Small High Schools at Work

A Case Study of Six Gates-funded Schools in New York City

A Report to the Bill & Melinda Gates Foundation

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AED
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Executive Summary

AED conducted a case study of six public high schools in New York City as part of a multifaceted evaluation of a small schools initiative funded by the Bill & Melinda Gates Foundation. Through surveys, interviews, and focus groups, we gathered information and opinions from the schools' principals, teachers, support staff, and students. We also conducted observations of classes and meetings to gather data about practices related to such vital matters as personalization, classroom instruction, college preparation, and staff collaboration.

The Bill & Melinda Gates Foundation initiative tapped the expertise of intermediary organizations that provided direct supports to schools. An important part of this case study, then, was to explore how the intermediaries supported schools and how school personnel perceived the intermediaries' interventions.

Guided by the research literature on effective school and classroom practices, the case study looked for evidence of the following practices related to high-quality education:

Intermediary support. We looked at relationships between the supports provided by the intermediary organizations and the effectiveness of the school and classroom practices listed below.

Personal and academic support. Case-study schools employed a variety of strategies—some more comprehensive than others—to attend to the academic and social-emotional needs of every student and ensure that no student "fell through the cracks."

Effective instructional practices. We documented the extent to which teachers employed specific practices that characterize effective, academically rigorous, and personally and culturally relevant instruction. For example, we documented the occurrence of hands-on instruction, metacognitive skill-building, frequent assessment and feedback, higher order thinking, student choice, and many other techniques characteristic of effective instruction. Staff input helped us determine factors that facilitated and hindered implementation of such practices.

College preparation. Every case-study school aimed to prepare its students for college, attending not only to the rigorous instruction that makes students ready for college work but also to career and college selection and to the college application process.

The nature of case-study research—collecting data from a limited number of schools and from a limited number of classrooms, meetings, and people in those schools—means that our findings cannot be generalized to other schools funded by the foundation. Nevertheless, these findings are consonant with previous research literature and suggest factors to be considered in designing and implementing school-improvement initiatives.

1. A strong focus on teacher learning and collaboration supports effective instructional practices.

The schools in which we saw the most frequent and complete implementation of effective instructional practices in classroom observations were also the schools in which we found strong evidence of support for teacher learning, resulting in a more integrated and coherent approach to instruction. Our findings suggest that quality teacher learning is neither a one-time event nor a top-down initiative. Rather, teachers develop their professional skills in a culture of inquiry and reflection in which they routinely collaborate with one another, participate in the design of their own learning opportunities, and develop leadership skills. The schools in which we most frequently saw effective, rigorous, and relevant instruction were those supported by an intermediary organization that placed teachers within a network of teachers from similar schools and empowered them to teach and learn from each other.

2. An integrated approach to college preparation fosters a strong college-going culture.

By design and as part of their mission, all six case-study schools stressed the college-going message. However, some schools offered a compartmentalized approach to college preparation while others used a more integrated approach. In the compartmentalized approach, college preparation took place in silos: teachers wrote recommendations and sometimes helped with college essays, while counselors were responsible for applications and similar paperwork. The integrated approach involved all staff members; teachers joined counselors in motivating students to overcome the barriers separating them from college and in helping them with all aspects of selecting and applying to schools.

3. Consistent, structured programs facilitate student support.

Again by design, all of the six case-study schools had organizational features in place to monitor and address the academic and social-emotional needs of all students. These features were designed to ensure that all students received needed supports and no student fell through the cracks. The distinguishing characteristic between what appeared to be more and less effective supports was not which features were implemented, but to what extent the features were consistent and structured. For example, organizational features in which the same staff member worked with the same students for all four years of high school offered a more comprehensive web of support. Similarly, structured protocols for examining student progress—informed by both quantitative and qualitative data—enabled a holistic approach to addressing student needs.

1. Introduction

The Bill & Melinda Gates Foundation invested over $150 million in a major effort to reform New York City high schools. Central to this effort has been the creation of small high schools intended to provide high-quality education for low-income, immigrant, and minority students who face significant challenges to school success. The foundation worked with the New York City Department of Education (DOE) and other partners on system-wide efforts to support these new small learning communities. Since 2002, over 200 such small high schools have been created in some of NYC's most disadvantaged neighborhoods.

While the new schools have a wide variety of themes and educational philosophies, they share three common design characteristics (MDRC, 2008):

- **Academic rigor.** Schools are expected to be college-preparatory in that they move *all* students toward acquisition of a New York Regents diploma.
- **Personalization.** Schools provide academic and social-emotional support to each individual student.
- **Partnerships.** Schools gain access to resources and expand connections by partnering with community and intermediary organizations

Intermediary organizations, which received funding from the Bill & Melinda Gates Foundation for the express purpose of starting new small schools, were key partners that provided direct supports to schools. Intermediary organizations are typically non-

profit organizations that operate between policymakers or funders and the entities, such as school districts, charged with implementing new programs and practices (see full definition of educational intermediaries on pages 9-10) .

This report presents findings from a case study, conducted by AED, of six Gates-funded schools in New York City. This study is one of six interrelated studies of the small schools initiative. A set of implementation studies includes a descriptive study by Policy Studies Associates, Inc. (PSA) of the role intermediary organizations play in designing and facilitating implementation of small high schools, as well as a study of school characteristics conducted by MDRC. This MDRC study describes the systemic context in which these schools were created, the changes in high school options and in student enrollment patterns that have occurred, and how the new schools compare with others in the system on a wide range of variables. A fourth study, also conducted by MDRC, is an impact analysis of small schools on student outcomes using the naturally occurring experiment made possible by NYC's use of a lottery system to assign students to oversubscribed schools. In addition to the impact and implementation studies just described, the foundation commissioned two internal studies: a historical analysis of its role in school reform and the lessons learned over time, conducted by Kronley & Associates, and a fiscal analysis of the small schools initiative, conducted by the Parthenon Group.

Purpose

The AED case study complements the impact and implementation analyses by providing in-depth images of school and instructional practices in small schools funded by the Bill & Melinda Gates Foundation. The study allowed us to look for nuanced patterns related to implementation, so that the findings contribute to the field's knowledge about how and under what conditions small schools implement best practices. Guided by the research literature on school effectiveness and by the foundation's programmatic emphasis, the case study focuses primarily on personalization, college access, and the instructional rigor that leads to college readiness.

"They treat us like college students here." —Student in a case-study school

The literature enabled us to identify key factors and best practices in each of these areas. We went into the case-study schools to look for evidence that they adopted these practices and to discern, as much as possible, the conditions that enabled them to do so. We studied how the intermediaries supported schools to design and implement effective practices in these three areas. The findings therefore can help inform future school improvement initiatives.

Specifically, the case study looked for evidence of the following practices related to high-quality education:

- **Intermediary support.** What guiding principles did the intermediary organizations apply in starting these small schools? What kinds of support did they provide? Can relationships be discerned between the supports provided and the effectiveness of the schools?

- **Personalization and academic support.** To what extent and how did schools facilitate personal relationships between staff and students? What strategies and organizational features did they apply to ensure that the academic and social-emotional needs of all students were addressed?
- **Instructional practices.** To what extent and how did schools employ effective instructional techniques suffused with the academic rigor and personal and cultural relevance that lead to student learning? What factors facilitated and hindered the design and implementation of effective instructional practices?
- **College preparation.** How did schools support students in the many activities involved in selecting and applying to colleges? How did they prepare students for college-level work?

Methods

Through surveys, interviews, and focus groups, AED gathered information and opinions from the schools' principals, teachers, other staff, and students. We also conducted observations of classes and meetings to gather data about practices related to such vital matters as classroom instruction, staff collaboration, and teacher professional development. We tapped MDRC's school characteristics study for additional data on the schools' work. PSA's intermediary study helped inform our examination of the ways the intermediary organizations supported the schools. The three intermediaries studied were among those that received Gates Foundation grants to develop small schools in New York City:

- **Intermediary A** has a strong orientation toward college-readiness and effective instruction.
- **Intermediary B** has a strong focus on leadership support and using data to inform practice.
- **Intermediary C** uses a pedagogical approach based on a youth development model to serve students who are recent immigrants to the U.S.

PSA, as part of its data collection, asked each of these intermediaries to identify two schools to participate in the case study: one school that was successful in implementing the organization's model and another that had struggled but ultimately "turned around." The schools and their students are described in Chapter 2. The intermediary organizations and their roles in supporting the schools are examined in Chapter 3.

Findings

Chapters 4–6 of this report are devoted to our findings in the three key areas identified by the foundation and the literature as factors in small-school success. Chapter 4 examines the schools' practices in fostering personalization and academic support for

every student. We found that every school had organizational features in place to provide such personal and academic support. What seemed to distinguish the schools that were more successful in establishing supportive relations was not so much the kinds of organizational features they employed as the consistency with which they structured them.

Fig. 1.1. 12th grade physics class at a case -study school

Our findings on effective instructional practices characterized by rigor and by personal and cultural relevance are the subject of Chapter 5. Effective instruction—the gateway to student learning—was, by design, a high priority for every one of the case-study schools. Nevertheless, our classroom observations, supplemented by interviews with those classes' teachers, showed a higher incidence of effective, rigorous instruction in some schools than in others. A key finding was that the schools in which we found more effective instruction were also schools that—following the lead of their intermediary—provided strong support for teacher learning and collaboration.

Academically rigorous instruction is a major component of college preparation, the subject of Chapter 6. Led by teacher and support staff comments, we distinguish between college *access* activities—the many steps required to choose colleges and to apply for admission and for financial aid—and college *readiness* activities, the ones that prepare students for college-level work. Effective instruction is thus a primary component of college readiness. We found a commitment to college preparation in all six case-study schools. Those that employed an integrated approach involving all staff members in college access activities seemed to be the ones that were most successful in creating a school-wide college-going culture.

Chapter 7 summarizes the most important findings of the case study and suggests avenues for further research into what makes small schools effective. These findings must be taken as suggestive, not definitive, by the very nature of case-study research. We studied only six schools, observing eight classrooms in each and interviewing their teachers. We collected a great deal of additional data using surveys, focus groups, and the principal interview, but we could reach only a limited number of staff and students, who may not have been entirely representative. Equally importantly, we cannot establish causal relationships. We can say that we observed, for example, strong instructional practices in schools where we also observed strong support for teacher learning, but we can only infer that teacher learning was one reason for the presence of effective instructional strategies.

Such inferences are, however, supported by previous research on the factors that lead to small-school success. The limitations of the case-study method are balanced by its strengths. We spent days in each school, gathering data using multiple methods, both quantitative and qualitative, that can be "triangulated" to yield a reasonably complete picture of each school's strengths and challenges. We spoke with numerous individuals—principals, teachers, support staff, and students—using open-ended protocols that allowed them to bring up points we might not have considered in constructing questions. The result is a finely grained portrait of each school that yields tantalizing suggestions of what works and what doesn't in designing and implementing small, personal, academically rigorous schools.

2. Methods

AED's case study of six high schools funded by the Bill & Melinda Gates Foundation was grounded in knowledge about practices that characterize instruction in schools that are high-performing or improving, especially those that serve young people of color and students who are economically disadvantaged. Specifically, we used the research to identify best practices at the high school level and then designed our data collection to obtain data on the extent to which we saw evidence of these practices in the case-study schools. Through multiple data collection strategies, we developed detailed portraits of practice and analyzed the data for patterns that suggested factors that facilitated or hindered implementation of practice. The data are correlational, not causal. Therefore, our findings are suggestive, rather than confirmatory; they are not intended to be generalized to all Gates-funded small schools. These findings may lead to hypotheses that can be confirmed through additional study.

Data Collection

AED collected data in Fall 2008 and Spring 2009 using the following methods, each of which is described below:

- In-depth principal interviews
- Classroom observations
- Follow-up teacher interviews
- Teacher and support staff focus groups
- Student focus groups
- Teacher survey
- Meeting observations
- Data from other sources: related studies of Gates-funded schools, document and artifact review

Instruments used to collect data are reproduced in Appendix A.

Principal Interviews

"The mission is for students to learn to think critically… and prepare for college and other educational opportunities after high school." —Principal interview, School 5

At the beginning of our data collection, we conducted an hour-long interview with each principal covering topics related to the school mission and vision, how the school provided academic and social-emotional support to students, how the school prepared students for college, and what kinds of support were provided by the school's intermediary organization. Though we used a structured interview protocol, these interviews share the limitations of any self-reported data, including participant bias or self-censorship. In addition, though questions were designed to gather information about the school's entire history, principals are likely to have mentioned the most recent or most salient events when describing, for example, the intermediaries' support.

Classroom Observations

We conducted observations in eight classrooms in each school, reaching approximately one-third of the instructional staff. The teachers were selected for observation by the researchers working alone or with the administrative staff to include a diverse sample in terms of grade level and subject area. Half of the observations were conducted in the lower grades (9th or 10th) and half in the upper grades (11th or 12th). The observations represented the four core subject areas, with two at each school conducted in English, mathematics, science, and social studies classes. Wanting to get a sample of classes that reflected the average student, we did not observe self-contained special education classes.

We used a semi-structured observation protocol with a mix of open-ended and closed-ended questions. Researchers were trained extensively on the use of the protocol. To obtain data on inter-rater reliability on the closed-ended items, two researchers observed one or two classrooms together per school. Each answered the questions separately, and we compared responses. We obtained strong inter-rater reliability scores on most items, ranging from .5 to .9 (kappa value) on each item.

The classroom observation data are limited by the fact that they represent a single point in time, on the day of the observation. We cannot determine the extent to which the lesson we observed is representative of all lessons given by that teacher. Teachers and students may also have been influenced simply by our presence in the room. In addition, because teachers were selected for observation through a convenience sampling procedure, we do not claim that they are representative of all of the teachers in the school.

Follow-up Teacher Interviews

For each classroom observed, we conducted a follow-up interview with its teacher. These in-depth interviews allowed us to ask about the planning and context of the lesson we had just observed as well as about instructional practices that we may not have been able to observe, such as differentiated instruction. We also asked about school policies and practices, particularly those pertaining to teacher professional development and collaboration, college readiness, and support from the intermediary. The interviews provided rich data but are subject to the same limitations as the principal interviews.

Teacher and Support Staff Focus Groups

We conducted two (and in one case three) focus group interviews in each school: one comprising teachers and the other comprising support staff such as guidance counselors, social workers, community liaisons, and parent coordinators. All teachers and staff were invited to participate in the focus groups; the first eight who volunteered were selected. (In some cases, fewer than eight volunteered.) Topics discussed included how the school prepared students for college and how the intermediary supported the instructional and support staff.

Facilitators of these and the student focus groups used a specific protocol that guided discussion while allowing participants to propose and pursue topics of their own. However, self-selected participants may not have been representative of the total population in the school.

> "We have great relationships with our teachers, and they have really pushed us. They have high expectations for us." —Student focus group, School 4

Student Focus Groups

We conducted three student focus groups in each school, all at different grade levels, with at least one at the lower grade level (9th or 10th) and at least one at the upper grade level (11th or 12th). Students in selected classrooms or advisories representing the grade levels of interest were invited to participate; only those who returned parent consent forms were selected. If more than eight students at a particular grade level returned parent consent forms, we selected students on a first-come, first-served basis. The focus groups were conducted during

students' lunch or advisory periods or after school. Topics discussed included academic rigor and challenge in classroom instruction as well as college preparation.

Teacher Survey

AED, PSA, and MDRC co-developed a teacher survey to be piloted in the case-study schools, with the intention that the survey may be administered citywide at a future date. The survey was administered to case-study teachers by AED in February and March 2009. We collected 143 surveys, representing an 86% response rate. Topics on the teacher survey included school climate, teacher professional development, college preparation activities, and, to some extent, instructional practices. Many of the items included on this survey were adapted from the Chicago High School Redesign Initiative teacher surveys by the Consortium on Chicago School Research (2005, 2007). The teacher survey data are limited by the inherent possibility for bias in self-reported data; teachers may have given socially desirable responses or inaccurately recalled the frequency and nature of their practices.

Meeting Observations

AED observed at least three teacher-team or professional development meetings per school. Using a semi-structured protocol, we looked for examples of teacher collaboration, use of student data, and discussion of student supports and college preparation activities. This protocol and the other instruments used in the case study are collected in Appendix A. The meeting observations are subject to limitations similar to those of the classroom observations: the possibility that the meetings were not representative and the "observer effect."

Data from Other Sources

In addition to the data AED collected, we reviewed and analyzed data from the principal survey administered by MDRC in spring 2008, the intermediary interviews conducted by PSA, the internal-to-the-foundation fiscal analysis conducted by the Parthenon Group. We also examined documents and artifacts collected from the schools, such as parent and student handbooks, printed mission statements, meeting protocols, lesson plans, and principal newsletters. The principal survey, collected from each principal in our study,[1] provided data on school policies and practices that supported student achievement and college preparation as well as on the principal's perception of the emphasis and helpfulness of the support provided by the intermediary. The survey is reproduced in Appendix A. The intermediary interviews covered topics including the

[1] A low response rate to the principal survey meant that it could not be used for other studies, as intended. However, the principals of all six case-study schools responded to the MDRC survey.

intermediary's model and the services provided to schools. The fiscal analysis provided an overview of the intermediary's start-up, operations, and program components.

Data Analysis

Our approach to analyzing this data was a grounded-theory approach. Based on our observations and interview data, we identified patterns and developed theories on differences in implementation of effective practices. Once the patterns and theoretical concepts were identified, we revisited the data to verify (or discount) the patterns and theories and to describe the phenomena.

