at, they do their best to help you. They won't leave you alone until you get it." Other students stated that this was very different from the relationships they experienced in the larger schools they had attended in the past. Students described their relationships with adults in previous schools as being idiosyncratic and selective. After enrolling in a small start-up school, one student reported that "Everyone has their own relationship with the teacher now." Another student in a start-up school expressed

the importance of extending relationships beyond just schoolwork:

> *She [my advisor] knows a lot about me. At my other school we had so many teachers—I knew one teacher pretty well, but I could only talk to him about work because he had so many students.*

This final example illustrates the importance to young people of being known by their teacher beyond their role as student.

Relationship between Teaching Practices and Early Student Outcomes

In this section, we examine the relationship between the teaching process and early student outcomes. We use the two teaching indices that were developed in Chapter 5—reform-like instructional practice and conventional instructional practice. Recall that the reform-like instructional practice index combines teacher survey data concerning the extent to which teachers said they designed their instruction to include student examination of real-world problems and interesting topics, student research and analysis, student evaluation and discussion

of their views, deep exploration of topics, hands-on demonstrations and presentations, group and multidisciplinary projects, and other related strategies. Also included in the measure of reform-like instructional practice is survey information on the use of technology as an instructional tool and on the use of student portfolios, student peer review, and performance-based assessment. We created the index of conventional instructional practice by combining survey information on the extent to which teachers said they focused instruction on basic reading and math skills; core knowledge, facts, and procedures; definitions and formulas; state and district standards; preparation for standardized tests; and related learning objectives.

Figure 9 shows the results for reform-like teaching and Figure 10 the results for conventional teaching related to student attitudes. Although there is some suggestion in Figure 9 that higher levels of teacher-reported reform-like instructional practice are associated with positive student attitudes, viewed collectively, this relationship was not statistically significant.

In examining the relationships between reform-like teaching and the five individual constructs used to create the composite student attitude measure, which are also reported in Figure 9, we see that reform-like teaching was significantly associated with higher levels of academic interest, persistence, and self-concept (all p<.001). This means that students in schools where teachers reported engaging in more reform-like teaching strategies were more likely to report being engaged in their education outside of the classroom, taking extra steps to meet educational challenges, and being "good at" various scholastic activities.

It is important to note, however, that because the data used in the analyses were cross-sectional (collected at the same time), we cannot infer causality. Reform-like teaching may be improving student attitudes, or positive student attitudes may be enabling reform-like teaching. Many teacher interview comments highlighted the importance of student "readiness" for project-based and self-directed learning.

Note also in Figure 9 that there is some suggestion that reform-like teaching is negatively associated with student perceptions of the preparation they have received in social responsibility and academic skills, but this result was not statistically significant. Although this negative relationship was not significant, we had

Figure 9
Estimated Relationship between Reform-like Instruction and Student Educational Attitudes
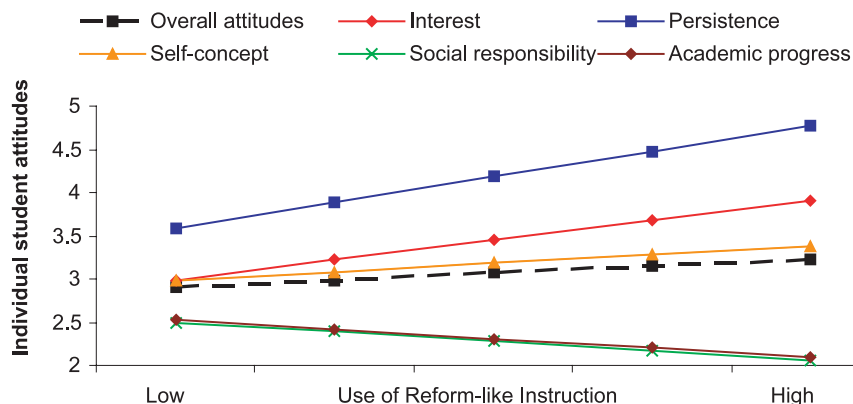
anticipated a positive association between reform-like teaching and these student perceptions. Perhaps more time is needed to see whether a positive relationship between reform-like teaching and student appraisals of the quality of their education emerges. As discussed in Chapter 5, reform-inspired teaching techniques are very new to both teachers and students.

Figure 10 indicates that there was a statistically significant, negative relationship between teacher reports of conventional teaching practices and our overall measure of student attitudes (p<.01). That is, the more teachers reported that they engaged in conventional teaching practices, the less positive the educational attitudes expressed by students.

Figure 10 also shows the relationships between conventional teaching and the five individual student attitude constructs. Note that conventional teaching was significantly associated with lower levels of academic interest and with perceptions of poorer preparation in the areas of social responsibility and academic skills (both p<.01). That is, students in schools where teachers reported using more conventional instruction methods were less likely to say that

they were engaged in their education outside of the classroom and less likely to say they were well taught on both social and academic skills. The relationships between conventional instruction and the other two constructs, academic persistence and self-concept, were not statistically significant. In fact, our results suggest virtually no association between these student attitudes and conventional teaching. Again, these data should not be used to infer causality.

In interpreting Figures 9 and 10, it is important to remember that the start-up and preconversion schools used in this analysis are at a point in their development where many of the teachers regard themselves as novices on reform-oriented teaching. Chapter 5 addressed many of the factors that dampen teachers' efforts to employ reform-like instructional practices. Teachers we interviewed in these schools readily acknowledged that they had a good deal to learn and were not yet fully satisfied with their teaching. Although analyses of survey data revealed a positive relationship between reform-like teaching and student attitudes about their own performance in school, we did not see a positive association between reform-like

Figure 10
Estimated Relationship between Conventional Teaching and Student Educational Attitudes
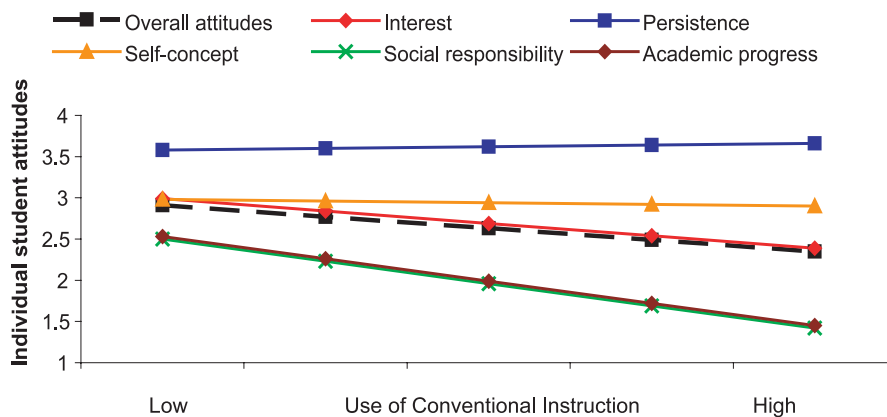
Source: Data from the school information form and student surveys from 2001-02 and 2002-03. The figure reports estimated differences from the HLM results.

Note: School N = 36; student N = 8,637. There is a significant relationship between overall student attitudes and conventional teaching (p<.01), where more conventional teaching is associated with less positive overall student attitudes. There are significant relationships with conventional teaching for social responsibility (p<.01), academic interest, and academic progress (p<.01), but the relationships between conventional teaching and persistence and self-concept are not significant.

teaching and student opinions about how well they were taught specific subjects. Perhaps reform-like teaching will become more associated with positive student appraisals of their education as reform efforts move forward.

Many students also perceived a lack of variety in the course offerings from which they had to choose

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The conversations we held with students in the focus groups at small schools may offer some insight into the split verdict on the relationship between reform-like instruction and positive student attitudes. On the one hand, students seemed to sincerely appreciate the active, more personalized learning opportunities that they reported having available in their small schools. On the other hand, many students also perceived a lack of variety in the course offerings from which they had to choose.