In reporting findings from the data, we identified general patterns and provided specific examples that illustrated those patterns. To the extent possible, we quantified responses from individuals and instances of evidence of particular practices in the classroom observations. Because the teacher, support staff, and student focus groups were conducted as small-group discussions, rather than systematically asking each respondent the same question, data from the focus groups were summarized, with a note as needed about the extent to which the entire group agreed or disagreed with statements made by individuals. Similarly, data from meeting observations, because data were collected through observation rather than systematic questioning, were summarized.

In some cases, themes emerged from the data that were not specifically explored on our protocols and were therefore not collected from each school. The project timeline did not allow us to return to the schools to ask systematically about these patterns. Although we were therefore not able to determine the extent to which such practices or themes were present or true for every school in our study, we report them here if they are relevant to our research questions.

Sample

The case study was based on a sample of three intermediary organizations and two schools from each intermediary.

Intermediaries

Education intermediaries, according to the definition developed jointly by researchers involved in the six interrelated studies of the small-schools initiative, are typically nonprofit organizations that operate between policymakers or funders and the entities, such as schools and school districts, charged with implementing new programs and practices. In the efforts of the Bill & Melinda Gates Foundation to create small high

schools, intermediaries often served both as fiscal agents for distributing grant funds to schools and as sources of experience with and advice about creating, incubating, and operating small schools. This advisory support included leadership development, instructional support, and college readiness services. To varying degrees, intermediaries also advocated for their schools with local educational authorities, helped identify and procure facilities, connected schools with other organizations and grantee networks, nurtured such networks, assisted with operations and staff selection, provided teacher professional development, and facilitated program planning, development and implementation.

The intermediaries in this case study were selected from among 18 intermediaries that received grants from the Bill & Melinda Gates Foundation to develop small schools in New York City. These intermediaries, their emphases, and the supports they provided to schools are explored in Chapter 3.

Schools

In interviews conducted by PSA, researchers asked leaders of each of the three intermediaries to nominate two schools to be the subjects of our study: one school that was considered successful in implementing the organization's theory of change and another that had struggled but ultimately "turned around" and was considered to have been successful in implementing the model. The intermediaries used their own criteria to define "strong implementers" and "turn-around schools." In order to be consistent with the data samples from MDRC's impact and school characteristics studies, we considered only schools serving grades 9–12 that determined enrollment through the district choice system.

Intermediaries A, B, and C nominated Schools 1, 3, and 5, respectively, as "strong implementers." The "turn-around schools" in our sample were School 2 for Intermediary A, School 4 for Intermediary B, and School 6 for Intermediary C.

The "turn-around" schools faced, in their early years of development, the kinds of challenges that are often endemic in large urban school districts. School 2 faced difficulty in finding a permanent location and had moved four times in four years. Its staff was very inexperienced and went through a great deal of turnover. The turnover extended to the principal position, where the incumbent changed every year; the principal we interviewed had taken over in 2007–08. School 4 also initially struggled with principal turnover, with the principal at the time of our study being the third in the school's four-year history. School 6, when it first opened, was placed by the NYC DOE in a dangerous neighborhood with few newly arrived immigrants, the school's target population. As a result, the school was under-enrolled. At the time of our study, the school had relocated to a neighborhood with a new-immigrant population. However, parents also considered the new neighborhood dangerous, according to the principal.

Table 2.1 (next page) shows teacher and instruction-related characteristics of the case-study high schools. For comparative purposes, the final column shows the equivalent

data for small high schools in NYC that, like the case-study schools, are not academically selective.

Table 2.1. Teacher and Instructional Characteristics of Case-Study Schools, 2007-08

	Intermediary A		Intermediary B		Intermediary C		
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	All Small Academically Non-Selective Schools
Year school opened	2004	2005	2003	2003	2004	2005	n/a
Current principal's tenure (years)	5	2	6	4	5	4	n/a
Teaching out of certification	9%	35%	12%	12%	13%	24%	19%
Teachers with fewer than three years of experience	6%	47%	27%	8%	34%	53%	36%
Teachers with master's degree plus 30 hours or doctoral degree	22%	29%	39%	48%	19%	12%	24%
Overall School Quality Review (SQR) score[2] (out of 5)	N/A	N/A	3	4	4	4	3.4
SQR Statement 1: Gather Data	N/A	N/A	4	4	4	4	3.5
SQR Statement 2: Plan and Set Goals	N/A	N/A	4	4	4	4	3.5
SQR Statement 3: Align Instructional Strategy to Goals	N/A	N/A	3	4	4	4	3.5
SQR Statement 4: Align Capacity Building to Goals	N/A	N/A	3	4	4	4	3.7
SQR Statement 5: Monitor and Revise Goals	N/A	N/A	3	3	4	3	3.3
NYCDOE Progress Report Letter Grade[3]	A	N/A	B	A	A	N/A	B

SOURCES: Year school opened is from the foundation. Principal tenure data are from the principal survey. Teacher characteristics and school accountability data were provided to AED by MDRC. Calculations were made from the New York State Report Card and data on new small schools provided by the DOE for school years 2007-2008, and DOE accountability measures including the New York City Progress Report, School Quality Review. School 2 was categorized by MDRC as a medium-sized school because the 9th grade enrollment was just over its maximum of 175. Similarly, Schools 5 and 6 were categorized by MDRC and the New York City Department of Education as academically selective because they enroll only students who are new immigrants and eligible for ELL services. However, for the purpose of describing the case-study schools, we believe it is appropriate to compare these schools to small academically non-selective schools.

[2] The School Quality Review (SQR) overall score and five statement scores were converted from a nominal ranking scale to a numeric scale so that calculated averages could be shown in this table. MDRC converted the SQR's nominal scale to a five-point scale: "underdeveloped" = 1, "underdeveloped with proficient features" = 2, "proficient" = 3, "well developed" = 4, and

[3] The DOE computed progress report scores for schools serving all grades 9–12. These schools received scores along three dimensions: school environment, student performance, and student progress.

The case-study schools opened between 2003–04 and 2005–06, with two schools seeing their first graduating class during the time we conducted our research. In four of the six schools, the principal at the time of our study had been in place during the entire life of the school. The other two schools had experienced principal turnover, as noted above.

Table 2.1 shows a fair amount of variety in the credentials and experience of teachers in the case-study schools. In Schools 2 and 6, a substantial proportion of teachers—more than one-third in School 2—were teaching outside their area of certification. In the other four schools, the percentage of staff teaching out of certification was lower than the average for small non-selective schools. Further, in Schools 2 and 6, about half of the teaching force had fewer than three years of experience. In Schools 3 and 5, about one-third of teachers had fewer than three years of teaching under their belt—somewhat less than the average for small non-selective schools. Schools 1 and 4, by contrast, had far fewer inexperienced teachers. The data also show that in four of the six schools, fewer than one-third of the teaching staff had advanced credentials, defined as a master's degree plus 30 hours or a doctorate—the exception being the two schools served by Intermediary B, where 39% and 48% of teachers had advanced credentials.

Data from the DOE accountability system show that the case-study schools scored high on indicators of quality as measured by the School Quality Review (SQR), with each of the four schools with data scoring in the "well developed" or "outstanding" categories overall and in each sub-category of the review. Further evidence that these are high-performing schools—relative to their peers—comes from the DOE's progress report. The report card gives a letter grade to schools based on their performance in comparison to schools serving similar students. Three of the schools with data scored an A, and one scored a B. These data indicate that, in comparison to their peer schools serving a similar population of students, the case-study schools performed well by DOE accountability standards.

Students

Students in the case-study schools were generally characteristic of students in NYC public high schools and specifically of those in all small, non-selective schools. Table 2.2 (next page) shows the demographic and academic characteristics of first-time 9th graders in the case-study schools and in comparable schools, using data compiled by MDRC (2009).

Table 2.2 shows that the case-study schools served predominately African-American and Latino youth. In School 5, one of those serving immigrant youth, about one-fourth of students were Asian. A large proportion of entering 9th graders in the case-study schools were overage for eighth grade, ranging from 15% for School 1 to 52% for School 6. Most of the students in these schools came from low-income families, as indicated by the high percentage of students eligible for free or reduced-priced lunch: more than 80% in all schools but one. Schools 5 and 6 had the largest percentages of both overage and low-income students.

Table 2.2. Demographic and Performance-Based Characteristics of First-Time 9th Grade Students Enrolled in Case-Study High Schools, 2007–08

	Intermediary A		Intermediary B		Intermediary C		All Small Academically Non-selective Schools
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	
9th grade enrollment	114	100	129	108	125	66	n/a
Total school enrollment	373	310	467	434	417	227	n/a
Gender							
Female	50%	49%	48%	55%	45%	45%	49%
Male	50%	51%	52%	45%	55%	55%	51%
Ethnicity							
White	3%	0%	3%	0%	7%	12%	3%
Black	63%	36%	85%	44%	26%	49%	45%
Hispanic	33%	61%	11%	55%	40%	29%	49%
Asian	1%	2%	2%	1%	27%	9%	3%
American Indian	0%	0%	0%	0%	1%	0%	0%
Overage for eighth grade	15%	29%	17%	29%	41%	52%	28%
Eligible for free and reduced-price lunch	80%	83%	46%	80%	92%	92%	82%
Special education	12%	14%	14%	19%	0%	0%	14%
English language learner	3%	14%	5%	14%	76%	56%	14%
Average 8th grade math proficiency[4]							
Low	46%	62%	50%	57%	53%	77%	53%
Medium	38%	32%	39%	38%	29%	23%	37%
High	17%	7%	10%	5%	18%	0%	10%
Average 8th grade English language arts proficiency							
Low	31%	58%	42%	62%	94%	94%	52%
Medium	58%	36%	50%	32%	6%	6%	40%
High	11%	7%	8%	5%	0%	0%	8%

SOURCES: MDRC calculated data from DOE October enrollment data for first-time 9th graders in school year 2007–08, and High School Application Processing System (HSAPS) data for 8th grade students in 2006–07.
NOTE: Rounding may cause discrepancies in sums and differences.

In four of the case-study schools, the percentage of students eligible for special education services (12% to 19%) was similar to the percentage in all small academically non-selective schools (14%). According to DOE data, the two schools whose target population was new immigrants, Schools 5 and 6, did not enroll special education students. However, since these data are reported for the 8th grade, some students in

[4] New York State defines four proficiency categories—levels 1 through 4. For this study, these have been recoded into three categories: low, medium, and high. Low proficiency is defined as scoring in proficiency level 1 or the bottom half of proficiency level 2. Medium proficiency is defined as scoring in the higher half of proficiency level 2 or the lower half of proficiency level 3. High proficiency is defined as scoring in the higher half of proficiency level 3 or proficiency level 4.

these schools may have classified into special education at a later date. According to the principal at school 6, students are in the NYC DOE system at least two years before being classified as special education. Because students in these schools have been in the country for less than four years, very few would have been classified as special education by the 8th grade.

Those same two schools, not surprisingly, served by far the highest proportion of students eligible for English language learner (ELL) services, at 76% and 56%. Schools 1 and 3 had very few ELL students, while 14% of students at both Schools 2 and 4 were ELL students. Finally, the data show that large proportions of entering 9th graders in these schools had low levels of proficiency in math and English language arts, indicating that they entered high school with serious academic deficiencies. The percentage of students with low ELA proficiency is extremely high in the two schools serving new immigrants.

Taken together, the high percentage of students who were overage for grade, eligible for free lunch and ELL services, and at low levels of math and English proficiency upon entrance to high school point to a population that is distinctly more disadvantaged in the two schools served by Intermediary C than in the other case-study schools.

3. The Intermediary Organizations

Informed by the literature on intermediary organizations (Honig & Hatch, 2004; McDonald & Klein, 2003; Rogers, 2007), teacher professional development (Ball & Cohen, 1999; Cohen & Hill, 2001; Darling-Hammond, 1993; Little, 1990; Little, 1999), and school-community relationships (Hirota, 2004; Honig, Kahne, & McLaughlin, 2001; National Research Council & Institute of Medicine, 2004), our case-study research considered the ways in which intermediaries supported the growth and ongoing development of case-study schools. Throughout our case-study interviews, surveys, and focus groups, we asked principals, teachers, and guidance counselors to describe the nature and frequency of their work with their intermediary organizations. As we analyzed and sought resonance among various data sources, we developed a descriptive picture of the relationships between intermediaries and schools.

This chapter begins to paint this picture by exploring the emphases of the intermediaries' work, using both the organizations' self-descriptions and data from the principal survey and case-study research. We then describe the specific supports intermediaries provided to schools.

Emphasis of the Intermediaries' Work

The three intermediary organizations chosen for this study differ in significant ways. They were created under different circumstances and operate with different business models and theories of change. For a detailed description of all of the intermediaries funded by the Bill & Melinda Gates Foundation to start new small schools, see the Policy Studies Associates report (2009). A brief description of each intermediary serving case-study schools follows. A richer portrait emerges when we next examine the case-study schools' perceptions of the emphases of the intermediaries' work.

Intermediaries' Descriptions

Intermediary A

Intermediary A partners with schools and districts to create autonomous small schools and to transform large comprehensive high schools into academically rigorous, personalized learning environments that prepare students for success in college and beyond (PSA, 2009). The intermediary collaborates with schools to create comprehensive plans and implementation strategies customized to meet the unique needs of schools and districts. The organization's work is guided by a set of research-based principles of effective practice. A partner organization supports the intermediary and schools with supports and services such as mathematics and writing assessments, formative data for planning purposes, documentation of schools' implementation efforts, and recruitment and training of instructional coaches. Coaches provide individualized support to schools, spending at least one day per week in the school. The intermediary also provides professional development institutes.

Intermediary B

Intermediary B is a school reform organization that is guided by research-based principles of effective school design. This intermediary emphasizes the use of data to inform practice, providing schools with tools and data for monitoring student achievement and communicating attendance and graduation rate goals to all schools in its network. Intermediary B also provides coaches to the schools, with a particular focus on leadership development. It offers professional development institutes and an extensive set of online tools, materials, and resources that are open to the public. Unlike the other case-study intermediaries, this intermediary connects schools with community-based partners who serve as the fiscal agents for Bill & Melinda Gates Foundation funding and support schools in their reform efforts.

Intermediary C

Intermediary C develops a network of small public high schools that feature an interdisciplinary, student-centered environment. In this intermediary's model, students, all of whom are recent immigrants from other countries, work collaboratively in small, heterogeneous groups. The intermediary emphasizes leadership development and uses a network model in its efforts to help schools improve. Teachers, support staff, and administrators are encouraged and supported in efforts to collaborate and share practices across schools. The organization's website offers tools, materials, and resources for staff including curricula and videos of practice. Intermediary C also provides leadership coaching, retreats for principals and assistant principals, and professional development institutes.

Schools' Perceptions of Intermediaries' Work

A richer, more nuanced picture of the emphases of the intermediaries' work emerges when we explore the ways in which principals and teachers described the focus, extent, and effect of the intermediaries' support.

MDRC's principal survey asked about the extent to which intermediaries focused on various areas in their work with schools. As shown in Table 3.1 (next page), the intermediaries had somewhat different emphases, and sometimes principals with the same intermediary reported different levels of emphasis in the same areas. For example, the principal of one Intermediary A school reported that planning the school budget was not a focus of the intermediary's work with the school, while the other said it was an extensive focus. This finding may indicate that the intermediaries customized their support to schools based on need. In some areas where schools did not report an emphasis of the intermediary's work, the area may nevertheless have been a focus for the school. For example, though some principals said that developing a personalized environment was not a focus of their intermediaries' work, we observed that all case-study schools placed a great deal of emphasis on personalization.

> "One of our challenges is that our school is 100% ELL with a specific model—so even the state doesn't understand how we work. That's where [Intermediary C] helps us. We're all in the same boat. Schools are team-based and collaborative, and [Intermediary C] is too. They bring us together to share what we've learned. We share problems that we have had and how we overcome them."
> —Counselor, School 5 (focus group)

Principals of schools served by all three intermediary organizations said that various aspects of professional development for teachers and administrators were an extensive or moderate focus of their intermediary's work. A difference in emphasis emerges in the use of instructional coaches. Principals of Intermediary A and B schools saw instructional coaches as a moderate or extensive focus, while Intermediary C principals perceived instructional coaches to be of small or no focus. As discussed in more detail below, our interview and focus group data confirmed these findings, revealing, in particular, that instructional coaches provided significant supports to teachers in Intermediary A schools. All six principals also reported that teacher collaboration was an extensive or moderate focus of their intermediaries' work, though our case-study data reveal, as discussed in Chapter 5 on

Table 3.1. Focus of Intermediaries' Work with Schools

Where both principals gave the same answer, that answer is shown only once.

	Intermediary A	Intermediary B	Intermediary C
Providing professional development for teachers	Extensive	Extensive Moderate	Extensive
Planning professional development for teachers	Extensive *	Moderate Extensive	Extensive Moderate
Providing professional development for administrators	Extensive Moderate	Extensive	Extensive Moderate
Providing instructional coaches for teachers	Moderate Extensive	Extensive	Small focus Not a focus
Fostering teacher collaboration	Moderate Extensive	Moderate Extensive	Extensive
Developing a personalized environment	Moderate Extensive	Not a focus Extensive	Not a focus
Planning the school budget	Not a focus Extensive	Moderate Extensive	Not a focus
Developing organizational structures	Moderate Extensive	Not a focus Moderate	Small focus
Using data to inform practice	Moderate Extensive	Extensive	Not a focus Small focus
Engaging all students in an academically rigorous curriculum	Moderate Extensive	Moderate Extensive	Extensive Small focus
Planning college preparation activities	Moderate Extensive	Extensive	Extensive Moderate
Help map how individual classes will function in a progression to build the knowledge & skills students need for postsecondary education	Moderate Small focus	* Extensive	Not a focus
Planning support services for students	Moderate Extensive	Moderate Extensive	Small focus

*Missing data

Source: Principal survey

instruction, that intermediaries varied in the extent to which they provided structured support for cross-school teacher collaboration.