As illustrated in the following three quotes, students in small schools commonly cited activities that allowed students to engage actively with their classroom material as things they felt improved their education:

[We] do research about historical events and put on [a] trial. [For example, the] bombing of Japan/Pearl Harbor, internment camps—[was the U.S.] justified? Constitutional? Have to come up with concrete evidence to oppose or support. [I] feel like I'm learning more.

We were the lawyers and tried to argue that it was constitutional. We did it for Christopher Columbus. We did Jerry Springer shows about the Civil War. They make education fun.

We do a lot of experiments in chemistry. So we know how to do them and how elements are discovered instead of just reading a textbook.

Another student expressed appreciation for being able to structure his learning individually and delve into a subject of interest:

I think that the individual projects we do—not the projects that we do in class—we get a really good chance to go really in depth because, depending on the time limits you set for yourself, you can go into so many areas and really expand on your projects and get to know the subjects as well as you want to.

While students appreciated many aspects of how they learned in small schools, they missed the variety and extra offerings available in larger schools. Some students complained that their educational opportunities were limited because they couldn't go on field trips or take specific electives, such as foreign language, band, or specialized physical education. The absence of AP classes was also a common complaint. One student summed this feeling up well: "Probably [my] only dislike is the schedule and courses; we don't have [a] variety of courses."

This perceived lack of course options may be reflected in the social responsibility and academic progress constructs because these measure student opinions about how well they were taught a number of social and academic skills. Students may be giving their small schools low marks on items that ask about preparation in areas that are not stressed in their schools' curricula, but this seems unlikely in light of the overlap between the skills covered by the items in the constructs (e.g., being a good reader, speaking and writing clearly, being a responsible member of a community, respecting the opinions of people from different backgrounds, being prepared for the world of work) and both the attributes driving the school designs and the stated school curricula. Students in start-up schools did not appear to believe their schools had improved their skills in these areas significantly. Given the nature of the items comprising these constructs (see the technical appendix for a listing), it is possible that some students in small schools believe they acquired these skills before entering high school.

Conclusion

Using responses to items on the student survey, we were able to begin to answer the four questions posed at the beginning of this chapter

concerning early student outcomes. We qualify our conclusions with "begin to" because the data we have are generally limited to a foundation-supported school's first year of existence. Furthermore, the survey indices created to measure student outcomes, school attributes, and instructional practices—like most survey-based instruments—assume that survey respondents understand the survey items as intended and give candid responses.

With these caveats, we are able to supply some preliminary answers to our questions. Overall early student attitudinal outcomes were higher at start-up schools than they were at preconversions. Higher values on the effective-school attribute index were associated with higher values on the overall index of early student outcomes. Although reform-like teaching was not significantly associated with the overall index of early student outcomes, it was positively related to the three constructs that measured students' assessment of their own attitudes, abilities, and activities. Conventional teaching exhibited a negative relationship with the composite measure of student attitudes.

7. Grantees and Districts: The Education Reform Context

Although the bulk of this report is devoted to a description of activities and student intermediate outcomes in individual schools, two of the evaluation's research questions concern the grantee organizations receiving grants to create the schools:

- What factors (including grantee vision, strategy, capacity) influence the success of the foundation-supported schools?
- To what extent have grantees developed mechanisms to scale up and sustain their efforts when foundation funding ends?

In this chapter, we examine the strategies, capacity, and actions of the grantee organizations in order to derive some preliminary answers to these questions.

Dimensions of Grantee Vision and Strategies

Table 10 summarizes evaluators' judgments concerning the dimensions of grantee strategies discussed in this section. (See the technical appendix for a description of this analysis of qualitative data.) One of the most important dimensions of grantee strategy is the choice of whether to try to create new small secondary schools "from scratch" or to work with existing large high schools to convert them into multiple small schools. Of the 16 grantee organizations included in the 2002-03 data collection, 2 were involved exclusively in school conversion activities, 9 set out to stimulate the creation of new start-up schools, and 5 were working on both start-up and conversion activities.

This choice of pathway to small schools (start-up or conversion) is strongly associated with another dimension of grantee strategy—the nature and closeness of the grantees' intended relationship with school districts. The kind of relationship that grantee organizations seek varies. Four grantees aim to work at the school level, unencumbered by district policies and restrictions; these grantees operate small schools through charters, thereby reducing the number of required working relationships between schools and districts as well as between their own organizations and districts. At the other end of the spectrum, six grantees have the explicit goal of changing district systems in addition to creating effective small schools. These organizations seek close partnerships with districts so that they can promote small-school-friendly policies and lay the groundwork for sustaining the small schools through long-term district support. The remaining six grantees take a middle position: they negotiate matters with districts on an as-needed basis, encouraging schools to follow grantee-specific models while espousing the importance of developing effective working

Table 10
Dimensions of Grantees' Strategies

Grantee	School Type	District Link	Geographic Distribution	School-Level Coaching	Prescriptiveness	Instructional Supports
Aspire	N	C	S	S	M	B
BayCES	B	S	S	S	M	N
Big Picture	N	N	D	M	T	P
CCC	B	N	S	S	L	N
CCE	B	S	R	S	M	N
CCSF	N	C	C	M	M	C
CHSRI	B	S	C	W	L	P
CSC	C	S	R	S	L	N
EdVisions	N	C	R	S	M/T	P
FEE	B	S	C	W	M	P
High Tech	N	N	D	W	M/T	P
KWF	C	S	S	M	M	P
MSSP	B	N	D	M	L	N
NCLR	N	C	D	W	L	N
New Tech	N	N	S	M	M/T	B
New Visions	N	S	C	W	M	N

Key:	N = New	S = Strong	C = City	S = Strong	T = Tight	P = Pedagogy
	C = Conversion	N = Neutral	S = State	M = Medium	M = Medium	C = Curriculum
	B = Both	C = Charter	R = Region	W = Weak	W = Weak	B = Both
			D = Dispersed			N = Neither

relationships with districts for the future. Often, the strength of relationships with districts covaries with geographic distribution, as some grantees focus on working with schools within city or state boundaries, thereby increasing the amount of face-to-face interaction that grantee staff can have with schools and districts. In the four instances in which grantee schools are dispersed across the country, the grantees' relationships with districts are not as strong as those of the grantees that serve schools within city, state, or even regional boundaries (e.g., the Northeast).

We also examined several dimensions of strategy that prior research had found to be related to success in scaling up an innovation. One of these was the extent of emphasis on having a coach assigned by the grantee organization to work with each school team to help them implement a small school with rigor and relationships. A study of the New American Schools' school design teams suggested that those teams that employed on-site coaches for their schools had schools that made more progress implementing the reform (Bodilly, 1998). In the foundation's small-school initiative, 6 of the 16 grantee organizations made school coaches a key part of their education reform strategy, with a designated person assigned to coach each school and have face-to-

face contact with school staff at least once a month. Another five grantees provided their schools with significant coaching from grantee staff or consultants, but on a more ad hoc basis. Five organizations provided little school-site coaching for their affiliated schools.

The research literature examines educational innovations in terms of their "intervention strength," an amalgam of prescriptiveness, consistency, authority, and power. As noted in AIR/SRI (2003), most of the National School District and Network Grants Program interventions included in this study were limited with respect to their power to shape school-level activities. In large part, this limitation stems from the foundation's choice to fund organizations that are outside the education system and have only indirect leverage with the schools with which they work. The funding the grantee organizations provide their schools is appreciated by school staff but is insufficient to induce compliance in cases where the principal or staff lack the will or the resources to implement some aspects of the grantee's model. This issue arises most frequently with conversion schools. As a Big Picture staff member noted, "In every conversion school there is an embedded opposition—people who don't want to do it" because the reform will disrupt their normal operating procedures.

Partly in recognition of their lack of enforcement power, most of the grantees take a fairly nonprescriptive stance toward the schools with which they work. Staff at only one of the 16 grantee organizations expressed concern that their schools replicate specific *features* of their school model. This grantee (Big Picture) and three others (EdVisions, New Tech, and High Tech) do have well-specified models, in large part because they each had an existing model school exemplifying practices and approaches. Unlike Big Picture, however, EdVisions, High Tech, and New Tech expressed the view that the *principles* underlying their model school design—not the particular instantiation of those principles at their model school—are what the schools in their network need to adhere to. Seven additional grantees set forth a set of abstract, general *principles* for school staff and design teams but provided less specific guidance

or elaboration of those principles for school use. Five grantees described their role as supporting school teams in a *process* for creating a school design that meets local needs. Although, like all the other grantees, these organizations articulate a commitment to the foundation's attributes of high-performing schools, these five grantees give primacy to grassroots school staff and community involvement in a school design process.

Over time, grantee organizations have become better able to be specific about their models (as illustrated by High Tech's development of sample class projects and of a process for teacher collaboration around student work) but have also tended to become less prescriptive, as they have had to make compromises to get their new schools in place. Both New Tech Foundation and High Tech have whittled down their lists of "non-negotiables," for example. Thus, the differences among grantees in terms of prescriptiveness and specificity appear to be getting somewhat smaller over time. Some of the grantees emphasizing design principles or a process with local school design teams are now expressing the need for more concrete descriptions of their abstract principles (e.g., BayCES). Grantees that began with few specifics are developing more concrete materials and practices, and those that began with a detailed model are relaxing their expectations regarding replication of all the specifics of the model.

A related dimension associated with effective reform implementation in the literature is the extent to which an innovation provides specific resources and experiences focused on teaching and learning. A major study of the implementation of mathematics curriculum reform in California by David Cohen and Heather Hill (2001), for example, found that the extent to which the reforms were actually implemented in schools and classrooms varied a great deal, and that implementation was positively associated with extended opportunities for teachers to deal with specific curriculum content and student work related to the reform objectives. Abstract statements about the importance of an innovation's objectives or the need to enhance student learning are

insufficient to change instructional practice, Cohen and Hill argue; teachers need elaborations of innovations in the form of specific materials and extended activities supporting changes in instructional practice.

National School District and Network Grants Program grantee organization staff's descriptions of their activities and school staff's reports of support received were examined to identify evidence of support for changing practice in terms of pedagogy (how to teach) and curriculum (what gets taught). As a group, these reform efforts provide modest support for changes in pedagogy and very little support in the area of curriculum. For half of the grantees we found indications that they promote a form of pedagogy—typically project-based learning or learning through internships. The other eight leave it to schools to select their own instructional approaches, although some of them stress the importance of a focus on literacy and fund professional development on literacy strategies (or, in a few cases, strategies for teaching mathematics). Grantee organizations are even less likely to bring specific curriculum materials to their schools (New Tech being the most notable exception). Only 3 of the 16 grantees appeared to put a major stress on particular curriculum resources, as shown in Table 10.

Grantee Strategies and School Implementation Progress

Analysis of the relationship between grantees' strategic choices and their progress in creating small schools with the foundation's attributes has important implications for both the organizations funded under this small-school initiative and the foundation. The most prominent aspect of strategy is the choice of whether to start new small schools or to convert existing large schools. The foundation regards the school conversion strategy as more difficult

to implement successfully, and, as shown in Table 10, only two of the grantees use conversion as their exclusive strategy. (Six use a combination of conversion and new schools.) As described in AIR/SRI (2003), it requires at least a full year of planning to convert a large high school, but small start-up schools have in many cases been opened after less than a year of planning and preparation. Nevertheless, by fall of 2002, the number of small schools created through conversion was similar to the total for small start-up schools, as shown in Table 11. By school year 2002-03, 54 start-up schools and 48 small schools or learning communities created through conversion had been created by the 16 grantees included in this study. Eight large high schools had been fully converted into smaller units, at least on paper (the resulting smaller units are included in the tally of 48).

Our collection of survey data in small schools resulting from conversions is scheduled for spring of 2004, when school conversions are expected to have had time to really take hold. Thus, we cannot say at this point whether or not small schools created through conversion lag behind those created as new entities, either in progress in implementing the school attributes or in terms of early student outcomes. We can look within the start-up school sample, however, to examine other aspects of grantee strategy that may be associated with greater or lesser progress at the school level.

Looking at the start-up schools in our survey sample, we identified the grantee organization primarily responsible for each so that we could look for relationships between grantee strategy and implementation progress at the school level (using the school attribute implementation index described in Chapter 3). Figure 11 displays the first-year attribute implementation index value for the start-up schools associated with each grantee.

Table 11
Grantee Progress Compared with Proposed Outcomes

	Aspire	BayCES	Big Picture	CCC	CCE	CCSF	CHSRI	CSC	EdVisions	FEE	High Tech	KWF	MSSP[a]	NCLR	New Tech	New Visions
Year of grant	2000	2000	2000	2001	2000	2002	2003	2000	2000	2001	2000	2002	2000	2000	2000	2000
Grant amount (in 000s)	$3,187	$15,721	$4,110	$8,062	$5,914	$4,012	$7,663	$8,000	$4,430	$12,000	$6,395	$20,000	$5,152	$6,753	$4,935	$10,000[b]
Number of states	1	1	Up to 9	1	2	1	1	2	2	1	Up to 9	1	8	up to 15	1	1
Number of schools planned to convert under the grant	0	7	0	3	Included with new	0	0	10	0	3-4	0	40+	0	0	0	Included with new
Number of new high schools planned under the grant	5	2	9	4	20[c]	4	12	0	15	1-2	9	0	8	5+	9	35-60[c]
Large high schools fully converted by fall 2002	0	0	0	1	0	0	0	6	0	1	0	0	0	0	0	0
Start-up small high schools opened by fall 2002	2	1	6	1	4	0	0	1	8	1	1	0	8	8	3	10
Small learning communities created from school conversions by fall 2002	0	2	2	3	7	0	5	24	1	4	0	0	0	0	0	0
Total number of small schools/learning communities opened by fall 2002	2	3	8	4	11	0	5	25	9	5	1	0	8	8	3	10

Source: Proposals to Bill & Melinda Gates Foundation and interviews with grantee staff.

Note: Some grantees changed plans and school funding formulas after grant award. Table entries are for initial grant to each organization.

[a] Awarded to University of Washington in 2000; moved in 2001 to KnowledgeWorks Foundation.

[b] Excludes contributions from Carnegie Corporation.

[c] May be new or created through conversions.

Effective Professional Development

A multiyear national evaluation of teacher professional development programs in mathematics and science (Porter, Garet, Desimone, Yoon, & Birman, 2000) found six features associated with professional development opportunities that produced measurable effects on teaching practice:

- Collegial structure (e.g., a study group, teacher network, research project, or mentoring relationship)
- Extended duration (contact hours and time span)
- Collective participation of teachers from the same school.
- Active teacher involvement (through activities such as curriculum development, reviewing student work, reflection and feedback on one's teaching)
- Coherence with state standards and assessment
- Focus on specific content.