Principals varied in their assessment of the strength of the intermediaries' focus on personalization. Principals of Intermediary A schools saw personalization as a relatively strong focus, one Intermediary B principal saw it as an extensive focus while the other said it was not a focus, and the two Intermediary C principals said that personalization was not a focus. Despite not being a focus of the intermediary, our case-study data show that the instructional teams in the two Intermediary C schools seemed to provide a strong web of support for individual students, as discussed in Chapter 4.

Principals of the Intermediary A and Intermediary B schools describe use of data to inform practice as an extensive or moderate focus of the intermediary's work. Our interview and focus group data confirmed Intermediary B's extensive focus on using

student data to inform practice and Intermediary A schools' use of qualitative data, such as portfolios of student work, to inform their practice and planning. Though Intermediary C principals described use of data as not a focus or a small focus, we saw examples of teachers using qualitative data to inform practice and planning.

All six principals reported that their intermediary's work emphasized college preparatory activities to a moderate or extensive degree, a finding confirmed by our interviews and focus groups. All but one described academic rigor as an extensive or moderate focus. These findings are significant but not surprising given the emphasis of the foundation and of the intermediaries on college access and readiness. As we describe in Chapter 5 on student learning, intermediaries varied in the ways they supported schools in carrying these emphases into the classroom.

Common Threads

In comparing the intermediaries' stated missions and principles, the principals' report of the focus of the intermediaries' work in their schools, and data we collected through interviews and focus groups with school staff, we see common threads, which are outlined below and explored throughout this report.

Intermediary A emphasized teacher professional development and improving teacher learning, as well as strategies for providing a web of support for students. Teachers and principals spoke highly of Intermediary A's professional development opportunities and particularly of the value of the instructional coaching provided by the intermediary, emphasizing the impact of those activities on their practices. Staff interview and focus group data suggest that teacher collaboration and leadership development were emphasized in Intermediary A schools. This intermediary's emphasis on building a safety net of support for students was evident in the structures, such as advisory groups and attendance meetings, that the schools implemented to facilitate the involvement of all staff in ensuring that students' academic and social-emotional needs were met.

Priorities in Intermediary B's work included partnerships with local community organizations and use of data. In one of the Intermediary B case-study schools, we saw evidence of strong community partnerships. Staff generally described these partnerships as beneficial, though some indicated that not all teachers benefitted to the same degree. Intermediary B's emphasis on use of data to inform practice was evident in its regular provision of student data—including such measures as attendance, grades, and Regents passing rates—to schools. In both case-study schools served by this intermediary, we saw a clear emphasis on using this data to inform practice, plan interventions, and monitor progress.

Intermediary C appeared to place a great deal of emphasis on teacher professional development and collaboration. Indeed, this emphasis was reflected in the extent to which we saw strong structures for teacher learning and collaboration in Intermediary C schools (see Chapter 5). Our research suggests that this intermediary was primarily focused on improving practice through teacher learning and inquiry, using a variety of structures such as professional development retreats, inter-visitations, and study groups

across schools. In focus groups and interviews, several teachers described the ways in which the variety of avenues for formal and informal sharing across schools increased the institutional capacity of both schools and teachers. This intermediary also involved teachers in designing and leading professional learning opportunities.

Supports Provided to Schools

Our data reveal descriptive images that illustrate how intermediaries provided supports to case-study schools, specifically, how intermediaries worked with schools to:

- Provide start-up assistance in conceptualizing and developing new small schools
- Provide ongoing leadership development for principals
- Negotiate district policies and advocate for schools with outside organizations
- Access resources through relationships with community organizations
- Support the ongoing learning and capacity building of teachers
- Provide tools to help improve school and classroom practices

Table 3.2 shows specific kinds of supports each intermediary provided to schools. The list is not exhaustive. The data in this table and supporting text reflect only what administrators and staff described in surveys, interviews, and focus groups. Therefore, the types of support mentioned are likely to reflect the most salient or most recent intermediary interactions.

Table 3.2. Intermediary Supports to Schools

	Intermediary A	Intermediary B	Intermediary C
Start-up supports	✓	✓	✓
Assistance with hiring new staff	✓	✓	✓
Mentors/coaches for principals	✓	✓	✓
School planning teams	✓	✓	✓
Regularly scheduled principals' meetings	✓	✓	✓
Policy negotiation	✓	✓	✓
Establishing relationships with community organizations		✓	✓
PD: Instructional coaches for teachers	✓	✓	
PD: Conferences	✓	✓	✓
PD: Inter-visitations		✓	✓
PD: Teacher study groups			✓
Tools	✓	✓	✓

Source: teacher and principal interviews, teacher and support staff focus groups

Start-up Support

Our study reveals that intermediaries offered various types of support to leaders during their schools' start-up phase. Across all case-study schools, principals described how intermediaries helped with hiring and training new staff, provided coaching or mentoring, established school planning teams, and developed relationships with parents and community members.

The principal of School 1 described in an interview the importance of the assistance of the Intermediary A instructional coach during the start-up phase of the school: "It was great to have [the coach] available when we were selecting the staff and starting the school." In the other Intermediary A school, School 2, the principal at the time of our study was the school's fourth in four years, so she was not involved with the school when it opened in 2005.

In School 4, the principal described his tumultuous first year after the school's founding principal was fired. His interview revealed critical supports he received from Intermediary B:

> That first summer, a lot needed to be accomplished, and [Intermediary B] was incredibly supportive in helping to secure support from the region, improve parental support, and begin to get the academics in order. [Intermediary B] rehired and switched around staff so they would be able to focus more heavily on academics. In addition, that summer and fall, with [Intermediary B] support, we used the Gates money to provide one-on-one support for kids who were under-credited, to help them catch up.

The principal went on to say that, during his first year, the Intermediary B liaison was "living" at the school. In their interviews, teachers at this school described their perceptions that the intermediary provided substantial support to the school's administration.

The principal at School 3 described how Intermediary B helped to create a school planning team and provided critical supports focused on all aspects of running the school: "They provided guidance on professional development, assisted the school planning team early on, and helped address questions concerning community and parental involvement."

Principals at Intermediary C schools emphasized the critical role of planning teams and the support they received from mentors and other principals in the network of schools. In an interview, the principal of School 6 described his participation in a study group focused on deepening his knowledge of Intermediary C core principles (see box).

> "The year before my school opened, I met with another new principal and with experienced [Intermediary C] mentors to form a study group where we read a series of texts about scaffolding and language development. We learned how to make the core principles come to life and how to achieve faculty buy-in." — Principal, School 6 (interview)

Both principals of schools served by this intermediary spoke about the critical role of their school planning teams, consisting of a principal mentor, two teachers, and one representative from Intermediary C. They described how the planning team supported the hiring and training of new teachers. The principal of School 6 described the support he received from other principals in the network:

> [Other Intermediary C principals] actually invited their faculty members to leave to join the faculty of my school. I was surprised that principals were so willing and didn't feel like we were poaching their staff. Two of my five new teachers came from sister schools. They came in already knowing how to teach in an [Intermediary C school]. It wasn't just me at those first professional development events saying "This is how you teach at an [Intermediary C school]." I also had those two teachers who led the effort of training new staff.

This principal attributed his peers' generosity to the intermediary's work to foster professional community.

Ongoing Leadership Development

Principals described the support that they received from their intermediaries as extending beyond the start-up phase and focusing on leadership development. Several principals described ongoing meetings with mentors who provided critical support as the principals faced new challenges in leading their developing schools. The principal at School 2 described in her interview how her intermediary's instructional coach helped her to incorporate the school's vision into the curriculum. "The leadership coach helped me focus on instruction, aligning the principles [of Intermediary A's model] to instruction and helping me promote inquiry." The principal noted that this support was particularly helpful because most of her staff were new and inexperienced teachers.

Intermediary B also provided mentors who worked with principals at both case-study schools. In addition, Intermediary B offered a leadership program, which provided principals with mentors as well as seminars and workshops, apprenticeship experiences, and inter-visitations. In some cases, intermediaries sponsored events to bring principals and mentors together; the principal of School 3 described how Intermediary B facilitated "roundtable dinners where principals and the mentors would meet."

Intermediary C held monthly principals' meetings to provide opportunities for peer support and critical reflection. The principal of School 6 spoke of the value of these meetings:

> It is the only place where I can talk openly with my peers about the challenges I face. They know them, because they work in schools with the same design. They have seen all of the same issues before. Next week, I'm doing a school walk-through here with the other principals, and I'm bringing them into the classrooms where teachers are struggling. I feel safe with them, and I know that they can brainstorm to help me come up with strategies to improve instruction in my school.

In addition to monthly meetings, we found that intermediaries also offered regularly scheduled leadership retreats for principals. Intermediary A supported a leadership network by holding meetings for principals and assistant principals during its summer and winter institutes and by providing schools with leadership coaches. Intermediary B offered leadership retreats through its leadership development program. All Intermediary C principals attended an annual two-day leadership retreat in the summer.

Policy Mediation

Scholars describe the ways in which intermediaries "exist between" individual schools and broader policymaking organizations, helping schools to mediate or navigate external policy conditions and relationships with district offices (Honig & Hatch, 2004). The principals of all six case-study schools described how their intermediaries helped them to navigate New York City Department of Education (DOE) policy requirements and to negotiate with specific DOE offices.

Honig & Hatch (2004) describe the ways in which intermediaries "buffer" the negative effects of policies that are not coherent with the work of schools. In interviews, principals described times when the intermediaries exerted influence with the DOE. For example, the principal of School 1 described how the intermediary interceded with the DOE admissions office: "[Intermediary A] has been helpful in not allowing the DOE to overload us with incoming 9th graders. This school is designed for 100 students **max** per grade, and they tried to increase it to 108, but [Intermediary A] was able to have conversations with DOE to cut the number back to 100."

The principal who took over School 4 when it was struggling described the way in which Intermediary B worked to improve relations with leaders in the community. In another example of Intermediary B's support, leaders at the intermediary exerted their personal influence to help individual students who were in trouble with New York City law enforcement. The principal related that, when two of his students were placed in jail overnight for a petty crime they likely did not commit, the principal contacted the head of the intermediary, who called the police and arranged for the youths' release.

Bridging Policy Demands

Intermediary C network leaders were concerned about the effect on Intermediary C schools of a new NYC DOE requirement to establish formative assessments, multiple-choice tests to be administered every six to eight weeks in all classes leading to a Regents exam. When they first heard of the impending requirement, network leaders worked with principals to design their own set of assessments and got the DOE to accept them in place of the city's standardized assessments. By bringing information back to the principals, the intermediary was able to "bridge external demands" (Honig & Hatch, 2004) and actually shaped the terms of compliance with the new policy. In an interview, the principal of School 6 said, "The formative assessment is the biggest undertaking that has affected our lives in a positive way. We were able to circumvent the DOE's demands that we administer an additional set of standardized tests to our students. We were able to create a product, a set of rubrics that were aligned with our practices."

Both principals said that Intermediary C communicated with the DOE admissions office to ensure that it sent students who were appropriate for the schools, which serve newly arrived immigrants. In addition, the principals described the intermediary's extensive negotiations with the DOE focused on finding physical spaces near transportation lines for their new schools.

Community Partnerships

School-community partnerships marshal critical energy, resources, and support to help schools serve the social-emotional and academic needs of students (Honig et al., 2001). Some of these partnerships allow schools to expand learning into community settings,

providing youth with opportunities to use their newly emerging skills in cooperation with professionals (National Research Council & Institute of Medicine, 2004). In interviews and focus groups, principals and staff at schools supported by Intermediary B and Intermediary C noted that the intermediaries had helped the school foster partnerships with local organizations. These organizations provided supports for teachers, such as professional development opportunities, as well as student services such as college prep activities, social-emotional support, and experiential learning opportunities.

Intermediary B's model of school support was to work primarily through one or more lead partners: community organizations that worked directly with the schools to provide professional development and develop collaborative instructional projects. At School 3, Intermediary B established a partnership with a local nature-studies organization that provided a full-year experiential science class for 9th graders, professional development opportunities for teachers, and internships for students. In an interview, the principal explained that this lead partner played an active role in shaping the school's identity. She said that "all partners were involved with the curriculum development, professional development, school policy setting, and governance required to maintain the [science-oriented] theme." In follow-up interviews, teachers from this school described how the community partner helped them to create innovative inquiry-based projects.

Teachers at School 3 also spoke positively about the support provided by the lead partner. In a focus group at School 3, one history teacher reflected on her work with the partner organization. She described a gardening project, in which students grew vegetables that were served in the school cafeteria, as "a very important supplemental piece of my teaching." In a follow-up interview, a science teacher at the same school described how he worked with this partner organization to develop inquiry-based curriculum.

While we found that partner organization support helped some teachers to develop innovative practices and to improve their skills, we also heard from several teachers that partner support was not easily accessed or integrated into the overall work of the school. For example, a teacher in a focus group at School 3 said, "There needs to be more of a structure in place to get help from the partners—especially for other [non-science] departments. There's really no structure to get help other than to take the initiative to talk to them." Findings suggest that, while the partners provided high-quality support, this support was not always aligned with all teachers' needs and did not necessarily encourage teacher collaboration or leadership development.

In an interview, the principal of School 4 described how Intermediary B helped his school establish a partnership with an outside organization that provided college support activities to students including an online application tracking program, college trips, college speakers, and a summer institute at an Ivy League university. In interviews, teachers mentioned that this partner did much of the school's college preparation work. This organization also provided training to guidance counselors, as well as curriculum for a weekly college application course for seniors, according to the principal interview. The principal also described in his interview how Intermediary B supported his school to establish a prestigious theater group as one of the school's

partners. However, teachers did not report working with this partner beyond taking students to theater events.

In focus groups at Schools 5 and 6, teachers mentioned their work with a newly established Intermediary C teacher training program designed in collaboration with a local university. A teacher at School 5 described this program:

> We train our own teachers. Student teachers come through an interview process. Two candidates are placed in every [Intermediary C] school. They are graduate students, and they spend the entire year interning in our school. It's great if you can get to train your own people.

Intermediary C has also facilitated connections with other community organizations that provided additional supports for students. For the past three years, Intermediary C has held a fair for community-based organizations attended by 25–55 organizations that offered information and services to interested schools. Through this fair, School 6 initiated relationships with an embassy that provided afterschool native-language instruction to students and with an immigrant support group that worked with the school's parent association to provide information about issues related to immigration.

Professional Development

Experts say that intermediary organizations are important vehicles for providing professional development (McDonald & Klein, 2003; Rogers, 2007). Specifically, intermediaries can be instrumental in fostering teachers' capacities to implement effective instructional practices and support student achievement (Ball & Cohen, 1999; Cohen & Hill, 2001; Darling-Hammond, 1993). The literature emphasizes the importance of building on teachers' expertise and practice rather than relying exclusively on external expertise (Cochran-Smith & Lytle, 1999; Hatch, Eiler, & Capitelli, 2003, Rogers, 2007).

Across our interviews and focus groups at case-study schools, we found evidence of a variety of ways in which intermediaries provided professional development to support teacher learning. These opportunities included large professional development events such as conferences as well as professional development days in which teachers from various schools came together to participate in workshops and grapple with complexities of practice. We also found evidence that intermediaries provided ongoing professional support through instructional coaching, conferences and workshops, inter-visitations, and teacher study groups. These forms of support were most likely to be cited by principals and staff at the Intermediary A and Intermediary C schools. Intermediary B, as noted earlier, used a different model of support, working primarily through one or more lead partners who worked directly with the schools. This difference was evident in our teacher interviews, where 13 out of 16 Intermediary B teachers indicated that they were not receiving direct support from the intermediary.

Instructional coaches

In the two case-study schools served by Intermediary A, teachers received support from instructional coaches who led in-school professional development sessions and supported individual teachers. In teacher follow-up interviews, five out of 16 teachers, two from School 1 and three from School 2, described the support they received from instructional coaches. In a focus group at School 1, one teacher said, "[Our coach] has been an integral part of our development as a school. She's been in my classroom; she's evaluated me. She's been invaluable in terms of helping us develop teachers for this school and developing an academic culture." The coaching model seemed to be effective in providing support and in maintaining connections between the intermediary and the schools.

Coach-led Teacher Learning

During a weekly staff meeting at School 2, an Intermediary A coach directed a session for teachers and administrators focused on running a class as a workshop. The focus of this session was guided by teachers' expressed desire to learn more about teaching classes in this format. The coach showed video footage of a workshop-style class taught by a seasoned teacher from this school. During the viewing, teachers used a worksheet provided by the coach to reflect on the video and then shared reflections in small groups. They elaborated on strategies that they observed, such as using both audio and video to present content and drawing on students' out-of-school experiences. Overall, teachers appeared to be energized by this opportunity to learn about the workshop model, to observe a peer teacher, and to reflect collectively on ways to improve practice.

Intermediary B also provided instructional coaches to schools. In a focus group at School 3, two teachers mentioned their work with a local support facilitator. This facilitator, according to the principal interview, was an instructional coach hired by the intermediary to spend two days a week working with the school. One of the teachers explained, "[The coach] helps with the running of the school leadership team, the inquiry team, and committees that run the school."