In the same vein, a study of the mathematics reform efforts that started in California in the mid-1980s (Cohen & Hill, 2001) found that a wide variety of professional development activities were offered with the intention of promoting reform-oriented math content and instructional strategies. Only a small fraction of the state's teachers received professional development organized around specific curricular materials and assessments, however. In a workshop organized around specific content, teachers might work with a single replacement unit for two and a half days, doing the mathematics in the unit themselves, discussing the mathematics content, and examining multiple examples of student work on the unit. Cohen and Hill found that teachers who had had these kinds of professional development experiences reported more of the practices advocated in the reform movement and had students who scored better on the state's math assessment than did other California teachers. Cohen and Hill contrast this minority of professional development activities that proved to be effective with the more common professional development practices:

> *These workshops differed substantially from others offered in the state at the time, which were keyed to topics like diversity in mathematics classrooms and cooperative grouping methods. Most of these special-topic workshops did not allow teachers to learn about new student curricula, assessments, or students' work on either. Instead, teachers might try out one or a few "hands-on" activities, activities that in some ways embodied reform yet were not linked to one another, planned around students' response to the activities, or designed to develop a mathematical idea or process in depth. This more superficial sort of opportunity for professional growth is endemic to U.S. education.* (p. 5)

The most striking aspect of the data in Figure 11 is the indication that start-up schools associated with Big Picture are stronger than other start-up schools in this initiative in terms of implementing the foundation's attributes in their first year. This pattern in the data leads naturally to the question of what it is about Big Picture's strategy or about the contexts within which it started schools that produced this effect. The discussion in Chapter 3 noted the association between very small school size and implementation of the foundation's attributes, and the three Big Picture replication schools (at 30, 32, and 56 students in their first year) are among the smallest in our sample. Still, other start-up schools with 50 to 65 students did not implement the foundation attributes as strongly as the Big Picture replications did. We can rule out relative advantage of the Big Picture schools' student populations as an explanation for the strong implementation of the foundation's attributes in these schools because the attribute implementation values in the figure have been adjusted to take into account differences among schools in the prevalence of various risk factors (low-income, nonwhite, IEP, ELL status).

Figure 11
School Attribute Implementation in Start-up Schools, by Grantee

Close Partnering with Districts
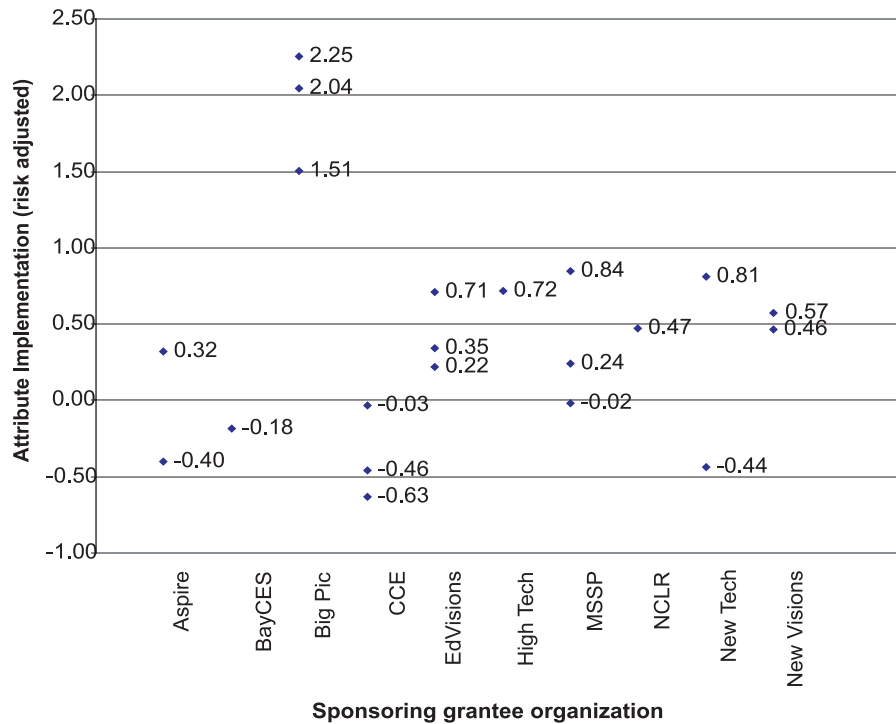
As shown in Table 10 and discussed above, Big Picture is the grantee most concerned about preserving fidelity in the implementation of its school model. Big Picture is distinguished also by the emphasis it places on principal selection and training. Our data do not permit us to disentangle these potential explanations for the strong performance of Big Picture schools in implementing the foundation's attributes of high-performing schools.

Given the relatively small number of start-up schools for which implementation progress has been measured and the confounding of various dimensions of grantee strategy, we must be cautious in drawing inferences about the influence of various strategic choices. At present, we are able to note mostly strategic dimensions that do *not* appear to be having a positive influence on outcomes. We review some of those strategic differences below. As more schools are established and our school sample increases, we will be better positioned to detect any real differences that may exist and to tease apart the influences of different grantee strategies and contextual variables.

Grantee organizations such as New Visions, BayCES, and the Fund for Educational Excellence (FEE) spent a good portion of their effort in 2002-03 on interactions with district staff around small-school creation and support issues. All three of the urban districts with which these grantees work closely (New York City, Oakland, and Baltimore) underwent a change of leadership this year. Months and years of building relationships with district staff were undermined by changes in district personnel and structure. In Baltimore, the changes were ameliorated by the fact that the head of the grantee organization was selected to be the district's interim CEO. In Oakland and New York City, however, the grantees had to start building new relationships with new district leaders. As a New Visions staff member stated:

> *We had momentum, but things are slow to move now. Now we are looking at the new structure for opportunities. It will take a while to build new relationships.*

In the short term, the strategy of working closely with a district does not appear to pay off in terms of increasing the likelihood of creating schools with the desired attributes. In the long run, however, the strategy of partnering with districts may have advantages for sustaining the small schools after grant funding ends.

Geographic Distribution

Contrary to our expectation, we did not find a negative relationship between the geographic dispersion of a grantee's schools and school implementation progress. There is no indication that grantees attempting to work primarily in a single city or region have schools that make faster implementation progress than do those whose schools are widely distributed. Nevertheless, interview data suggest that geographic dispersion makes the work more difficult:

> *Distance is a barrier, not being able to be at the sites as often as we would like. It's hard to build relationships without seeing the people.*

Our interpretation is that some of the grantees with geographically dispersed sites are making extraordinary efforts to forge close ties, through phone, e-mail, and videoconference connections between face-to-face contacts. In addition, those grantees who are working in a single city or region within a state tend to be the same ones attempting to have close working relationships with districts, so it may be that the added encumbrances of dealing with districts outweigh any convenience factor. At the same time, grantees considering a broader range of school locations have more choices for school partners and may have selected more supportive contexts in which to start their schools.

Instructional Emphasis

As noted above, the grantee organizations as a group have not put a major emphasis on building their replicate schools' instructional capacity through specific curricula and instructional materials. More of them devote professional development to pedagogical strategies. We did not discern any relationship between our ratings of grantee instructional emphasis and schools'

progress in implementing the school attributes. As student achievement data become available, we will be able to conduct a more appropriate analysis of the influence of instructional emphasis. We did, however, find a relationship between principal reports of receiving specific guidance on pedagogy and school implementation progress, as shown in Figure 12.[1] Schools where principals reported receiving more specific guidance on pedagogy were more likely to have the school attributes well in place, again underscoring the relationship between school attributes and classroom practices discussed in Chapter 5.

Grantee Support

In addition to examining the influences of these dimensions of grantee strategy, we also looked at the level of interaction between grantee and school staff. We examined the effects of the nature and frequency of grantee contacts through an HLM analysis relating principals' survey responses to the school implementation index (see the technical appendix for the details of this analysis). To our surprise, we found no relationship between frequency of grantee-school contacts (as reported by principals on the survey) and school implementation progress. What did make a significant difference, according to this analysis, was the breadth of grantee support across areas such as providing professional learning opportunities for staff, assistance in teacher recruiting, and help with specific pedagogical strategies and tasks. These results suggest that the range of issues covered in grantee-school contacts is more important than their quantity per se.

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[1] This analysis is based on surveys completed by 24 principals in spring of 2003. The principal survey did not ask about specific curriculum materials provided by grantees.

Figure 12
School Attribute Implementation and Assistance with Pedagogy
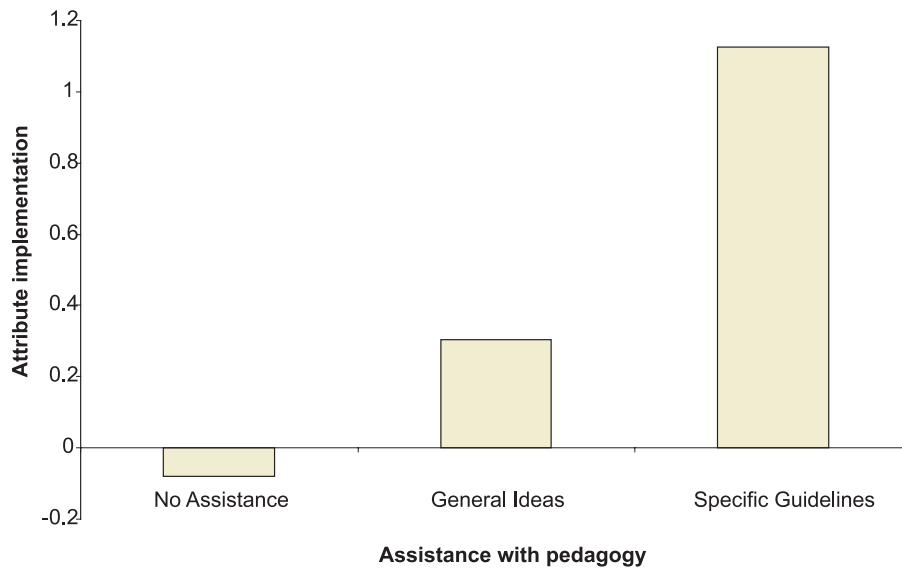
Grantees' Organizational Capacity

As discussed in AIR/SRI (2003), the organizations receiving Bill & Melinda Gates Foundation grants for the creation of small schools differ in terms of how long they have been in existence, their core mission, and the relevant experience they bring to this work. Table 12 summarizes relevant experience for each organization; shaded cells denote elements of organizational capacity the organization possessed prior to receipt of its grant.

Creating the Capacity to Scale Up

Staffing Up

Grantee organizations continued to add staff positions in 2002-03. BayCES, for example, hired 10 new people, effectively doubling in size. NCLR developed a detailed reorganization plan for its Charter School Development Institute. (At the time of the spring 2003 site visit, however, many of the positions remained vacant.) As these organizations add staff, they are experiencing "growing pains." As a BayCES staff member commented, an organization growing this rapidly needs to "deconstruct and construct the organization when people arrive as

they bring who they are and what they know of the organization." At Big Picture, a staff member noted that communication between the leadership and other staff members had become harder as the organization grew.

As in 2001-02, grantee organizations described difficulties in finding staff with the right qualifications for doing their work. Big Picture, New Tech, BayCES, and CCE all expressed the feeling that they have a gap in their staffing that hinders their ability to support schools. Big Picture is concerned about a lack of depth in the staff's knowledge of professional development strategies. New Tech staff would like to improve the quality of training provided for replication school staff and believe a third-party vendor can help them do so. BayCES staff believe that they don't have enough coaches and that they need to have coaches with specific skills rather than partnering with other organizations to fill in the gaps. In some cases, grantee organizations find that they are "robbing Peter to pay Paul" as they hire staff from one of their small schools or another organization supporting small high schools.

Table 12
Elements of Grantee Organizational Capacity

	Aspire	BayCES	Big Picture	CCC	CCE	CCSF	CHSRI	CSC	EdVisions	FEE	High Tech	KWF	MSSP	NCLR	New Tech	New Visions
Year established	1998	1991[a]	1995	1992	1994	1997	2001	~1990	1993	1984	2001	1998	2000	1968	1999	1989
Prior experience starting schools	■	■	■			■		■	■		■	■		■	■	■
Prior experience starting small high schools		■	■					■	■		■	■			■	■
Prior experience coaching large high schools that are converting		■					■			■						■
Strong connections to national reform networks	■	■	■	■	■	■	■	■	■	■	■	■		■		■
Current/intended partnerships with other Gates grantees	■		■	■	■			■	■			■	■		■	
Other financial resources	■	■				■		■		■	■	■		■		■

Source: Proposals to Bill & Melinda Gates Foundation and interviews with grantee staff.

[a] BayCES was founded in 1991 and incorporated in 1996.

Adding Processes for Larger Organizations

As their staff and operations grow, grantee organizations have found a need for more formal approaches to doing business. Aspire, for example, found that a by-product of its growth is greater scrutiny. Over the course of the past year, the staff have discovered that they are subject to more regulations than they had realized because of their dual status as a nonprofit and a public school. For example, Aspire recognized the need to formalize its human resources (HR) system to protect itself in the event of employees' wrongdoing. Like Aspire, Big Picture and NCLR discussed the need to be more systematic in the way they manage their organizations.

Four grantees (Big Picture, EdVisions, MSSP, and New Tech) are investing time and money in technology as a strategy for increasing their capacity to support schools. Big Picture is working at fine-tuning BP Online, a collection of online resources for its schools. It is also developing the capability to provide online meeting functionality (e.g., an online whiteboard) and videoconferencing, in the belief that these tools will enable Big Picture to support a 55-school network remotely from Providence. New Tech has a similar plan and also hosts collaboration of staff from multiple schools in its network via a discussion board. New Tech also is adding the capacity to monitor school servers centrally from New Tech offices. EdVisions is looking to do a Web forum and an online portal for teachers' and students' portfolios.

Addressing Financial Issues

Several organizations got a firmer sense of the financial realities of running small high schools during 2002-03. Both Big Picture and Aspire were sobered by what they learned. An Aspire staff member summed up:

> *Until we figure out a secondary model that is financially or fiscally sound, we aren't opening any more schools. We're just going to do elementary schools and have them grow into secondary schools.*

In addition to considering schools that combine elementary and secondary grades, Aspire is weighing the option of increasing class size from 20 to 30 or of "going to an elementary staffing model" (i.e., having teachers provide instruction across subject areas rather than in a specialization) in order to make their schools economically self-sustaining.

Several grantees (Big Picture and BayCES) have resigned themselves to needing a steady stream of "soft money" for their schools and noted that needed fund-raising activities were draining their capacity. High Tech's development director, for example, has taken on an annual effort to raise $1,000 per student each year to offset the gaps between per-student costs and per-student funds from the state.

Organizational Capacity and School Implementation Progress

The number of shaded cells shown in Table 12 was summed for each grantee organization to create a measure of organizational capacity. We then examined the relationship between this capacity index and the first-year implementation of the foundation attributes in schools associated with each grantee. The average attribute implementation index value for the nine start-up schools associated with grantees that were below the median in terms of organizational capacity was .09; the value for the 12 start-up schools associated with grantees that were at or above the median in terms of organizational capacity was .71. This finding, though preliminary, is consistent with the commonsense assumption that organizations with relevant experience will be able to support schools in making greater progress in putting the foundation's vision into place.

Mechanisms to Sustain Reform Activities

Grantee organizations are looking to raise additional funds also to sustain their own activities. Big Picture, High Tech, and New Tech have positions that are devoted to development and strategic planning as a way to increase their financial resources. Big Picture's hiring of a director of development was stimulated by the fact that a number of its major grants will expire within 18 months or so. New

Tech's director of strategic planning has the dual responsibilities of being the chief marketer and the fund-raising person.

Several of the grantees noted that they won't be able to provide a larger number of schools with the same level of support they have given their first network schools.

Nine of the 16 grantee organizations (BayCES, Big Picture, CSC, EdVisions, HTH, KWF, NCLR, NTF, and CCE) have received additional grants from the Bill & Melinda Gates Foundation to create and support more schools. The additional grants have lessened concerns about their own organizations' viability, at least for the next 5 years. Several of the grantees noted that they won't be able to provide a larger number of schools with the same level of support they have given their first network schools, however. Another adaptation is providing support through more formal, standard professional development rather than tailored, on-site coaching. As noted above, some grantee organizations were looking to technology to help them reach a broader set of schools economically.

Taking on additional grants, whether from the foundation or from other funders, means taking on additional commitments. Some of these organizations were stretched thin to fulfill their obligations under their original grants. Staff at several of the organizations expressed some reservations concerning their ability to scale up while preserving their core missions and principles.