Intermediary C approached support to schools in a different way. Rather than using instructional coaches, Intermediary C engaged a network approach that encouraged teachers to share best practices across schools.

Conferences and workshops

At the time of our study, both Intermediary A and Intermediary C provided professional development to teachers through annual conferences and professional development days, according to the organizations' websites and teacher interviews. Both intermediaries offered four-day summer retreats in which teachers attended workshops related to various aspects of instruction. These events also involved special sessions focused on familiarizing new teachers with the intermediaries' core principles and beliefs.

Intermediary A held both winter and summer institutes for teachers. At the summer institute, teachers focused on curriculum development; they also met in sessions with their school teams and instructional coaches to develop action plans for the year. Intermediary A teachers spoke highly of these professional development opportunities. Of the 16 interviewed teachers, 13 made specific mention of the value of the summer

institutes and other professional development events sponsored by the intermediary . In a teacher focus group, one School 2 teacher said, "The [Intermediary A] professional development provides the best practices and strategies we can come back and implement."

Intermediary C offered fall and spring professional development days in which teachers led workshops on various aspects of classroom practice. We observed an Intermediary C Election Day professional development workshop conducted by a teacher who explored ways of supporting students in the college admissions process. In this workshop, teachers and guidance counselors analyzed examples of students' college essays and discussed essay-writing guidelines. In follow-up interviews, all 16 Intermediary C teachers indicated that they had attended—and in some cases led—workshops during intermediary-wide professional development events. In addition, 11 out of 16 teachers described how the content and skills of the lessons we observed were developed in recent network professional development workshops.

Teacher follow-up interviews and focus groups suggested that Intermediary B provided limited professional development. The schools in our case study tended to receive professional development directly from their community partners; however, a few teachers described having attended Intermediary B summer retreats in the past. In a focus group at School 4, two teachers had attended such retreats. One teacher at School 3 criticized the intermediary's professional development sessions in a focus group, suggesting that effective professional development should involve "teachers talking about their experiences with the same kids and the same obstacles." These and similar comments suggest that the support offered directly by the intermediary, at least in these few cases, was not aligned with teachers' needs and did not foster ongoing teacher collaboration. However, some teachers at School 3, as described above, took a more positive view of the professional development provided by the school's lead community partner.

Table 3.3. Teacher Professional Development by Intermediary

Percentage of teachers who participated in selected professional development at least once in the last year	Intermediary A	Intermediary B	Intermediary C	**TOTAL**
Participated in professional activities involving teachers across schools in your district	74%	59%	80%	**71%**
Observed model lessons in other schools	23%	41%	51%	**38%**
Participated in grade-level or content-area study groups	81%	73%	91%	**81%**
Participated in networks with teachers outside your school or district	64%	63%	84%	**70%**

Source: Teacher survey (n = 143)

Inter-visitations and teacher study groups

Teachers from all of the case-study schools reported on the teacher survey that they had participated in various cross-school events, including professional activities and networks with teachers from other schools (see Table 3.3, previous page). These network-wide activities provided forums for reflecting on practice and solving common problems. The survey did not ask specifically about intermediary-sponsored events, but it is likely that many of these professional development events were sponsored by the intermediaries. Intermediary C teachers reported the greatest cross-school participation in such events, followed by Intermediary A and Intermediary B.

Inter-visitations and Study Groups

Following an inter-visitation, a math teacher reported in his interview that he wrote a proposal through the intermediary's request for proposals (RFP) process to continue working with these Intermediary C math teachers in a study group. Through this RFP process, a teacher from School 6 and two teachers from another Intermediary C school received funding to develop ten short-term projects on how to teach math through authentic and experiential projects. These projects were then uploaded to the intermediary's online curriculum-sharing system so that they could be disseminated to math teachers in other Intermediary C schools.

In addition to the previously described cross-school conferences attended by most of the Intermediary A and Intermediary C teachers we interviewed, many teachers also participated in observations of model lessons in other schools—particularly teachers in Intermediary C schools, where more than half said they had observed lessons in other schools in the last year. In an interview, a School 3 teacher described an inter-visitation event held at his school in which teachers from other Intermediary C schools observed an advisory class together and then attended a meeting to discuss strategies for developing their advisory programs.

Cross-school collaboration and sharing was also facilitated by teacher study groups. A large proportion of Intermediary A and Intermediary C teachers had participated in such a group in the last year. (Some of these may have been within-school rather than cross-school groups.) Intermediary C provided release time and funds for materials to study groups composed of teachers from various schools who came together to work on an area of common interest and need.

Tools

All three intermediary organizations provided resources and tools to help administrators and teachers improve school and classroom practices.

Intermediary A provided assessment tools designed to help teachers improve classroom practices. The intermediary worked in collaboration with a partner organization to develop a series of formative assessments used to measure growth in writing and mathematics between the 9th and 10th grades. It also developed periodic assessments to be used to fulfill NYC DOE testing mandates. These instruments were designed to help teachers assess student growth and to help schools identify areas for instructional focus and improvement. Additionally, the partner developed rubrics to assess implementation of the intermediary's core principles. Schools can use the rubrics to see how far along

they are in implementing each principle and to guide their planning for school improvement.

Intermediary B provided its schools with a student data system that allows administrators, teachers, and students to monitor student performance and progress toward graduation. It also provided school snapshot reports to principals and school staff at least twice a year. In addition, the intermediary supported schools in actually using the data, furnishing them with a data tools resource guide and sponsoring workshops for teachers on effective use of the data tools. Educators learned to use the data to understand student performance and to develop individualized plans to improve student achievement, while administrators learned to monitor school-wide performance and plan interventions. For further discussion of these data tools, see the next chapter on personalization and academic support.

Intermediary C developed a series of resources as part of their effort to document and codify best instructional practices. Toolkits for new teachers in each discipline area include curriculum units and resources, reference articles, and textbook suggestions. Other resources include online videos of exemplary lessons and an online resource center offering curriculum guides and research papers; a planner tool that allows teachers to create, modify, and share lessons; and a teacher discussion board. In focus groups, teachers described how this kind of curriculum sharing was critical to helping them support their unique student population using Intermediary C's language development model.

Summary

All three intermediary organizations in this case study emphasized personalization, academic rigor, and college preparation in their efforts to effect small high school reform. All provided a variety of supports such as policy mediation and professional development. Our case-study data suggest that the differences among the intermediaries are related not to their goals but to the means they used to achieve their ends. Specific emphases characterize each intermediary, particularly in regard to teacher professional development, which, as will be shown in Chapter 5, was a key factor in a school's ability to deliver academically rigorous instruction and effective college preparation.

- Intermediary A was distinguished by the use of instructional coaches to foster teacher and administrator professional development.
- Intermediary B relied on community partners to provide professional development opportunities as well as offering training in use of data analysis tools.
- Intermediary C used a network approach, connecting teachers and administrators to their counterparts in other schools supported by the intermediary so they could learn from one another.

Differences in other areas appear also to be related to the models and structures cultivated in the case-study schools by their intermediaries. The rest of this report

examines how these models and structures played out in the schools' ability to foster personalization, provide effective instruction, and promote college readiness.

4. How Schools Foster Personalization & Academic Support

The six case-study schools—indeed, all of the small schools funded by the Bill & Melinda Gates Foundation—serve high-need students who are at risk for poor educational outcomes. Most of these students are eligible for free or reduced-price lunch, many are special education students, and most come into high school with below-proficient scores in 8th grade reading and math tests. (See Table 2.2 on student demographic and academic data.) In addition, we know from interviews with teachers and focus groups with staff that students in the case-study schools face multiple challenges. They live in high-crime, high-poverty areas, with limited access to resources. Some are new immigrants to this country. Many live in single-parent homes or with a relative instead of a parent; these caretakers often hold several jobs. The students themselves often are responsible for younger siblings or for contributing to family income by holding a job.

Schools that are effective in engaging urban students with high needs provide personalized instruction with specific academic and social-emotional supports in an environment where students feel supported and cared for (National Research Council & Institute of Medicine, 2004). We examined the following components of such environments in the case-study schools:

- Personalization that allows students to feel that teachers and staff care about their lives outside school
- Academic support, particularly for struggling students

- Use of data to promote both personalization and academic support
- Home-school relations to involve parents and caregivers in students' academic progress

Personalization: "They Know Us by Name Here"

Small schools can, by nature of their size, offer students a personalized environment. Data from the teacher survey show that teachers fostered personal relationships with their students through frequent, individualized attention and interactions. For example, teachers from all case-study schools reported frequent interactions with students to discuss their interests and personal issues (see Table 4.1).

Table 4.1. Teacher-Student Interactions

% of teachers responding they did the following "1–4 times a week" or "Daily"

	Intermediary A		Intermediary B		Intermediary C		
	Sch 1	**Sch 2**	**Sch 3**	**Sch 4**	**Sch 5**	**Sch 6**	**TOTAL**
n=	25–26	21	29	21–22	25–26	19	140–142
Talk with students before or after class about their general interests	65%	81%	62%	62%	81%	79%	**71%**
Talk with students before or after class about personal issues in their lives	40%	62%	59%	59%	76%	58%	**59%**

Source: Teacher survey

Indeed, students in focus groups said that they received a great deal of individual attention from teachers and staff and that they felt they could turn to these caring adults for assistance with personal or academic issues.

> They [teachers] develop relationships with students. When I feel like I have a problem, I feel like I can talk to someone. It's so nice that I can reach the principal at any time, and the teachers are very helpful. Teachers really care about the problems you have. They are willing to stay after school to teach us if we don't understand something or we need more help. (11th grader, School 6)

> They have patience. They aren't just our teachers; they are our friends. They sit down and talk to you about personal problems, our educational problems, our problems outside of school, and they help us. (10th grader, School 5)

Students mentioned in focus groups that teachers and staff knew them by name and that they received personal, often one-on-one, attention. They felt they would not "get lost." Many noted that they felt they could turn to at least one, if not several, caring adults for assistance.

> It's cool to be in a small school. Teachers are more "on us." They help us one on one. Big schools don't have time for one person. (11th grader, School 1)
>
> I like it because it is small: one-on-one. Teachers try to make sure you learn. (12th grader, School 3)

Students noted that they received support and personalization not only from teachers, but also from social workers, guidance staff, parent coordinators, and principals. As a 9th grader from School 1 said in a focus group, "If the counselor knows you have a problem, she'll grab you and the person you have a problem with and she'll make us talk, in order to try to prevent a problem."

> "I've heard stories from the bigger schools, and I wouldn't want to be there. They know us by name here. They are able to give you second chances here. You don't get lost as a student." —12th grader, School 4 (focus group)

This distribution of responsibility for students was corroborated by support staff in focus groups. For example, the parent coordinator at School 6 discussed the ways in which he connects with and supports students:

> With individual students, my door is always open. I work with students on college essays and [give them] a space to talk. I try to help them to understand that their ideas are good. I am there as an individual tutor and support, and I like that role. They call me on my cell phone and email me. . . "Can you read my essay?" With some students, I call them early in the morning and try to get them here.

This staff member illustrates the way in which staff in small schools often wear multiple hats: student cheerleader, tutor, academic advisor, attendance supporter, and more.

> "We hire teachers who are naturally interested in supporting immigrant kids, who understand that these students need more support than most. The kids know that their teachers will take the time to listen to them."—Principal, School 6 (interview)

Creating a personalized, caring environment is not without its challenges. An administrator at School 5, where students are new immigrants, commented in a focus group on the difficulty inherent in playing multiple roles to address students' complex situations and meet their needs:

> It is not a conflict so much but more the reality of working in urban schools where you have to wear so many hats. It's not a conflict, but reality. It's a part of working with young people. Sometimes, I'm the mentor, the mother, the advisor.

The literature and research on best practices point to several structures that high schools employ to foster adult-student connections and personalized attention (Kemple, Herlihy, & Smith, 2005; Quint, 2008), including advisory groups and teacher/student teams, referred to as instructional teams in two case study schools. Table 4.2 shows the

Table 4.2. Organizational Structures That Foster Personalization

	Intermediary A		Intermediary B		Intermediary C	
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6
Advisory groups	√	√	√	√	√	
Instructional teams					√	√

Source: Principal survey

case study schools that implemented advisory groups and instructional teams. While the case-study schools used similar structures to support students and provide a personalized environment, the features and processes characterizing those structures differed from school to school.

Sample Advisory Group Structure

At School 5, students in all four grades met in their advisory groups twice a week for 65 minutes each session. They had the same advisor for the first two years and then switched to another advisor in the 11th grade. The curriculum focused on both the academic and emotional needs of students. The 9th grade advisories used team-building activities to develop a cohesive group of students. Tenth graders started exploring their interests; in the 11th grade, they started to connect those interests to possible career paths. In the 12th grade, they looked for colleges that offer majors toward those career paths. Seniors were also involved in a program that matched them with outside mentors in the fields they wanted to pursue.

College guidance counselors and advisory teachers worked jointly on college prep activities. Two students shared in a focus group that their advisor went the extra mile to help them get internships in their interest areas by driving one to the local hospital and the other to the police station.

Advisory Groups

Though the structures varied from school to school, advisory groups typically consisted of one staff member and a small group of students who stayed together at least for one school year and sometimes for all four. Advisory groups often served the dual purpose of providing both social-emotional and academic support for students. (Some schools also used advisory groups to support the college application process and preparation, as discussed in the chapter on College Preparation.)

Five out of the six case-study schools reported implementing advisories in some form. At School 6, advisories were not in place in the 2008–09 school year, but had been in the past. At the end of the 2008–09 school year, the school staff decided in a retreat that advisories were such a critical structure for supporting students that they voted to re-institute them (see Chapter 5 under Teacher Learning for a description of this retreat).

Table 4.3. Advisory Group Characteristics

	Intermediary A		Intermediary B		Intermediary C	
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6*
Grades served	9–12	9–12	9	9 and 12	9–12	9-12
Meetings per week	1	1	2–3	grade 9: 2–3 grade 12: 1	2	at least 1
Curriculum	Teacher developed	Teacher developed	No curriculum	Grade 9: no set curriculum Grade 12:College Summit	Set curriculum	n/a
Years advisor stays with same group of students	4	4	1	1	2	2

*Advisory will be in place next year.

Source: Principal and teacher interviews, teacher and support staff focus groups

The case-study schools implemented advisories in different ways. As shown in Table 4.3, advisories varied in terms of what grade levels were included, the number of years an advisor stayed with the same group of students, whether a set curriculum was used, and the number of times advisories met per week.

Instructional Teams

Schools 5 and 6, following their intermediary's model, used "instructional teams" to provide a coherent structure for meeting students' academic and social-emotional needs. The teams consisted of six or so teachers who all taught the same 80–90 students. These teachers were responsible for providing not only academic but also social-emotional support for that group of students. At School 5, instructional teams met two to three times a week. At least one of those meetings included a guidance counselor. The teams discussed the students who needed additional support: students who were at risk of failure, had social-emotional or behavioral issues, or were not working to their potential. The team also discussed students' noteworthy accomplishments, as well as students who might be overlooked because their issues were not acute or did not require immediate attention, ensuring that no one "slipped through the cracks." A specific protocol guided these meetings (see box).

The principal at School 6 noted in the interview that the school's instructional teams, which were organized similarly to those of School 5, were "critical in providing social and emotional support to students." Teachers used a "kid talk" protocol when they met with the guidance counselor and social worker to discuss individual students' needs and to plan for interventions. The "kid talk" protocol, which the principal had learned from another school in the

Instructional Team in Action

In the instructional team meeting we observed at School 5, teachers used two types of protocols to discuss how to support students.

Bird's eye view. Teachers discussed 11 students who had issues including attendance, declining grades, depression, pregnancy, and others. Action plans involved a range of supports such as contacting parents, offering afterschool tutoring, counseling, and engaging fellow students for support. The plans were logged in a "blue book" to be reviewed and updated at each meeting.

As one part of this segment of the meeting, the math teacher initiated a conversation about Maribel,[1] who seemed depressed and had a number of absences. He reported that Maribel had said that "school doesn't matter" because she planned to move to Mexico at the end of the year in order to escape her difficult living situation. After concluding that Maribel's undocumented status was affecting her motivation, the team agreed to help Maribel understand that a U.S. diploma would allow her to attend college in Mexico. The English teacher said that he would ask a recent graduate who was attending college in Mexico to speak with Maribel about the value of a U.S. diploma.

In-depth descriptive review. The second half of the meeting focused on Samir, about whom teachers were concerned because his grades were falling. One teacher had prepared a written report that described Samir's strengths and weaknesses. Samir's four teachers then took turns describing first Samir's strengths and then his challenges. In the following open discussion, the teachers talked about engaging Samir through his strengths, including his passion for history and debate. The teachers noted that, though Samir struggled with reading comprehension, he didn't want to attend literacy classes because he perceived that they carried a social stigma. At the end of the discussion, two teachers agreed that they would follow up separately with Samir. The math teacher emphasized, "We need to be really careful not to be too negative with him because he is turning a corner, and if we are too hard on him, we might lose him." The team agreed that conversations emphasizing Samir's strengths might convince him to take advantage of additional supports. Another teacher suggested returning to the "transcript review process" to help Samir

[1] Throughout this report, students' names are pseudonyms.

intermediary's network, solicits detailed observations of students' behavior without speculation about causes. At School 6 instructional team meetings, according to the principal, teachers in each content area made specific observations about a given student's social-emotional needs. Based on the observations, the teacher team and a guidance counselor or social worker made recommendations and assigned staff to follow up as needed. The observations, meeting discussions, and recommendations were recorded and kept on file.