In general, staff at grantee organizations were not as optimistic about their ability to survive without "soft" money as they were in 2002. Some organizations (e.g., HTH) that were exploring opportunities for licensing fees and fee-for-service were less optimistic about that scenario than before ("We just don't think the money's out there.").

The District Perspective on Sustainability

Representatives of several districts (Oklahoma City, Baltimore, Oakland, Detroit) reported that budget crises at the state level were dramatically affecting the implementation of small schools in their districts. Each of these representatives warned that future plans for district reforms, including small schools, were in jeopardy if funding resources from the states remained at the current level or worsened. These fiscal woes were causing teacher layoffs, which disproportionately affect small schools. Small schools have fewer teachers, so that the loss of a few teachers or even a single teacher can seriously undermine the school program; moreover, as noted in AIR/SRI (2003), many of the small-school teachers are relatively new to the teaching profession, making them first in line to be cut.

Several district representatives acknowledged that with the ending of the foundation funding, their district offices and the small schools will have to combine efforts to search for other funding sources because average daily attendance (ADA) allowances will not sustain the small schools. A few districts noted reliance on federal monies targeted to small schools; all agreed that accessing funding through other organizations will be crucial to small schools' success, and even their continued existence. As a district representative from Oklahoma City explained:

> *The districts in the nation cannot fully fund programs that will show achievement for kids with just the resources received from the state, so any extra funds will supplement what you need to get to the next level. In terms of sustaining reform efforts after the grant is over, right now, with problems in Oklahoma, they won't be sustained.*

District representatives noted that although the financial uncertainty of the future is troublesome, receiving a grant from a source as well known and reputable as the Bill & Melinda Gates Foundation has provided them with a sense of prestige that assists their efforts. A district representative from Detroit reflected,

"I think it was a catalyst for people to start paying attention and really looking at what can be done differently."

The districts working with conversion schools are equally affected by budget crises, but many of the districts housing these schools (Denver, Performing Arts Academy, Chicago, New York, Twin Bridges) reported that the district's school conversion work preceded the foundation grant. As a result, these district offices have used foundation assistance to advance their efforts but do not believe that they are dependent on this grant to implement their plans. Instead, these districts have used grant funding primarily for intensive staff professional development that they hope will continue to benefit them and their schools in the future.

With respect to the autonomies that grantee organizations seek for their affiliated schools, district offices are working toward clarifying the level and types of independence with which they are comfortable. To varying degrees, districts are granting small schools autonomies with regard to selecting, adapting, and developing curricular materials, and most allow autonomy with respect to setting school schedules. However, none of the districts is willing to give small schools complete autonomy from district requirements and procedures. In addition to requirements for schools to comply with NCLB standards and take state-mandated tests, districts are in the process of determining how much independence small schools can have with respect to staff hiring and school budgets.

Districts appear uncomfortable with major changes in district policies around staffing and budgets to accommodate the needs of small schools.

District representatives also reported engaging in discussions with colleagues about how district offices will evolve to best meet the needs of small schools. In general, districts appear positively inclined toward the idea of establishing small high schools and grateful for foundation funding but uncomfortable with major changes in district policies around staffing and budgets to accommodate the needs of small schools. District staff are also sensitive to negative reactions from parents who don't want to see a large high school disappear or to lose opportunities for higher-performing students to take advanced courses not available to all.

Conclusion

The foundation's initiative differs from many school reform efforts in the degree of latitude provided to reform organizations and their affiliated schools. Rather than a specific school model or set of curriculum standards, features of the school structure and climate (e.g., small size, teacher professional community) are expected to affect teaching and learning and, ultimately, outcomes for students. Within the broad framework provided by the foundation's school and classroom attributes, grantee organizations and school staff are exploring a range of school models and implementation strategies. Survey responses from teachers and students in the first year of new small schools (as summarized in our school attribute implementation index) suggest that the grantee organizations offering more specific models of desired school structures and activities, and especially concrete guidance on pedagogy, have schools that make more early progress implementing the foundation attributes. At this stage, we have not found differences associated with the use of on-site coaching, frequency of grantee contact, or geographic concentration. (We will look for influences of these variables again as our sample of schools grows.)

The challenge facing the school structure approach to high school reform is perhaps best illustrated by Big Picture. Although this organization's replicate schools are the most successful in our sample in terms of getting the foundation's school attributes in place during a new school's first year, some Big Picture staff express ongoing concerns about the nature of the schools' academic content with respect to district, state, or national curriculum standards.

One staff member noted the contradiction between the Big Picture philosophy and the imposition of curriculum standards: "It's a mixed message to tell students they can follow their passion, except it [the passion] has to be physics." At the same time, another Big Picture staff member expressed concern regarding how to provide rigorous academic content in the absence of standards. In words that could apply to many of the new small high schools:

Our three R's are Rigor, Relevance, and Relationships. We have included the Relevance and Relationships—17:1 student:teacher ratio; advisors know kids for 4 years; relationships with families. The Relevance has been designed in because students are getting out to internships. But how do you design in the Rigor? That's what I want to know.

8. Themes and Implications

After describing the early years of the National School District and Network Grants Program in the preceding chapters, we turn now to summarizing key points, placing them in a broader education reform policy context, and drawing implications for the initiative.

Year 2 Findings

Looking across the multiple sources of qualitative and quantitative data available from schools, districts, and the organizations receiving grants under this initiative, we identify some key findings in the areas of creating an effective school climate, teaching and learning, and student attitudes toward school.

Creating an Effective School Climate

- New start-up schools, for the most part, are putting the foundation's effective-school attributes dealing with school climate and teacher professional community into place during their first year of operation.
- Even within the restricted range of school sizes represented in our sample of start-up schools, it appears that size matters. Among first-year start-up schools, size of enrollment is inversely related to implementation of the attributes of effective schools.
- Start-up schools do not necessarily deepen their implementation of effective-school attributes in their second year of operation; the schools in our sample were as likely to experience some erosion of their positive climate as they were to make further progress.
- Planning and implementing the conversion of a large high school into smaller schools or learning communities takes more than one year, and even then, many of the resulting small units are neither completely independent nor fully developed as distinctive programs.
- Converting schools find their attention absorbed by issues of facilities, schedules, and staff assignments in both their planning year and their first year after conversion.

Teaching and Learning

- Teachers at start-up schools do more reform-like teaching, characterized by active, in-depth inquiry approaches, than do teachers in preconversion schools. Moreover, there is greater emphasis on reform-like teaching in small schools where the foundation's school attributes are more firmly in place.

- Converting schools struggle to find ways to achieve equity without sacrificing perceived excellence; many parents, students, and teachers remain skeptical that the same class or small school can serve the needs of students at the two ends of the achievement distribution as well as separate ability-based classes do in comprehensive schools.

- Schools associated with grantee organizations providing specific supports for instruction exhibit the foundation's school attributes to a greater degree than the schools working with other grantees do.

Student Attitudes toward School

- Students who attend schools with stronger implementation of the effective-school attributes and where instruction is characterized by active, in-depth inquiry approaches report being more interested and more persistent in their schoolwork and having stronger academic self-concepts.

- Students attending small schools are not significantly more positive than students in preconversion schools in their reports of how well the school has taught them academic skills (such as solving math problems and being a good reader) and social skills (such as respecting the rights of others).

- In general, students' attitudes toward school are positively associated with the level of their mothers' education, except in model schools, where students express highly positive attitudes regardless of their mothers' education level. Further, the difference in attitudes for students with

different levels of maternal education is more pronounced in preconversion schools than in start-up schools.

Reflections on the Foundation's Theory of Change

The National School District and Network Grants Program is based on the premise that, given a conceptual framework describing "high-performing" secondary schools and classrooms plus external funding and technical assistance, organizations external to the public school system can catalyze the creation of small high schools that will exhibit the effective-school attributes in the foundation's framework, provide effective teaching, and produce better outcomes for students.