Personalization Structures That Work

Data from our case study indicate that these six schools were successful in creating an environment where students received personal attention on social-emotional and academic matters—as indicated by the universal agreement in student focus groups that participants always had a caring adult to turn to when needed. The case-study schools varied in the extent to which those dedicated structures, such as advisory groups and instructional teams, were afforded dedicated time and space to focus on individuals as needed. Schools where the support for students seemed to be particularly strong had structures in place that allowed staff to meet frequently for the purpose of identifying student needs and developing appropriate support strategies. These structures fostered a coordinated staff effort, with teachers working with guidance staff, social workers, parent coordinators, and community liaisons as a regular operating procedure. What seems to set apart the two schools that had instructional teams is that this structure, implemented in frequent meetings, allowed staff to focus on individual students, using strong protocols that facilitated systematic reviews of all students' needs and progress.

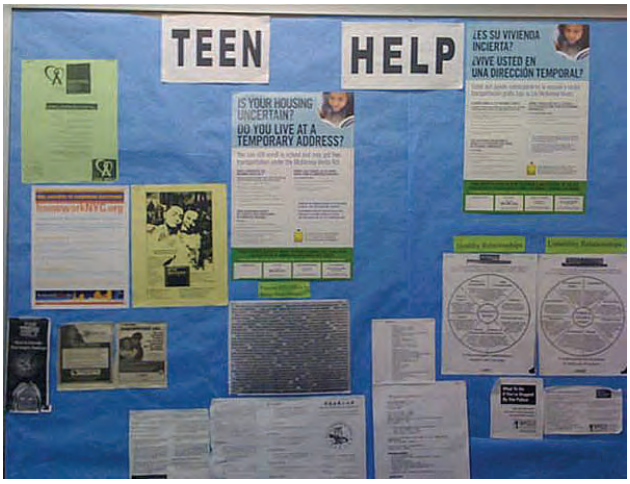

Fig. 4.1. Student support bulletin board at School 5

The extent of personalized support available to students did not appear to be uniform across the case-study schools. Students from four of the six schools indicated in focus groups that they knew they could always turn to a teacher. In the other two schools, responses were more mixed. For example, students in all three focus groups conducted in School 2 generally agreed that some, but not all, of their teachers were available to help when they needed it. One 9th grader said, "Some teachers are available when you need them and some are not." Similarly, students in a focus group in School 3 noted that teachers often were not available for extra help during the school day.

Academic Support

In addition to personal attention to students' social-emotional needs, staff at case-study schools provided individualized support for students' learning needs. In line with the

research on best practices (Kemple, Herlihy, & Smith, 2005; Quint, 2008), case-study schools also offered such academic support activities as tutoring, Saturday classes, study skills classes, and "catch-up" and credit recovery opportunities.

Individualized Academic Support

The extent to which teachers followed up on students' progress and gave them individualized attention is indicated in responses to several items from the teacher survey. More than half of surveyed teachers responded that they regularly gave personal attention to students' academic needs, as shown in Table 4.4. This support included reviewing attendance records and grades to identify students in need of intervention, assisting students with their work outside of class, and discussing students' progress with individual students and staff. There was a fair amount of variation on responses to these items by school. School 2 teachers more often reported giving various forms of personal attention, followed by Schools 3 and 6.

Table 4.4. Personal Attention on Academics

% of teachers responding they did the following "1–4 times a week" or "Daily"

	Intermediary A		Intermediary B		Intermediary C		
n =	Sch 1 26	Sch 2 21	Sch 3 27–29	Sch 4 20–22	Sch 5 26	Sch 6 19	**TOTAL** 141–143
Review attendance records to identify students with excessive absences from class	39%	62%	62%	73%	42%	47%	**54%**
Review grades to identify students who are falling behind academically	50%	67%	67%	59%	38%	32%	**53%**
Help individual students with their work outside of regular classroom time	69%	71%	69%	71%	65%	84%	**71%**
Follow-up on individual students' progress with other teachers, counselors, or administrators	62%	67%	55%	23%	73%	84%	**60%**
Talk with individual students about their progress in your class or other teachers' classes	50%	81%	83%	65%	77%	68%	**71%**

Source: Teacher survey

Several students conveyed in focus groups that teachers cared not only about their social-emotional needs, but also about their learning, exerting extra effort to ensure that students learned. Students said that their teachers pushed them to work hard and succeed. Some even noted that students who did not succeed could not attribute their failure to teachers' lack of effort. As an 11th grader said in a focus group at School 1, "Teachers are really on you, they push you to do your best. If people are failing here, they are doing it themselves. It's half up to you, and half them. If you put in the effort, they will put in effort too."

Responding to the question, "Where do you go for help with your schoolwork?" students in focus groups generally said that they go to their teachers, often reaching them outside of class by cell phone or e-mail:

> I go to my teachers. They make certain times to help students during the day. We can email them or even call them on their cell phones. Some of our teachers are just so busy during the day that the best way to get in contact with them is via email, and they always respond to us. (12th grader, School 1)

> Usually you can find a teacher to help. Even after school, they are available. Teachers are always there—before school, after class, and during lunch. We can call teachers on their cell phones and email them. (12th grader, School 5)

Academic Support Structures

The case-study schools used a variety of strategies to support students academically, as shown in Table 4.5. All used extended periods and block scheduling for core subjects such as English and mathematics. All also offered afterschool tutoring, and all but one offered in-school tutoring. Afterschool tutoring was staffed by teachers in all schools. Schools 1 and 5 also used peer tutors; in School 5, the student tutors were paid, while in School 1, 11th and 12th graders earned extra credit for tutoring.

Table 4.5. Academic Support Activities

	Intermediary A		Intermediary B		Intermediary C	
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6
Extended periods/block scheduling	√	√	√	√	√	√
Study skills classes	√		√	√		
In-school tutoring	√		√	√	√	√
Afterschool tutoring	√	√	√	√	√	√
Saturday classes	√	√		√	√	√
"Catch-up" classes for students behind grade level		√	√	√	√	
Credit-recovery opportunities	√	√	√	√	√	√
Partial rather than full credit for students who have completed some but not all course requirements		√			√	
Teacher advisor/advocate assigned to individual students ("guardian teacher")	√	√			√	

Source: Principal survey

Support for failing or under-credited students

The case-study schools used multiple strategies to support students who were failing courses or under-credited. All of the case-study schools offered credit-recovery

opportunities for students by allowing students to retake a failed class for a new grade or to take summer school. According to the New York State Education Department, schools may also offer credit, if deficiencies are in a defined area and re-taking the entire class is not required, to students who make up those deficiencies in, for example, afterschool tutoring sessions (Duncan-Poitier, 2009). Two schools also offered partial credit for courses in which students had completed some but not all requirements. The principal at School 4 emphasized that credit-recovery opportunities provided an avenue for meeting struggling students' needs. This school offered afterschool and weekend tutoring and courses, as well as summer school, for credit recovery.

Personal Academic Attention in a Collaborative Atmosphere

At School 1, teachers monitored individual students in grade-level meetings that occurred two to three times per week. At the meeting we observed, the eight 10th grade teachers discussed the academic and behavioral progress of three students who had been suspended. Some also discussed advisees they felt were not progressing. One teacher described calling an advisee's parent for help with getting the advisee to come to school. The parent in turn asked the teacher for help, revealing that she too was at a loss. The teacher asked her colleagues for suggestions she could bring to the parent.

School 2 mandated afterschool classes for students who had failed a class; it also offered tutoring in English and math every day from 3:30 to 4:30 p.m. Students earned elective credits for attending the afterschool tutoring sessions. The principal noted in her interview that offering elective credit for tutoring sessions was an effective way to achieve high attendance. She also stated that the school's menu of afterschool and Saturday programs had "helped us to be on target for graduation." This school offered Regents preparation sessions on Saturdays, as did Schools 3 and 4. All six schools offered Regents preparation after school.

While most of the feedback on afterschool assistance was positive, data from principals, teachers, and students at three schools suggest that it was not without challenges. Staff at School 6 observed that motivating students—particularly those who most needed support—to take advantage of the multiple opportunities for assistance remained a challenge. A teacher at this school said in a focus group, "When we offer afterschool homework help, students who really need the extra help are not taking advantage of it. We have tried everything from working with their schedules, to making it mandatory, to providing incentives, but we still struggle to get them to attend."

In focus groups, students in two schools cited reasons for not taking advantage of afterschool and Saturday sessions. School 2 students said that teachers in particular subject areas were not always available during these sessions. Students in School 3 said that, though teachers from every subject were available at twice-weekly afterschool tutoring sessions and Saturday school, some students had difficulty attending these sessions because of responsibilities such as taking care of siblings or working. A few students also noted that the afterschool and Saturday sessions were not very helpful because they were crowded and noisy.

"I don't think there is any way you can fall behind in this school. Teachers are really on top of things. They call home when they need to and they are always available for extra help during and after school."
—12th grader, School 1 (focus group)

"Guardian teachers"

Schools 1, 2, and 5 assigned specific staff members to individual students as advocates and advisors. At School 2, each teacher mentored one or two seniors who they believed needed particular assistance in their last year of school. One teacher said in a focus group that these mentors "are seen as [the student's] guardian teacher." The "guardian teachers" monitored students' credit accumulation to ensure they were taking all the classes they needed to graduate, encouraged students to attend afterschool and Saturday programs when needed, and provided one-on-one assistance with homework and study skills. "A lot of what we do is advise, more than anything else," said a teacher in a focus group. "They have low self-esteem, and we have to talk to them a lot. They eventually see themselves being able to make it [to graduation and college]." This teacher also noted that the "guardian teacher" strategy "has paid off," with more students passing Regents exams and certain classes.

Recognizing Students in a Grade-wide Meeting

At School 1, we observed a 10th grade "town hall" meeting, which started with announcements. The lead teacher announced that it was the end of the first semester—"which means college transcripts," that is, emphasizing that performance counts because colleges look at grades. The teacher also encouraged students to participate in several upcoming charity drives, noting, "There are a number of activities in the school for people in need." Students from one advisory group held a raffle for a wireless printer, the proceeds of which would go to a charity.

The second part of the town hall was an award ceremony. Advisory teachers recognized students for "best achievement" and "most improved" in each core subject. Teachers also bestowed several "citizenship awards, based on student behavior in class and the halls." The lead teacher told students that the awardees were "a group of kids who were representative of who you should aspire to—how they conduct themselves in class, talking to each other and adults. These are kids who respect themselves and others, and they represent where you ought to be."

The last part of the town hall built camaraderie with a game called "Who's Smarter Than a Teacher?" Students had developed questions in the core subjects. Teachers picked a subject other than their own, and a student asked a question, for instance (in science), "How many calories (lower case c) are in a Calorie (upper case C)?" The teacher knew the correct answer, 1000. Students and teachers alike appeared to enjoy the game.

Incentives and recognition for academic achievement

Most case-study schools used incentives to spur student achievement. The principal of School 2 said that students who passed all of their classes with a grade of at least 75% got a trip to Great Adventures amusement park. At least two other schools, Schools 3 and 6, also used such incentives as pizza parties and field trips to reward good attendance or passing Regents exams. The principal at School 2 noted that the incentives had motivated many students, but that

Table 4.6. Recognizing Students in Class

% of teachers responding they did the following "1–4 times a week" or "Daily"

	Intermediary A		Intermediary B		Intermediary C		
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	**TOTAL**
n=	26	21	29	22	26	18	142
Recognize individual students in class for good attendance or good academic performance	39%	57%	48%	59%	69%	39%	**52%**

Source: Teacher survey

some students who were chronically absent or had failed too many classes still represented a challenge.

Frequent recognition of student accomplishments is another important strategy to keep students motivated to work hard in school (Resnick & Hall, 2005). More than half of the teachers in case-study schools said on their surveys that they frequently recognized individual students in class for good attendance or academic performance, as shown in Table 4.6.

Recognition occurred through other means as well. All of the case-study schools recognized student achievement with hallway displays including examples of high-quality student work and lists of students who made the honor roll, reached attendance goals, were accepted into college, and won citizenship awards. In School 1, students were recognized at least once every six-week grading period in grade-wide "town hall" meetings (see box on previous page).

Examining Student Work to Inform Policy and Practice

In a professional development committee meeting at School 5, teachers in various subjects and grade levels brought in examples of the work of five struggling language learners and discussed how to focus on language development and literacy in the content areas to meet such students' needs. One teacher commented that, though looking at student work with a language development focus was useful, she would prefer to look at portfolios more broadly to see how students were learning. The principal agreed that the group should focus on "how to create rich, layered curriculum that will really engage students." Consensus emerged that it would be useful for the committee to analyze portfolios of student work spanning all four years in order to evaluate how curriculum was meeting student needs. One teacher asked, "Can we look at a student's academic progression through their portfolios over three years and see how standards ratchet up over time?"

The topic of college readiness came up as teachers focused on the importance of examining 11th and 12th grade portfolios. A teacher said, "We need to really focus on what is happening in the 11th grade year because it is such a critical year. I wonder if there is a big jump in what we are suddenly expecting in the 12th grade, and we are not providing enough scaffolding leading up to that. It would be good to look at these transitions through student work." Other teachers expressed enthusiasm for this idea, suggesting that using portfolios would allow teachers to see student work in a variety of disciplines.

Use of Data

The research suggests that high-performing schools often use data to inform policy and program decisions, enhance classroom instruction and support strategies, and help students stay on track to graduate (Coburn & Talbert, 2006; Protheroe, 2001). Interviews, surveys, focus groups, and meeting observations revealed that the case-study schools used both quantitative and qualitative data in various ways to support student learning, inform policy and curriculum decisions, and assess student progress.

For example, School 5, in a professional development committee meeting, used student portfolios to assess the extent to which 11th and 12th graders were ready for college. This review led the committee to decide to combine the "curriculum share" process, in which teams across the disciplines shared curriculum specifically in order to examine language development, with a review of student portfolios so that all instructional teams could look for ways to improve curriculum and instruction.

The section above on instructional teams describes how two schools used teacher and staff observation and reports on students in their review process to assess students' needs and develop appropriate interventions. Another school, School 2, used attendance

data in a weekly meeting to identify chronic absentees and students at risk of being chronically absent and to develop strategies for improving attendance. (See also Home-School Relations below.) At School 5, we saw a professional development committee examining student work to assess language learning and discussing a need to analyze student portfolios to see the progression of student work over the course of several grades and to think about how to prepare students for college (see box). Similarly, a staff retreat at School 6 began with student case studies to inform the group's assessment of and planning for student supports.

We also observed teachers using student work to inform practice in an intermediary's annual fall network meeting. In this two-hour workshop on college-essay writing, participants worked in pairs or groups of three to review sample student essays, discussing the essays' strengths and weaknesses and the writing techniques students used to enliven their stories. Afterward, the whole group shared not only their impressions of the student essays but also suggestions for curriculum strategies that could be implemented in classrooms or guidance sessions.

Using Data to Improve Student Achievement

A review of student data provided by the intermediary led School 3 to focus on social studies as a weak area. Having used the data "to identify teacher and student needs and address them," the principal said, she assigned social studies teachers to be part of an inquiry team.[2] The teachers offered assistance, such as afterschool tutoring, to the lowest-performing students in social studies. According to the principal, the pass rate for the social studies Regents exam increased to 85%.

Schools 3 and 4 used sophisticated student data tools, developed and produced by Intermediary B, to assess student progress, inform curricular and instructional strategies, and keep students and parents informed about students' progress. The principal at School 3 described in an interview how her staff used "data snapshots" provided by the intermediary at least twice a year. The snapshots—graphic reports of Regents pass rates, credit accumulation, grades, graduation rates, and attendance—could be used to, for example, compare pass rates in individual classes with Regents pass rates. The principal noted that the snapshots allowed her to "see clearly which students are on track with credits and which are not." She further asserted that reviewing student data not only affected student achievement but also "allows for and enables reflection and encourages serious planning" (see box).

The principal of School 4 used the student data provided by the intermediary in a very different way. He posted color-coded displays—green for "on track" to graduate, yellow for "almost on track," and red for "off track"—in his office so that all students and staff could see where individual students and the school as a whole stood. Providing the data directly to students, the principal said in his interview, "empowers the kids to understand the data and their needs" and "motivates students to get more green on their charts than their friends have." A school administrator echoed this sentiment in an interview: "Some students take this as a 'wake-up call' because they want their [data] to

[2] Inquiry teams were developed in 2007 by the New York City Department of Education under the Children First Initiative. Each school was expected to establish a small group of teachers and administrators charged using data to identify a change in instructional practice that will accelerate learning for a specific group of underperforming students. Based on what is learned from that experience, teams work with school staff to implement and monitor system-level change to benefit all students (NYC DOE, 2008).

show more green rather than less." He explained that he used the charts extensively in student-parent conferences, especially with the seniors, because they provided a clear representation of exactly where students stood on graduation requirements.

In addition to the student data, Intermediary B provided schools it supported with other data tools, including:

- A measure showing students' progress towards college readiness indicated by credit accumulation and Regents test scores
- A summary of on-track performance for the entire school and a student-level spreadsheet showing the performance of individual students
- A spreadsheet of individual student data organized by student and by teacher, which can be further sorted by grade, cohort, test score, and credit accumulation

The case-study schools thus relied, to different degrees, on data to assess student progress, address student issues, improve curricular and instructional strategies, and inform students and parents of students' progress. They used quantitative data, such as rates of student attendance, credit accumulation, and test passing, as well as qualitative data such as observations and reviews of student work.