At this early stage of the initiative, we have data pertinent to several of these assumptions. Small start-up schools are being created with the assistance of the intermediary organizations. These schools as a group are quite successful in putting in place the school climate and structures embodied in the foundation's school attributes. Moreover, those new small schools exemplifying the foundation's attributes more strongly do appear to have classrooms where more reform-like teaching occurs. Students in these schools report being more motivated by their schoolwork and feeling stronger academically. They are less sanguine about their preparation in academic and social skill areas, however.

These early findings for the start-up schools are consistent with the foundation's theory of change and suggest that it is reasonable to look for future differences in student achievement and other outcomes at the small schools. These analyses will be conducted on a district-by-district basis as sufficient numbers of these small schools mature to the point where they are adequately represented in district and state databases.

School conversions are occurring, as well, but on the basis of the first few, it appears that a fair proportion of these have executed a superficial rather than a deep restructuring of the way they do schooling. We do not yet have data on the success of the schools created through

conversion in terms of putting the effective-school attributes or active, in-depth teaching and learning in place. Our observations of the early history of conversions suggest that issues of instruction are taking a back seat to those of structural and procedural change. We will be able to test this inference further with survey data being collected from conversion school students and teachers in spring of 2004.

Contrasting Approaches to Reform

In viewing the early progress and challenges associated with this initiative, it is useful to place the foundation's change strategy in the larger context of education reform efforts in general.

Many have hoped that high schools, along with elementary and middle schools, would be improved through one or both of the two dominant education reform strategies of the last two decades: systemic reforms promoting rigorous *content standards* (e.g., the National Science Foundation's Statewide Systemic Initiatives) and *accountability* efforts holding schools, districts, and states responsible for producing better student achievement (illustrated most prominently by the latest federal education legislation, No Child Left Behind). Starting in the 1980s, subject area professional associations (such as the National Council of Teachers of Mathematics and the American Association for the Advancement of Science) and state and district education agencies have produced specific recommendations or requirements for the content knowledge and skills students should acquire in specific grades and subject areas. In California, for example, eighth graders are expected to know that the velocity of an object will change when the forces on the object are unbalanced. Illinois ninth graders are expected to be able to explain the importance and impact of a country's balance of trade. These recommendations and requirements for teaching specific content and competencies have had a heavy influence on the content of textbooks and testing systems.[1] Standards-based reform is often allied with accountability strategies in

which state assessment systems are geared to the specific grade-by-grade content standards the state has adopted for its students.

Although the National School District and Network Grants Program promotes "rigorous" content for all students as one of its desired school characteristics, it does not specify the particular content or skill areas that would qualify as rigorous. Thus, the foundation's initiative does not view a particular curriculum or a testing system based on specific content standards as the primary catalyst for improving high schools. Rather, the foundation's reform parallels the logic of the effective-schools education literature (Corcoran, 1988; Shields et al., 1994)—looking for features of schools that appear to have good success with diverse student bodies and then encouraging other schools to put those features in place. Starting with a study of four inner-city elementary schools where students performed above national norms in reading (Weber, 1971), a series of research studies identified school characteristics that correlate with students' achievement: strong principal leadership, a pervasive focus on instruction, an orderly and safe climate, high expectations for students, and continuous assessment of student achievement (Edmonds, 1982). Subsequent studies applied a similar lens to high schools, identifying the relative frequency of school practices associated with restructuring and then measuring the relationship between those features and differences in student achievement (Lee & Smith, 1994, 2001). Later studies also gave more attention to the school as a social organization with its own gestalt and expanded the list of effective-school correlates to include constructs such as a rigorous academic program, high-quality staff, and a "bias for action" (Wilson & Corcoran, 1988).

The school attributes that the Bill & Melinda Gates Foundation staff identified from the education reform literature have provided a guiding framework for the grantee organizations creating schools under the National School District and Network Grants Program. The organizations receiving grants under this initiative (particularly the first dozen or so organizations funded to create small high

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[1] In some cases, they also have led to considerable controversy.

schools) brought their own experience and philosophical orientation to the work. Many of these organizations have ties to Ted Sizer at Brown University and the Coalition of Essential Schools. This background gave them a particular perspective from which to interpret the foundation's description of the attributes of high-performing schools: they tend to view the foundation's effective-school attributes as a restatement of the Coalition's Ten Common Principles.[2] The Coalition's principles stress qualities of thinking over specific content knowledge, thus running counter to the trend toward explication of content standards as an education reform strategy.

The initiative thus diverges from the dominant thread of educational reform over the last decade in its agnosticism with respect to the particular content to which students are exposed.

For the most part, the grantee organizations have viewed their job as supporting the creation of schools with a *structure* conducive to the foundation's seven effective-school attributes. The foundation's description of the seven attributes (see Table 1) includes the stipulation of structural features such as the provision of time to collaborate during the school day, an individual instructional plan for each student, and promotion based on performance rather than "seat time." This strategy of designing schools with structural features supporting desired attributes stands in marked contrast to the more

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[2] The principles comprise: helping adolescents learn to use their minds well; setting of simple goals to master a limited number of essential skills and areas of knowledge; the school's goals apply to all students; governing metaphor of student-as-worker; teaching and learning are personalized; diploma based on successful demonstration of mastery through an exhibition; school tone stressing unanxious expectation, trust, and decency; principals and teachers who view themselves as generalists first; student loads of no more than 80 per teacher, ample time for collaboration, and competitive salaries; and nondiscriminatory and inclusive policies, practices, and pedagogies (CES, 2000).

common education reform strategy of attempting to improve schools through the promulgation of particular *content standards* or a uniform *accountability* system of performance standards and assessments.

The foundation's approach gives extensive latitude to individual grantee organizations to determine the means through which desired school features (e.g., common focus, personalization) will be realized. The initiative thus diverges from the dominant thread of educational reform over the last decade in its agnosticism with respect to the particular content to which students are exposed.

Issues

Attending to Instruction and Curriculum Content

A recurring theme throughout this report is the struggle schools are experiencing in (1) implementing instructional approaches that are effective for the diverse needs of their students and (2) ensuring that students are exposed to the content they need to prepare them for high school graduation (in jurisdictions with graduation tests) and higher education. Although survey responses of teachers in the small start-up schools indicated more confidence in their ability to use reform-like teaching approaches than did those of teachers at preconversion schools (AIR/SRI, 2003), start-up school teachers were candid in their interviews about (1) their need to gain a better grasp of how to execute project-based learning well and (2) their struggle to find the right combination of more reform-like approaches stressing interdisciplinary projects developed to reflect student interests and more conventional approaches focusing on basic skills and content. Small-school teachers realize the need for further development in this area; only a minority of schools under the initiative appear to get specific, concrete assistance regarding pedagogy as part of the professional development supported by their grantees.

A related issue is the nature of the curriculum. Although several of the grantees' school models or principles stress building a curriculum around student interests, these

innovative schools are still operating in a world where states have accountability systems built to enforce specific standards and where institutions of higher education look for documentation that certain content has been mastered. Small schools with the strategy of hiring "generalist" teachers find that their teachers are more likely to have academic preparation and teaching experience in language arts or social studies than in mathematics or science. The mismatch between school philosophy and capacity and the broader education system is most apparent in the area of mathematics. Some of the small schools have turned to educational software for their mathematics curriculum; some encourage students to take math courses at community colleges. We came away with the impression that these are "Band-Aids" rather than a coherent solution to the problem of providing a high-quality mathematics program compatible with school designs, state standards, and college entrance requirements.

Struggles to enforce equity are more obvious at the schools that are undergoing conversion.

Achieving Equity

On the basis of available demographic data, we do not see indications that the start-up schools, as a whole, are "creaming" the best students from their districts or geographic regions. The fact that students and parents must go through a school selection and application process, however, does suggest that the level of student motivation or parental support may be a source of potential selectivity.