As Coburn and Talbert's (2006) description leads us to expect, we found that teachers valued various forms of data, particularly those, such as observations and personal knowledge of students, based on their own clinical judgment. Some teachers and staff indicated that using quantitative data without qualitative data was less informative than using them together. For example, a teacher on School 3's inquiry team described in a focus group how illuminating it was to conduct "low-inference observations" of classrooms—observations that focus on objective factors such as teacher questioning and student responses, rather than on subjective evaluations that require inference or interpretation—to investigate factors related to the improvement in achievement of a particular group of students. This teacher noted that teachers initially resented using the student data tools to assess the school's accomplishments, so that he and other teachers welcomed opportunities to look at students in a more nuanced way "and dig a little deeper and figure out what made [the students] success stories." Another teacher in the focus group agreed: "I am glad that people are taking a look at the cultures that exist in our school. I think this is a good way of looking at this." The first teacher said that the inquiry team also planned to conduct focus groups with students to gather additional data.

However, using data was not always in and of itself a successful strategy for informing practice. At the same school described above (School 3), we observed a department meeting in which teachers attempted to use data to inform strategies and instruction but had limited success in developing strategies that addressed the specific problem at hand. Teachers were given data sheets showing the passing rates for students in their own classes. The facilitator asked teachers to devise improvement strategies that would help more students pass their course. The discussion we observed did not lead to any new strategies to improve the passing rates. One teacher expressed frustration with the process of looking at passing rates, saying that this "data stuff" was just the new buzz word. Although this may be an idiosyncratic example, what we noticed that sets it apart from instances in which teachers' review of data led to specific changes in their practices

was that this meeting lacked a clear process for reviewing the data, diagnosing the problem, and developing strategies to address it. More specific strategies might have resulted if teachers had looked at actual student work or were able to analyze exactly why students were struggling and where the problems lay. Identifying a successful strategy is difficult to do without understanding the underlying cause of the problem. Specific and targeted information on the problem or issue, combined with a specific process for how to review the data and discuss appropriate strategies, such as the "kid talk" protocol used at School 6, may have yielded more specific suggestions on how teachers could support students.

Home-School Relationships

Home-school relationships are a critical component of effective schools. Parent involvement and high parent expectations about educational attainment have been linked to improved student performance, lower dropout rates, and increased post-secondary attainment (National Research Council & Institute of Medicine, 2004; Patrikakou, 2004)). Our study did not explore the extent to which parents were involved in the case-study schools or in their children's education; however, we did observe and document the ways in which these schools sought to involve parents and guardians. Specifically, we found evidence that schools used a variety of methods to reach out to parents in three areas of concern: attendance problems, academic progress, and college preparation. Parent involvement in the college process is discussed in Chapter 6 on College Preparation. This section describes the ways schools worked to develop positive and supportive home-school relationships.

Fig. 4.2. Family association meeting poster at School 5

In the principal interviews and staff and teacher focus groups, all of the case-study schools provided numerous examples of ways in which they reached out to parents and guardians in addition to typical parent-teacher conferences. According to the principal survey, all six case-study schools had a policy of contacting the responsible adult if a student was failing a course. Five of the schools had a policy of contacting parents when a student had more than two consecutive unexcused absences.

Other ways in which case-study schools communicated with parents included:

- Parent meetings and workshops, particularly ones related to college application and financial aid processes
- Parent orientation meetings
- Materials, again especially those related to college information, translated into several languages
- Weekly newsletters from the principal
- Reports of student progress through student data tools and EdLine classroom management tool

All schools used more than one of these means of communication, though no one school used them all.

At School 1, at least some teachers kept parents informed using EdLine, an online grade book and classroom management tool where teachers can post students' assignments, attendance, and grades. Using a password-protected login, parents can directly view their student's progress. One teacher said in an interview that EdLine "gives the parents ownership. Parents can check and see how their children are doing. About one-half of the parents sign on to Edline. And for those who are signed on, the thing is to push them to keep looking at it and to have conversations with their child." In a focus group, another teacher said, "For parents who don't feel comfortable using the computer, I print out student [EdLine] reports for them and send them home for parents to review and sign off on." However, the system did not appear to be used consistently throughout the school. In a focus group, some students noted that some of their teachers did not update the system regularly with their progress data.

Informing Parents of Special Events

One event of which the weekly newsletter at School 3 informed parents was a harvest day celebration. The lunch included a special salad grown "from seed to table" by students in the school's sustainable agriculture course.

At School 3, the principal sent a weekly newsletter to parents. The newsletter contained announcements about field trips, fundraisers, student progress reports having been mailed, and special events. It also included information about school policies on such issues as attendance, safety, and wearing school uniforms, as well as contact information for teachers and staff and notices of specific incidents such as the school scanner having broken down.

The two schools serving students who are new immigrants also made special efforts to involve and inform parents. For example, School 6 translated the mission statement of the school into various languages and reviewed it with parents in orientation meetings at the beginning of the year. This principal also noted in the interview that staff at his school "spend a lot of time explaining to parents why this school looks different from the schools in their native countries" and assisting them with navigating the U.S. educational system.

In our teacher survey, respondents reported contacting parents of 28 students, on average, during the 2008–09 school year (see Table 4.7). Variation among schools may be related to the different ways in which schools handled communication with parents. At Schools 5 and 6, contact with parents was conducted primarily through the students' instructional teams and the parent coordinator, so that not all teachers were responsible for parent communication. Rather, instructional team members took responsibility for contacting parents about attendance, academic, or social-emotional issues. For example,

Table 4.7. Average Number of Parents Contacted by Classroom Teachers in 2008-09

	Intermediary A		Intermediary B		Intermediary C		
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	All schools
Av. # of parents contacted	31	31	29	48	15	14	28

Source: Teacher survey (n=135)

one instructional team described how they asked the parent coordinator to call a parent to discuss her son's need for additional tutoring. The student had signed a contract agreeing to go to in-school tutoring at least twice a week but had not been showing up.

The parent coordinator reported that he had spoken with a parent and hoped that, as a result, the student would get some pressure from home to show up for tutoring.

At school 2, attendance issues were dealt with through the attendance team: a group comprising the guidance counselors, the parent coordinator, and the community liaison. This group, we found in our observation of a meeting, took responsibility for contacting parents when students were absent three or more days in a row.

Though we did not ask directly about parent involvement, teachers and support staff in focus groups conducted at schools 1, 2, and 3 noted that getting parents to attend the offered programs—for example, back-to-school night, orientations, and workshops on graduation requirements and college information—was a challenge. Teachers and support staff in focus groups conducted at Schools 1, 2, and 4 also noted that parent involvement in students' education was hindered by the difficult situations many parents faced, including holding multiple jobs and caretaking responsibilities.

Summary

Our case study data show that students in these small schools benefit from their personalized nature, with all of the students in our focus groups attesting that they knew at least one adult to whom they could turn to for help. Further, all case study schools had structures in place to foster personalization. However, some schools seemed to have more consistent, structured, and comprehensive academic and social-emotional supports in place for students. What differentiated schools with more comprehensive supports was that support structures (such as advisory groups or instructional teams) were:

- Applied consistently to the entire student body, not only selected grades
- Organized, with administrator support, to meet frequently and regularly
- Characterized by use of both qualitative and quantitative data to assess student needs and inform decisions
- Guided by structured protocols and procedures for identifying and addressing students' needs and ensuring that no student was overlooked

While personalization and academic support systems for students are effective ways to address students' needs, they do not, in and of themselves, ensure that students attain the skills and content knowledge needed to be successful in college and life. Schools must also provide effective and academically rigorous instruction. In the next chapter, we describe the instructional practices observed in classrooms and described by teachers in the case-study schools.

5. Learning: How Schools Support Effective Instruction

AED's case-study research is grounded in the most recent knowledge about practices that characterize instruction in high-performing schools (e.g., Allensworth & Easton, 2007; Danielson, 2007; Edmonds, 1979; Goe, 2007; National Research Council & Institute of Medicine, 2004; Newmann, Bryk, & Nagaoka, 2001; Resnick & Hall, 2005; Tomlinson, 2000), especially schools that serve young people of color and students who are economically disadvantaged. We went into the case-study schools to document the extent to which instructional practices associated with student achievement were present, and to discern patterns that suggested facilitators and barriers to their implementation. All three intermediaries and all six schools in the case study valued effective, rigorous instruction. Our findings suggest that intermediaries and schools that focused on teacher learning were most effective in making this value a reality in the classroom.

To gain insight into instructional practices in the six Bill and Melinda Gates Foundation case-study schools, we observed eight classrooms in each school, for a total of 48 observations.[1] We sampled a mix of grade levels and the four core subject areas: mathematics, English, science, and social studies (see Appendix B for a description of

[1] The classroom observation protocol items and rubrics (see Appendix A) were adapted primarily from Danielson (2007) and Resnick and Hall (2005). Some items were developed by AED.

the observed classes). The observations focused on documenting the extent to which we saw practices that the relevant research and literature associate with improved student achievement. The observation data are supplemented by follow-up interviews conducted with the teachers of each of the observed classes and by the survey of teachers in the six case-study schools. The interview allowed us to ask about, among other matters, the place of the observed lesson in the teacher's larger instructional plan and about practices that happened not to be reflected in the observed lesson. The survey explored practices employed by each teacher in one selected class. The limitations of these methods (see Chapter 2) means that the snapshot of classroom practices we captured cannot necessarily be generalized to the whole school. However, the specificity of the observation protocol, with its numeric ratings for various classroom practices (see Appendix A), allowed us to document the relative prevalence of particular instructional practices, as was not possible with the other school practices we studied.

We report below on the following aspects of practice identified by the research and literature and explored in our classroom observations, interviews, and surveys:

- Effective instructional techniques
    - Clear purpose, instructions, and explanations
    - Hands-on instruction
    - Modeling complex thinking and processing
    - Building metacognitive skills
    - Differentiated instruction
    - Frequent assessment and feedback
    - Student grouping
- Academic rigor
    - Higher order thinking
    - Quality questioning techniques
- Relevance
    - Student choice in learning
    - Personal and cultural engagement
    - Real-world authentic tasks

Combining the evidence from these three areas, we found effective, rigorous, and relevant instruction in classrooms in all six case-study schools. However, some schools more frequently employed strategies identified by the research as leading to student learning. Schools supported by Intermediary C most thoroughly incorporated effective instructional techniques in their classrooms. When we looked for patterns to explain differences among schools, we saw that these schools offered strong support for teacher learning in ways that aligned with the research on effective professional development that leads to effective instruction. The last section of this chapter, then, explores the supports schools and intermediaries offered to foster teacher learning.

Effective Instructional Techniques

Central to promoting student learning—regardless of grade level or subject matter—are instructional practices that ensure students know what is expected of them, motivate and engage students in learning, address students' individual needs, and help students gain a deep understanding of the material and their own learning process (Danielson, 2007; Resnick & Hall, 2005). Through observation of selected classrooms in the case-study schools, we have documented the extent to which we observed evidence-based practices that meet these goals, providing examples to illustrate what the practices looked like in classrooms.

Clear Purpose, Instructions, and Explanations

Using Danielson's framework for professional practice (2007), we observed and rated teachers' written or oral communication with students around their expectations for learning, directions and procedures, and explanations of content. These are key aspects of quality instruction, according to Danielson (2007), regardless of the grade level, topic, or content of the lesson. In our observations, teachers were rated in each of these domains on a four-point scale: Unsatisfactory, Basic, Proficient, and Distinguished (see Appendix A for the observation protocols, including scoring rubrics). Most of the teachers observed were rated as Proficient or Distinguished in all three categories, indicating that their communication of expectations, directions, and content was clear and appropriate for the situation and that the content was connected with students' knowledge and experiences.

- 81% of the classrooms we observed showed Proficient or Distinguished levels of communication of expectations for learning
- 92% showed Proficient or Distinguished levels of communication of directions and procedures
- 86% showed Proficient or Distinguished levels of explanation of content

These levels did not vary substantially by school, except that in School 3, only 38% (3 out of 8) teachers were rated Proficient or above in communicating learning expectations.

Aiding the communication about expectations and directions were written agendas and aims for the lesson. Over one-fourth (14) of the observed classes had written agendas or lesson aims, typically prominently displayed in the front of the room. One-third (16) of the observed lessons began with a "do now" exercise. These were short exercises, often lasting no more than five minutes, related to the lesson aims and objectives. For example, the "do now" exercise in a 12th grade English class at School 3 had students sketch a set design for the play *The Mousetrap*. Teachers rated Proficient or above who did not communicate expectations and directions in writing provided explicit oral directions and expectations, clarifying as needed.

Hands-on Instruction

Hands-on instruction has been shown to increase student engagement in class and to promote learning (National Research Council & Institute of Medicine, 2004)—particularly in science and math classes (Campbell, Jolley, Hoey, & Perlman, 2002), but in other subjects as well. Teachers in the case-study schools reported in the survey that they used hands-on instruction fairly frequently, with nearly two-thirds (65%) reporting that they did so at least monthly and over one-third (37%) at least weekly. In our observations of classrooms, we saw lessons that included some form of hands-on instruction in nearly one-third (15) of the classes. About half (7) of the hands-on activities were observed in science classes, though they were also observed in math, English, and social studies classes. Examples of such instruction are provided in the box at left.

Hands-on Instruction

9–10th grade global history: Used paper triangles to create tangram designs for a unit on Chinese history (School 5)

9–10th grade math: Used markers, string, ruler, scissors, softball, and paper to create a small package for a unit on measurement (School 6)

9–10th grade social studies: Used poster sheet and markers to "storyboard" a reading about King John and the Magna Carta for a unit on the feudal system (School 6)

10th grade math: Used Monopoly game houses in an exercise to find the mean, median, and mode in word problems (School 2)

9–10th grade earth science: Used plastic bottles, soil, rocks, and plant seeds to create "Ecosystems in a bottle—ESIB." Students used rulers to measure growth of the plants in their ESIB, recording growth and other observations in a weekly journal (School 3)

Modeling Complex Thinking and Processing

Teachers model complex thinking by talking through and demonstrating the processes and steps they use to analyze and synthesize information and to solve problems. In 60% (29) of the observed classes, we saw evidence of teachers modeling complex thinking or processing for students. For example, a 10th grade English teacher at School 3 verbalized her thought process on a reading-response assignment she had given: "Ask a question of your text and explain your thought process." The question the teacher asked of *Catcher in the Rye* was, "Will Holden ever be happy?" She explained, "My thought process was, I am wondering this because he seems totally depressed and has no goals or hope." Later in the period, the teacher modeled inference making. As she read aloud from the text, she stopped to point out when she was making an inference: "I'm going to model what inference is because we are working on finding quotes to support our statements: I'm going to infer that Holden is sweaty because he is nervous.... I'm going to infer that Holden is good at heart; he gives the benefit of the doubt. You can point to these lines [in the book] as evidence."

Another example of modeling was observed in an 11–12th grade math class at School 3. The teacher modeled how to solve algebraic equations by talking through his thought process in front of the class. This teacher also asked other students to model their though processes for solving problems.

Building Metacognitive Skills

An important aspect of learning is developing and using what Resnick and Hall (2005) call self-monitoring and self-management strategies, or metacognitive skills. According to Resnick and Hall, metacognitive skills include noticing when one doesn't understand something and taking steps to remedy the situation, as well as formulating questions and inquiries that allow one to explore deep levels of meaning. Metacognition is also considered a necessary skill and behavior for success in college (Conley, 2007). Through observations, we were not able to assess the extent to which students used metacognition, which generally took place in students' thoughts. However, we were able to observe the ways in which teachers taught, modeled, and encouraged metacognition.

Encouraging Metacognition

Making internal thought processes overt: "How did you solve this equation?" "Does anyone else have another way to solve the equation?" (11–12th grade mathematics, School 3)

Modeling/encouraging metacognitive behavior: "Check your notes. Do you think you took good notes on this topic? …I see that some of us take notes during the video and some of us take notes later as we discuss with group-mates. It would be helpful to take notes as you go to help you remember." (11th grade English, School 5)

Commenting on the quality of responses: The 9th grade English teacher asked one group of students to listen to another group have a discussion about the merits of wearing school uniforms. The listeners were asked to write down comments or questions about the other group's discussion. After 10 minutes, the listener group asked questions and made comments about the discussion. The teacher encouraged the listeners to attend to the justifications and evidence students presented to support their opinion. She also commented on and asked students about the quality of the arguments. (School 2)

Resnick (Institute for Learning, 2003) says that teachers can help students develop such skills by "modeling the ways that people notice and regulate their own learning processes," by pointing out when students have effectively used self-management strategies, and by making overt the thought processes that are usually carried out internally. Teachers can also comment on the quality of questions and responses in students' discussions and work (Institute for Learning, 2003). Though we did not expect to see teachers providing instruction aimed at developing metacognitive skills in every lesson for every subject, we did see examples of teachers promoting metacognitive skills in nearly half (48%) of the observed classes. This instruction mostly took the form of teachers asking students to articulate the thought processes they used to solve a problem or form an opinion, which is also a form of modeling complex thinking, described above.