Struggles to enforce equity are more obvious at the schools that are undergoing conversion. Thus far, most of these schools are working with the same student bodies and sets of teachers they had as large schools prior to conversion. The task of student selection or assignment to small schools brings into play questions of how to meet students' needs and desires for a particular curricular emphasis and teaching approach while also achieving both racial/ethnic and ability-

level diversity within each of the smaller units. One of the conversion schools has received criticism for in effect segregating its Latino students into one of the small schools while grouping the highest-achieving students in another. Students and parents at another conversion school cite a lowering of academic standards and express concern about access to fewer high-level courses.

In one sense, this equity issue ties back to that of teaching and learning. The lack of a clear, compelling demonstration that the higher-achieving students can be challenged and well taught in diverse classrooms leaves the schools vulnerable to criticism from parents and the students themselves. Until teachers are adept at reaching all parts of the ability distribution within the same classroom, many students and parents are likely to press for the old system of separate classes for high achievers. Reformers working on school conversion see a great need for a successful "model conversion," both to prove the viability of the conversion strategy and to provide specific guidance in the way that model schools like the Met and New Tech have done for start-up schools.[3]

Role of Districts

Some of the districts in which the new small schools are located have been very supportive—in some cases because a large urban district has embraced the small-schools strategy as an approach for addressing the failure of its existing high schools and plans to convert all or a large proportion of its neighborhood high schools. In other cases (typically smaller districts), a district is basically happy with its existing comprehensive high schools but believes that some students in the district need a different kind of learning environment. These districts are thinking about single innovative small high schools rather than a fundamental change in their high school systems.

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[3] Many of the schools have looked to the Julia Richman Complex in New York City for ideas on how multiple small schools can share the same building. The Julia Richman experience does not, however, encompass a conversion working with the same students and teachers who attended the large school.

Negotiating with districts and dealing with district political issues place heavy demands on grantee resources.

A number of grantees seeking close working relationships with urban districts have found that districts will go only so far in granting autonomies to small schools or in doing real conversions, as opposed to small learning communities that are more like programs or "schools-within-a-school." Negotiating with districts and dealing with district political issues place heavy demands on grantee resources.

Before writing districts off as an impediment to the reform effort, however, it would be wise to consider the longer-term picture. Given the challenge of keeping a small high school alive on the basis of per-pupil funding allocations (discussed further below), it may well turn out that it will be the small schools and learning communities created with active district involvement and financial support that survive the termination of grant funding.

School Size and Financial Viability

Foundation funding to grantee organizations provides support for small schools in the form of professional development services and some discretionary funds for conversion or start-up costs. Different grantee organizations have different formulas and schedules for providing in-kind and cash support, as described in AIR/SRI (2003). In any event, by the conclusion of the grant period, the small schools are expected to be financially viable, operating primarily with their allocations based on average daily attendance (ADA). The smaller the school, the lower the ADA and consequently the less of this type of funding a school will receive. In states with low per-pupil allocations (California being a prime example among the states with many foundation-supported schools), several grantees have raised serious questions about the feasibility of running a high school of 400 or fewer students on the ADA provided through the state. Small schools can seek other funds through special programs. For example, Twin

Bridges received $2 million from the state of California to establish itself as a technology school, and other schools have received program or grant funds for serving special education students, for dropout prevention programs, or for implementing small learning communities. But most of these funding sources are sporadic and can't be counted on; many of the programs that have provided such special funding in the past are being cut or terminated in the face of current government budget deficits.

Small schools created through conversion feel the education budget pinch that is worrying school districts everywhere, but they appear to have less-severe financing issues because of larger initial enrollments, shared facilities, and the availability of some district resources. Although the data available to us thus far suggest that radically small schools (fewer than 100 students in total) are those most likely to have the foundation's attributes firmly in place early on, these are also the schools most in financial jeopardy, given funding formulas based on head counts.

Recommendations

- *Focus on classroom instruction and curriculum.* Both grantees and schools recognize the need to put more of their effort into developing effective instructional practices. In some cases, they have not been able to do as much of this as they would like because of the urgency of issues concerning the nuts and bolts of school opening or conversion. In other cases, they are still seeking curricular frameworks and instructional materials that reconcile their design principles with the requirements of state accountability and college admissions systems. Schools are struggling with these issues, and concrete guidance, supporting materials, and professional development from their grantee organizations could make an important contribution.

- *In planning for a start-up school's second year, use a deliberate strategy for school expansion and anticipate the need to work on spreading school culture to a larger group of students and teachers.*

As the excitement of the first year fades, leaders of small start-up schools need to inspire continued commitment to their new approach to high school, often in a school that has doubled in size with the addition of a new grade level. This task will be much easier if the school has been careful in recruiting staff and new students who are supportive of the school's mission and culture. Start-up school staff put incredible energy into their first year of operation and understandably expected the second year to be less labor intensive. This was not always the case, especially in schools that more than doubled in size.

- *Examine school conversion plans for substance and equity.* Subdividing the student population of a large high school, especially when done entirely on the basis of student choice, poses the potential risk of fostering segregation by achievement level or race/ethnicity. Magnet and other "option" schools within urban systems have developed procedures for balancing students' preferences with the goal of obtaining diverse student bodies. Converting schools could draw on these experiences in developing and implementing their own student assignment systems. Further, the small schools or learning communities created through conversion need to be more than labels if they are going to catalyze close student-teacher relationship and provide distinctive, rigorous academic programs. Attention to logistics should not be allowed to supplant entirely attention to a curricular theme and supporting instructional materials in school planning efforts.

- *Press for recognition of small schools as separate entities in district and state databases.* Small schools created through conversion are finding that bureaucracies can be slow to recognize their status as independent schools (as opposed to the single large school they once were). Securing their own school identification number from the district is an important milestone. This step is important in

establishing each small school's public identity and in providing the schools with data relevant for assessing their progress and for planning improvements.

- *Help grantees and schools figure out the economics of sustaining small schools.* It is important that the foundation and others help grantees and schools figure out how to sustain small schools on an ongoing basis. Some small schools are feeling economic pressure to enroll more students than they would like. The fall-off in the attribute implementation index for larger schools suggests that size *does* matter as an enabling condition. At the same time, extremely small schools are fragile economically and politically. As the evaluation database continues to grow, we can look for empirical evidence with respect to how large a high school can grow and still have the foundation's school attributes firmly in place.

- *Provide concrete, compelling models of how to serve low- and high-achieving students well within the same classroom.* Both conversion and start-up schools are struggling with this challenge. Few teachers have seen heterogeneous groups of students well instructed within a single course or curriculum framework. An effort should be made to identify best practices with respect to teaching heterogeneous groups of high school students, and curricular materials and videotaped lessons illustrating these practices should be made available for professional development activities with staff at schools participating in the initiative.

- *Help innovative schools deal with accountability pressures by supporting the demonstration of the relationship between student performance in these schools and valued education outcomes.* Many of the schools funded under this initiative assess student performance through portfolios, exhibitions, and the products of long-term projects. Although such demonstrations are convincing locally (for teachers, students, parents, and

judges brought in from the community), they are less convincing on a broad scale from the perspective of policy-makers concerned with accountability. The foundation could help its schools deal with accountability pressures by funding intermediaries to work with schools to develop assessments of student performance with the psychometric quality needed to permit analyses of their relationship to outcomes such as achievement test scores, school retention, and graduation.

- *Continue exploring strategies for working with districts.* Up to this point, grantees working with districts have encountered many obstacles. In some cases, the reform effort has been challenged by dramatic changes in district leadership. In other cases, districts have been inclined to opt for renaming existing programs rather than for deep changes in school structure. State budget cuts for education have prompted other districts to rethink some of the latitude they had planned to offer small schools in terms of staffing and hiring autonomy. Nevertheless, it is still too early to tell whether the grantee organizations working closely with districts will have a lasting effect on district thinking with respect to high schools. In the long run, schools receiving district support may prove the most viable financially, and these schools may ultimately serve to inspire and support other small-school efforts and to catalyze system-level change.

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