Differentiated Instruction

Differentiated instruction involves using a variety of instructional strategies to address diverse student learning needs. We saw many examples of teachers differentiating instruction in the classrooms we observed. Also, because differentiated instruction may occur without being visible to an observer, we asked teachers in the follow-up interview if and how they differentiated instruction in the observed lesson. Through observation and interviews, we determined that 83% (40) of the observed teachers differentiated

their instruction according to student needs. Teachers differentiate instruction by varying four classroom elements (Tomlinson, 2000):

- Differentiating the **content** refers to making adjustments to the skills or knowledge students are learning. In the case-study schools, we saw teachers allowing students to select books at different reading levels, using word walls and vocabulary exercises at different levels, adjusting the level of challenge of questions, and presenting information through multiple modalities: visual, auditory, and kinesthetic.
- Differentiating **process** means making adjustments in the learning activities or strategies to fit students' needs. We saw examples in which teachers allowed students to choose topics of interest to them, used tiered activities such as a group project that had tasks with different levels of challenge for different students, provided students with extra supports such as graphic organizers, or allowed students extra time to complete work.
- **Products** can be differentiated by varying their degree of difficulty. For example, some case-study teachers assigned different lengths of writing to students or allowed students to choose their roles in a group project.
- Teachers differentiated the **learning environment** by using multiple forms of student grouping, such as pairs or small heterogeneous groups, and asking students to assist or tutor one another.

Differentiating Classroom Elements

Content. In a lesson at School 5 on algebraic equations with two unknowns, a 12th grade math teacher presented four different methods (substitution, elimination, graphing, and matrices) to solve the equation. The methods were presented in multiple ways. The teacher created a guide that explained each method and provided sample problems. Students also had the option of watching a video that demonstrated one of the more advanced methods. Others were working on problems using the blackboard with teacher assistance. One student who had learning disabilities and was a visual learner was encouraged to use a number line to solve these problems.

Process. In an 11–12th grade physics class at School 1, all students were asked to solve for the maximum height of a football given its angle and velocity. Students were also to draw a picture of the situation described in the problem and to choose a coordinate system. Students who were more advanced, or who were done quickly, were asked to make an x/y chart with all the data elements from the problem. If they finished that activity, students were instructed to choose an equation-solving problem from the advanced section of the textbook.

Products. Students in a School 6 class were presented essay requirements for different colleges, ranging from Ivy League colleges to CUNY and SUNY schools. The teacher suggested that students interested in applying to Columbia attempt to write a 2000-word essay, while those interested in CUNY or SUNY write a two- to three-page essay.

In a 12th grade history class at School 1, students were allowed to choose how to present their final product: a report on a reform movement such as public education or prison reform. A group with strong writers and presenters decided to write a speech. A group with artistic talent decided to create a poster board. Another group decided on a combination of photos and writings.

Learning environment. The 11th grade chemistry teacher at School 2 grouped students strategically so that lower-skilled students were working with higher-skilled students. She also presented vocabulary definitions in multiple modalities while varying the content: orally, visually (on a handout), and kinesthetically, by having the students write the definitions down.

Frequent Assessment and Feedback

One aspect of differentiated instruction is assessment. Teachers must frequently assess student progress to determine where students need assistance and which strategies are most effective for different students (Tomlinson, 2000). In nearly every class observed (44 out of 48), teachers used informal forms of assessment to gauge students' understanding and progress. Teachers used questioning and observation of student work to assess progress—for example, walking around the class or from group to group to look at students' work and listen to their conversations. Ten out of 48 teachers collected class work, such as "do now" exercises, and one teacher collected an "exit slip" to assess student learning (see box). This social studies teacher said in her interview that she ends each class with such an exit slip exercise. In three classes, in addition to questioning and observing, teachers used more formal means of assessment such as brief quizzes or tests.

> "What new skills or knowledge did you learn in class today? Please write at least 3 complete sentences." —11th grade social studies exit slip assignment (School 2)

Student Grouping

Effective instruction requires a variety of student groupings, depending on the purpose and format of the activity (Danielson, 2007). Nearly all of the observed lessons included more than one grouping method during a single class period. Teachers had students work individually, in small groups of two or more, or as a whole class, whether in a teacher-led discussion or a teacher lecture. Only 13% (6) of the 48 lessons we observed used a single type of grouping throughout the entire period. On the survey, teachers reported using a variety of grouping practices; see Table 5.1. One grouping practice that has been shown to foster higher achievement is peer collaboration (National Research Council & Institute of Medicine, 2004). Small-group work and peer tutoring are

Table 5.1. Classroom Grouping Practices

Teachers reporting they used the following grouping practices "at least weekly"

	Intermediary A		Intermediary B		Intermediary C		
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	TOTAL
n =	26	20–21	27–28	21–22	25–26	17–18	**138-140**
Students work together in pairs or small groups on cooperative tasks	77%	95%	68%	77%	96%	95%	**84%**
Students tutor other students	58%	60%	39%	62%	84%	83%	**63%**
Students participate in teacher-led discussions	65%	67%	89%	77%	62%	56%	**70%**
Students work alone quietly on a test or assignment	69%	43%	68%	64%	38%	41%	**55%**
Students listen to teacher lecture	65%	85%	75%	68%	27%	47%	**61%**

Source: Teacher survey

indicators of peer collaboration. Surveyed teachers reported using these practices frequently, with most teachers doing so at least weekly.

Teachers in Schools 5 and 6, which are supported by Intermediary C, reported that their students often worked cooperatively and were generally less likely than students in other schools to work alone or listen to lectures. This finding is likely related to the intermediary's educational philosophy of emphasizing verbal interaction as a means to facilitate language development in its students, recent immigrants who tend to be English language learners.

Academic Rigor

Research studies on high-quality classroom instruction suggest that several factors are necessary for producing well-prepared students with high achievement outcomes (Danielson, 2007; Newmann & Associates, 1996; Resnick & Hall, 2005). The definition of academically rigorous instruction includes these two closely related kinds of classroom interaction that we studied in the case-study schools:

- **Higher order thinking:** moving students' thinking to continually higher levels of abstraction
- **Quality questioning techniques:** inspiring student responses that not only use accurate and relevant prior knowledge but also require creativity and invention

These characteristics of academically rigorous instruction can be observed directly. We designed the case-study classroom observation instrument to rate the occurrences of higher order thinking and high-quality questioning techniques. These components were then combined to develop a measure of academic rigor. In addition to the 48 classroom observations, we also examined interview, survey, and focus group data for mention of academic rigor or its components.

Fig. 5.1. Bridge-building activity at School 5

Other characteristics that comprise the definition of academic rigor include those instructional practices that, over time, give students a solid foundation of core knowledge in the content areas (Institute for Learning, 2003). These characteristics of rigor were outside the scope of this study because we conducted not multiple observations of individual teachers over time but rather observations of a cross-section of individual lessons.

Higher Order Thinking

To build higher order thinking skills, Resnick and Hall (2005) recommend that, with teacher guidance, students should hone their thinking abilities, construct explanations, and test their own understanding. They recommend that these higher order thinking

skills "should be the daily fare of all students" and should be infused throughout the curriculum (Resnick & Hall, 2005, p. 18). Our approach in the case-study schools was to observe classrooms in all four major subject areas in order to detect the extent to which higher order thinking was present throughout the curriculum.

Higher Order Thinking

Highest rating

A 12th grade physics lesson at School 5 demonstrated the highest rating (3) of instruction that encourages higher order thinking as well as other effective instructional practices. In this hands-on lesson that integrated math and science, students constructed models of truss bridges and calculated their bridges' load capacity. Following the scientific method, students formulated hypotheses about the relationship between the number of triangles and strength of a bridge. Students worked in small groups of four or five, carrying on highly engaged discussions while the teacher provided encouragement.

Students used building sets to construct three different types of truss bridges. They tested their bridge's strength by hanging books from different points in increasing weights until the bridge collapsed. Students then calculated the point of collapse, counted the number of triangles in the bridge, and recorded their findings.

Students selected their roles in the group activity: Some built the bridges, others calculated and tested the load capacity, and others wrote the findings. The teacher incorporated differentiated learning by having students with higher math skills calculate the load capacity using a formula, while other students used a chart to guide them through the steps of the calculation. As the students worked, the teacher circulated, asking questions to encourage reflection. When one bridge broke, everyone laughed, and the teacher asked, "So what happened? Why did it break?" A student responded in Spanish. The teacher answered, "Good, so how many books did it take to exceed the load capacity?" The teacher continuously probed and assessed students' progress throughout the lesson: "What does this mean? How are you calculating the weight? What can you conclude from these data?"

At the end of the class, the teacher asked students from each group to write their findings on a chart on the chalkboard. When the class found that two groups had recorded very different findings for one bridge, the teacher asked students to decide collectively which was the correct answer. Reviewing the scientific method, students spent several minutes hypothesizing and determining results. Ultimately they concluded that one group had made a procedural error. Then the teacher asked, "So what can we conclude from this data? A student answered, "More triangles, more capacity." The teacher followed up, "Can you answer in a complete sentence?" Laughing, the student said, "When you make a truss bridge, the more triangles you use, the stronger your bridge will be."

Lowest rating

An example of the lowest rating (0) for higher order thinking came from an 11–12th grade social studies class. The aim of the lesson was to identify the role of the President. The teacher first had students copy four vocabulary phrases: State of the Union address, diplomacy, foreign policy, presidential succession. He read these words aloud and presented a slide show of definitions and explanations as the students took notes. Then the teacher gave a handout to the students. It was labeled as a "reteaching activity" and seemed to be taken from the teacher's workbook. Students looked up answers to worksheet questions in their textbooks. At no time were students asked to explain the reasons for their responses. The lesson included no discussion.

Newmann & Associates (1996) define higher order thinking as that which involves "manipulating information and ideas by synthesizing, generalizing, explaining, hypothesizing or arriving at conclusions that produce new meaning and understanding" (p. 33). Lezotte (1991) stresses the importance of teachers' striking an "appropriate balance between higher-level learning and those more basic skills" that undergird mastery at the higher levels (p. 4). Lezotte also notes that "substantial staff development" is required to allow teachers to be responsive to the need for higher levels of learning. For the case-study schools, the balance between higher order thinking skills and basic skills defined a major challenge in educating the underprepared populations they served.

> "There is an expectation of rigor in this school, and we try our best to meet the state objectives in terms of Regents scores." —Science teacher, School 4 (interview)

In the classroom observations, the quality of higher order thinking in the instruction was rated on a four-point scale, with zero being the lowest rating, meaning that recitation of facts and formulas was seen rather than higher order thinking. The highest rating, 3, was for lessons in which the teacher acted as a facilitator while requiring students to do the work of synthesizing, hypothesizing, explaining, drawing conclusions, making models, or producing new meaning and understanding. See the previous page for examples of the highest and lowest ratings on higher order thinking.

We saw higher order thinking present to some degree in most (43 out of 48) observed lessons (see Table 5.2). Eleven lessons received the highest rating (3) in higher order thinking. An additional 24 classrooms received the next highest rating (2), indicating that the lesson frequently required students to apply information to new contexts, make judgments, and explain their reasoning. In 5 of the 48 lessons (10%), no higher order thinking was observed.

Table 5.2. Higher Order Thinking

	Intermediary A		Intermediary B		Intermediary C		
n = 48	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	**TOTAL**
Number of observations ranked 3 or 2 (the two highest ratings out of 4) in higher order thinking	6	6	4	4	8	7	**35**

Quality Questioning Techniques

Danielson's (2007) framework for teaching identifies the quality of teacher questions as one component of rigorous instruction. Resnick and Hall (2005) also refer to questioning as an aspect of rigorous instruction. Students must be encouraged both to ask and to answer such challenging questions as, "Why do you think that? How did you arrive at that conclusion? What is your evidence?" Thus, questioning techniques that require students to cite evidence are also those that promote accountable talk, in which teachers require students to justify their arguments and responses, pressing for clarification and explanations when needed.

In our classroom observations, questioning techniques were rated on a four-point scale: Unsatisfactory, Basic, Proficient, and Distinguished. Unsatisfactory questioning

techniques involved rapid-fire questions that posed little cognitive challenge and could be answered in one or two words. Distinguished questioning techniques, on the other hand, promoted thinking and encouraged students to make connections with other concepts or events and to arrive at new understandings of complex material. In a classroom with Distinguished questioning techniques, students themselves generated many of the questions. Examples of the highest and lowest ratings are given below.

Quality Questioning Techniques

Distinguished

An 11th grade social studies class at School 6 provided an example of the Distinguished rating for questioning techniques. To introduce this lesson on the Progressive Era, the teacher stressed that understanding vocabulary was key, asking students for synonyms of related vocabulary words. Later, students analyzed a political cartoon in which the "Lion Tamer" represented President Theodore Roosevelt. The teacher posed several questions about the cartoon to the whole class, sparking lively responses.

"What might President Roosevelt's personality be like based on what you see in the cartoon?"

"He looks serious."
"He looks powerful."
"He looks strict."
"He looks fearless."

"Does the cartoonist seem to believe that President Roosevelt will be able to control the trusts?"

"He has a whip. I think so…"

"Why do you think this?"

"I don't know because the big businesses have the money and the power."
"Yeah, but they have a monopoly and the businesses use their power over people who have no rights."
"The President will free the people from big business and create rights to protect the people."

The teacher frequently probed students and asked students to elaborate on their answers by providing specific examples. The responses elicited debate as to whether the President would be able to control the trusts or not. The teacher took this opportunity to explain the government's role in breaking up monopolies through "trust busting" to better serve the interests of the people.

Unsatisfactory

In an 10-11th grade science lesson, the teacher reviewed formulas and concepts students would need for an upcoming test by addressing a series of questions to the entire class. The questions required mostly one- or two-word answers and no further explanation. For example, the teacher asked, "If I wanted circular motion, where would the point of acceleration be?" Many hands went up, and students yelled out, "Center of the circle." The teacher immediately went on to another question. When one student yelled out part of the answer, the teacher finished the answer on his own without requiring more thought from the student.

Table 5.3. Quality of Questions

n = 48	Intermediary A		Intermediary B		Intermediary C		TOTAL
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	
Number of observations in which questioning techniques were rated Distinguished or Proficient	5	5	3	5	6	7	**31**

Fifteen out of the 48 observations were rated Distinguished in terms of questioning techniques, and another 16 were rated Proficient, the next highest rating (see Table 5.3). A lesson was rated Proficient if most of the teacher's questions were of high quality and adequate time was provided for students to respond.

Combined Findings on Academic Rigor

We combined the ratings on higher order thinking and quality questioning techniques to rate each of the lessons as displaying high, medium, or low levels of academic rigor. We observed 30 lessons that received high ratings on both components of rigor, as shown in Table 5.4. We saw 10 lessons that scored in the medium range and eight that scored in the low range, showing little or no academic rigor. Most of the highest-rated lessons were in grades 11 and 12 (19). Observers rated more English classes highly in rigor than any other subject (10), followed by social studies (9), science (7), and finally math (4).

Table 5.4. Instructional Rigor Ratings

n = 48	Intermediary A		Intermediary B		Intermediary C		TOTAL
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	
Number of observations that scored high on both components of rigor	5	5	3	4	6	7	**30**
Number of observations that scored medium on both components of rigor	3	2	1	1	2	1	**10**
Number of observations that scored low on both components of rigor	0	1	4	3	0	0	**8**

Note: Each component was scored on a scale of 0–3, with the highest possible combined score being 6. A combined score of 4, 5, or 6 yielded a rating of high. Scores of 2 or 3 were rated medium, and scores of 0 or 1 were rated low.

Lessons that earned high ratings on academic rigor tended to be characterized by:

- Students working in groups to justify their opinions and responses, sometimes having to come to consensus
- Students synthesizing ideas from previously learned materials
- Teachers supporting students' analysis and thinking process by asking open-ended questions
- Teachers introducing new ideas and encouraging students to ask questions about them

- Teachers suggesting a variety of resources where students could find evidence to develop their opinions

Thus, a lesson that was rated high on academic rigor was one where the teacher supported students' work with open-ended questions that required higher order thinking. Once the students responded, they had to support the responses with evidence appropriate to the subject matter.

Combining the components of rigor revealed eight lessons rated as low on academic rigor, as shown in Table 5.4. Lessons that earned the low rating tended to be characterized by:

- Teachers presenting while students only listened or wrote
- Students using formulas to figure out answers with little or no discussion of the work
- Teachers and students giving one-word answers to questions
- Teachers answering their own questions
- Lessons that did not challenge the students to expand on what they already knew

Not surprisingly, in schools where we saw more examples of lessons rated high on academic rigor, we saw few examples of lessons rated low on rigor. School 5, with seven lessons rated high, had no observed classes rated low in rigor. School 6 had six lessons rated high and none rated low. Schools 1 and 2 each had five lessons rated high and one or none rated low. Schools 3 and 4 had nearly the same number of lessons rated high and low, suggesting a great deal of variability in the quality of teaching in those schools.

Teachers spoke in interviews of the ways in which they promoted academic rigor in their classrooms. They also clearly linked instructional rigor to college readiness, particularly to developing students' habits of mind (as discussed in Chapter 6 on College Preparation). For instance, a math teacher at School 5 said that teachers should allow students to assess for themselves how to approach problems. "They have to direct their own learning by analyzing and then synthesizing their knowledge on paper. This process encourages the kind of higher order thinking and reflection they will need to do in college." Similarly, a history teacher at School 3, when asked about preparing students for college, said that he focuses on analytical writing and discussion and on using evidence. Indeed, at every one of the case-study schools, at least some of the teachers interviewed referred to the components of rigor when asked how they help students prepare for college.

The data indicate that, in each of the case-study schools, rigorous instruction was a priority. For example, an English teacher at School 1 said in a focus group:

> I want students to develop skills in expressing abstract concepts in writing and speaking, and that's very much college preparatory. In the English department [11th and 12th grades], we purposely choose sophisticated and challenging texts to read in the English class, and students are expected to do very sophisticated writing.

However, our data also show that, in the minds of teachers, factors such as time constraints and emphasis on preparation for Regents and other tests challenged the

delivery of rigorous instruction for many teachers. Prominent in the minds of faculty members of the case-study schools were worries about where the students actually were in their skill development compared to where they needed to be. Teachers were well aware that rigorous instruction is an important factor in college readiness, but they were equally aware that many students lacked some of the foundational skills and knowledge that would allow them to engage in more rigorous work.

Preparing students for Regents exams and other tests can have the effect of pushing teachers to cover a broad amount of content superficially rather than focusing on depth of content and on the higher order thinking skills that prepare students for college. For example, a math teacher in School 3 lamented in the interview that he was not able to focus on the problem-solving skills he believed his students needed for the future. He noted that he felt "pressure to finish lessons on time to keep students on track towards Regents." He said that he'd like to do more hands-on exercises, but didn't feel he could spend the time. "That's the dilemma for teachers now. I'm willing to follow the curriculum, but if I had the freedom..."

In a social studies disciplinary team meeting we observed at School 6, four teachers were discussing students' ability to handle more rigorous curriculum. One teacher expressed frustration over the degree to which students were unable to move from scaffolding activities—in which students are provided supports and models that are gradually removed until the students can perform the task independently—to engage in higher order thinking. Other teachers, expressing concern about whether students were able to answer questions requiring higher order thinking, suggested stressing a small number of essential questions. Another teacher agreed that the emphasis should be on depth in a smaller set of concepts rather than on breadth, so that students could do higher order thinking in fewer areas.

Students also expressed their perception of the tension between time and depth, speaking in focus groups of the extent to which they were challenged in class and the pace at which teachers moved through the curriculum. A group of 9th graders from School 1 mentioned that teachers needed to be more patient and explain things more. One said, "They should not spend just one day on a lesson, and they should go into more detail and spend more time on things. They shouldn't only stick to big topics but go deeper into the subjects." Apparently these students agreed with the teachers who believed that depth of instruction might better suit the students' needs than breadth.

Relevance

Studies show that student engagement increases when topics are personally interesting and related to students' lives and when students have some input into what they learn and how they learn it (National Research Council Institute of Medicine, 2004). Further, these studies emphasize the value of "authentic" tasks that have some meaning outside the world of school; such authentic tasks can include real-life experiences, experiential learning, and writing for audiences other than the teacher (Newman & Associates, 1996). Our research considered the extent to which classes in case-study schools:

- Provided opportunities for choice
- Used personally and culturally engaging practices and materials
- Provided opportunities for students to engage in real-world "authentic" tasks

The findings below about these aspects of relevance are based primarily on classroom observations. Opportunities for student choice or use of real-world tasks might not take place in every lesson, so their absence does not necessarily signify weak instruction.

Student Choice

Studies reveal that involving students in decisions about what and how they learn leads to higher levels of achievement (American Institutes for Research & SRI International, 2005; National Research Council & Institute of Medicine, 2004). As noted earlier, giving students choice is also one strategy teachers use to differentiate instruction. Indeed, many teachers we interviewed said that giving students choices was an intentional effort to meet different students' needs. In our observations of 48 classrooms in case-study schools, we saw instances in which students were given opportunities to choose such aspects as their roles in classroom projects, the particular content they studied, how they solved problems, and how they would present their learning.

For instance, in a 12th grade chemistry class at School 6, when students were creating chemistry lab videos to illustrate concepts of chemical mixtures, they chose which role they played in their groups: script writer, actor, director, or video producer (see box below under Effective Classroom Practices). In an English class at School 5, students conducted group research projects about various social reform movements. They were allowed to choose which content to research; for example, one group chose to research women's suffrage. Each group also decided what kind of product—for instance, poster, slide presentation, or speech—it would create to present what the group had learned. Providing students these options were also differentiation strategies, as described earlier.

Table 5.5. Student Choice in Learning

n = 48	Intermediary A		Intermediary B		Intermediary C		TOTAL
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	
Number of classroom observations in which students were allowed to choose what or how they learned	1	2	1	1	5	5	**14**

In our classroom observations, we saw evidence that students were given choices about how and what they learned in 29% of the 48 lessons observed. Table 5.5 shows considerable variation among schools in the extent to which we saw evidence for student choice in classrooms, with substantially more observed classes in Schools 5 and 6 allowing opportunities for choice than classes in the other schools.

Personal and Cultural Engagement

Studies show that students enjoy learning more—and learn better—when topics are personally interesting and related to their lives (National Research Council & Institute of Medicine, 2004). Further, research reveals that classroom practices that tap into students' prior cultural knowledge and that acknowledge and legitimize their cultural histories increase engagement (Gay, 2000; Ladson Billings, 1992). Such topics and practices enable students to contextualize and incorporate experiences across the contexts of home, community, and school (Doherty, Hilberg, Pinal, & Tharp, 2003).

Our classroom observations showed evidence of practices that engaged students' diverse backgrounds. The two case-study schools that served immigrant students paid explicit attention to designing structures and practices that acknowledged the diverse backgrounds and experiences of their students. For example, in a science class at School 5 and a social studies class at School 6, we saw students being encouraged to conduct research and to write in their native languages. Allowing students to work in their native language, according to Gutiérrez (2002), signals respect for their diverse linguistic backgrounds. An English teacher at School 5 encouraged students to make connections between a video about the exploitation of immigrant workers and the economic conditions in their native countries. In response, one student in this class said, "It's kind of like the economy in my country. Our money is worthless, and you have to take a suitcase full of money just to buy a loaf of bread." This teacher made several references to the native countries of the students, thereby acknowledging their diverse experiences. We saw teachers in these two schools making education relevant to these students by respecting their cultures and languages, providing opportunities for native language use, and making connections to students' backgrounds.

> "I want to thank the school for giving us the feeling that our culture is not bad…. Most of the time in American schools, they want you to forget about your culture; they are always putting down other cultures. It's really helping me to trust in myself and trust in my roots, and to take that to go forward, not to cut them off." — Student from Bengladesh, School 5 (focus group)

In other schools, we observed instances in which teachers designed lessons focusing on issues that are socially relevant for urban students. For example, an English teacher at School 1 asked students to debate a series of statements related to gang membership in preparation for reading a novel about a gang leader in Los Angeles. In an English class at School 4 focused on developing writing skills, the teacher asked students to choose which of two rap stars was better, Tupac or Biggie, and then to provide evidence for their answers. Another English teacher at the same school described in her interview how she redesigned her English class to focus on books that are culturally and socially relevant for her students. In our observation of this teacher's class, students discussed a novel about a Sudanese family's move to the U.S. The teacher shared her immigration story and then asked students to discuss and write about their own immigration stories.

Table 5.6 (next page) displays the number of classroom observations in which teachers made connections with students' cultures and personal lives. We saw this aspect of relevant instruction in 79% of the 48 observed classes. School 3 had notably fewer such classes than did the other case-study schools.

Table 5.6. Connections with Students' Out-of-School Experiences							
	Intermediary A		Intermediary B		Intermediary C		
n = 48	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	TOTAL
Number of classroom observations in which teachers made implicit or explicit connections with students' substantive knowledge and personal experiences or public problems	8	6	3	6	7	8	**38**

Real-world Authentic Tasks

Research shows that instruction that allows students to learn in real-world settings is more engaging and results in higher academic achievement (Lee, Smith, & Croninger, 1995). Newmann & Associates (1996) also emphasize the value of instruction that engages students to produce "discourse, products, and performances that have value or meaning beyond success in school." Several of the case-study schools had programs that provided opportunities for students to engage in inquiry in real-world settings.

Internships

In five of the six case-study schools, surveyed principals reported that they offered internship programs that provided students with experiential learning opportunities in community settings. The exception was School 2. The internship program at Schools 5 and 6 is described in the box. The principals of Schools 1 and 4 said on their survey that the schools offered internships, but we cannot describe them because they were not mentioned in interviews or focus groups. School 3 had established an internship program with its community partner, a nature-study organization. Eight students were involved in internships in which they worked with scientists on a study on seed flotation, according to the principal interview. Such work in the community with specialists enables students to produce new knowledge that has meaning beyond the walls of school (Newman & Associates, 1996). Further, community internships engage students in authentic work that makes the real-world value of learning more evident.

Internships in the "Real World"

In Schools 5 and 6, all students were required to attend internships in the spring of their junior year. Students worked with their advisors to identify and apply for internships based on their professional interests. They then worked at their internship placements three afternoons a week for a total of 144 hours. Students were placed in diverse workplaces including law offices, schools, advertising agencies, and hospitals. The principal of School 6 explained in the interview, "Internship hits two of our core principles: experiential learning through exposure to the professional world of work and language development. It is a powerful tool that allows students to grow socially and emotionally and get a glimpse of what a post-college life might look like."

Community partnerships

At School 3, the real-world learning facilitated by the school's community partner did not end with the internship described above. In addition, all 9th graders at this school attended a year-long field studies class taught by a science teacher from the school as

well as by scientists and educators from community partner organizations. These students spent one full day a week conducting natural experiments at the community partners' outdoor sites. In an interview, the principal exclaimed, "They conduct scientific inquiry. They live it!" In addition to their experiments, students participated in experiential learning expeditions in locations such as the Florida Everglades and upstate New York. One student even participated in research on polar bears in Manitoba, Canada. Students at this school also spent one afternoon a month in field trips with community partners as part of their community service requirement.

In classroom observations at this school, we saw evidence that teachers attempted to integrate what students had learned in their field studies into classroom practices. For example, in one science class, students created ecosystems in two-liter bottles. The teacher asked, "In your field studies, when you got up to Fallkill Falls, what did you find?" Students then brainstormed the components of an ecosystem. The teacher made the classroom learning more relevant to students by connecting it to the real scientific inquiry they were doing in their field studies.

Effective Classroom Practices

When we move to the bigger picture to analyze use of effective classroom practices by school, we see variation in the frequency with which these practices were implemented,

Table 5.7. Frequency of Effective Practices in Observed Classrooms
(number of classrooms out of 8)

	Intermediary A		Intermediary B		Intermediary C	
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6
Clear purpose, instructions, and explanations*	6.7	8	5	6	8	7
Hands-on instruction	1	3	2	0	5	4
Modeling complex thinking & processing	4	5	7	3	5	6
Building metacognitive skills	4	5	3	1	6	4
Differentiated instruction	4	7	7	6	8	8
Frequent assessment and feedback	7	8	7	6	8	8
Peer collaboration / student grouping	4	6	3	1	7	7
Higher order thinking	6	6	4	4	8	7
Quality questioning techniques	5	5	3	5	6	7
Student choice	1	2	1	1	5	5
Connection to students' lives outside school	3	4	2	4	3	5
Average frequency of effective practices	**4.2**	**5.4**	**4.0**	**3.4**	**6.3**	**6.2**

Source: classroom observations
*This item combines three separate items on the observation protocol that are all related to teacher communication. To calculate the school score, we averaged the number of classrooms from the individual items.

Snapshot of Rigorous, Effective Instruction

A 12th grade chemistry class we observed at School 6 was working on a unit whose goal was for students to gain a full understanding of types of mixtures. Working in groups of four or five, students were producing chemistry videos about homogeneous and heterogeneous mixtures. Following the scientific method, students had to develop a hypothesis, design an experiment to test it, explain what happened in their experiment, and draw conclusions—all recorded on the video.

Students could choose which components of the project they wanted to work on: writing the video script, acting, directing, recording, or editing the video. Since each task emphasized key concepts, these multiple entry points were an effective way of differentiating instruction. Additionally, the tasks built on non-science skills such as writing, organizing and managing a project, oral communication, and using computer video technology.

Students were given choice in selection of materials for the mixture experiments and in the settings for their videos. For example, one group created a Crazy Chef skit in a mock restaurant kitchen. The ingredients—a cup each of hard candies, coffee, and vegetable oil—were displayed on a table. As the video rolled, the narrator presented a problem: "What will happen when our chef mixes these ingredients together?" The assistant chef stated her hypothesis, "They will maintain their properties and remain separate. Since oil is less dense than coffee and candies, it will rise to the top." When the chef mixed the ingredients, describing each step, the assistant chef's hypothesis was borne out. The chef asked, "Do you want to taste my special cocktail?" The assistant chef turned up her nose. Then the narrator summarized the results of the experiment: "The candies, coffee, and oil maintained their individual chemical properties. The hard candies, as solids, stayed at the bottom of the container. The coffee and oil—both homogeneous liquids—turned into a heterogeneous mixture. So our Crazy Chef and his assistant have proven their hypothesis."

The teacher supported the students in their work rather than directing it, promoting an atmosphere of respect and trust. In the period we observed, most groups were at the stage of editing their video. They were scattered around the classroom, in a separate room in the back, and in the hallway. Even when the teacher left the main classroom to check on other groups, the students remained on task.

When asked how the lesson fit into the larger picture of preparing students for college, the teacher said, "Working collaboratively in groups is always a skill that we reinforce here at [School 6], and I believe working collaboratively is something very important and necessary for moving on to college. Also, the technology that students have access to and are learning will be great asset for them and will help them prepare for college."

as shown in Table 5.7. An example of effective classroom instruction from a case-study school appears above.

We measured student engagement in classroom observations by rating to what extent students appeared to be on-task and interested during most of the lesson, on a scale of 1 to 4 (see rubric in Appendix A). Not surprisingly, student engagement, indicated by the top two ratings on our scale, was more frequently observed in schools where we also observed greater use of effective practices, as shown in Table 5.8 (next page).

These patterns strengthen our portrait of effective instruction in the case-study schools and show that some schools apparently had a higher incidence of high-quality instruction than others. Schools 5 and 6 both had similar levels of high frequency of

Table 5.8. Student Engagement

n = 48	Intermediary A		Intermediary B		Intermediary C		TOTAL
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	
Number of classroom observations in which most or all students demonstrated engagement by being on task	7	7	5	5	8	8	**40**

effective instructional practices, at 6.3 and 6.2, and students demonstrated engagement in every one of both schools' classroom observations. School 2 comes close to this high standard on both measures. School 1, like School 2, had engaged students in seven of eight classroom observations, though its average frequency of effective practices was somewhat lower. Schools 3 and 4 had lower frequency of effective practices and less evidence of student engagement than the other schools.

Teacher Learning and Instructional Coherence

To explore facilitating and constraining factors to implementation of effective classroom practices, we looked for structural, policy, and procedural factors that may explain the differences by school. In the schools where we saw greater frequency of effective practices, we also saw greater levels of teacher collaboration and support for teacher learning, resulting in more instructional coherence.

AED's research explored elements of teacher professional communities by looking at the extent to which teachers in the case-study schools were engaged in productive professional development that furthered their capacities to deliver high-quality instruction. Scholars point to the ways in which teacher learning and reflection with peers supports the collective capacity of schools to design and implement effective practices (Little, 1999; McLaughlin & Talbert, 2001). In the case-study schools, we saw considerable variation in the degree to which teacher learning was supported. Specifically, in the schools were we saw the most frequent use of effective practices, we saw stronger supports for teacher learning, including:

- Dedicated time and space for formal **teacher collaboration**
- A strong **culture of reflection and inquiry** that guided such collaboration
- **Teacher participation** in the design and implementation of professional development
- Emphasis on **distributed leadership**

Based on these four factors, we used data from our interviews, focus groups, and surveys to assign each school a rating of strong, moderate, or limited support for teacher learning. The schools in which we found stronger evidence of support for teacher

learning were also those in which we found stronger evidence for effective instruction, as shown in Table 5.9.

Table 5.9. Effective Instruction and School Support for Teacher Learning

	Intermediary A		Intermediary B		Intermediary C	
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6
Average frequency of effective instructional practices*	4.2	5.4	4.0	3.4	6.3	6.2
Support for teacher learning**	Moderate / Strong	Moderate / Strong	Limited	Limited	Strong	Strong

*To calculate the school average frequency of effective practices, we averaged the number of classrooms where we observed the 11 practices listed in table 5.7.
**Ratings are AED researchers' judgment based on interview, focus group, and observation data.

Schools 5 and 6 showed both the highest frequency of effective instructional practices and the strongest rating in support for teacher learning. The fact that these two schools were also characterized by instructional teams that provided an effective, structured means of supporting students may be related to these findings. Schools 5 and 6 were also among the four case-study schools characterized by an integrated, school-wide approach to college preparation, as described in the next chapter. Though we cannot prove that these factors are related, the research cited above (Little, 1999; McLaughlin & Talbert, 2001) leads us to expect that strong teacher collaboration would co-occur with strong personalization structures, strong college preparation features, and strong instructional practices.

Teacher Collaboration

While teachers at all of the case-study schools reported some degree of collaboration with their peers (see Table 5.10), our interviews and focus groups revealed sharp differences in the degree to which such collaboration was formalized using structures and routines, as well as in how teachers used their common planning time.

Table 5.10. Frequency of Teacher Collaboration

	Intermediary A		Intermediary B		Intermediary C	
n = 143	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6
Teacher report of frequency of collaboration on lesson plans and reviewing student work this year (mean)	6–9 times	6–9 times	6–9 times	3–5 times	10 + times	6–9 times

Source: Teacher survey
Note: Mean was calculated from an item with the following response options: never, once or twice, 3–5 times, 6–9 times, 10 or more times.

In Schools 5 and 6, where we found strong evidence for teacher learning, teachers described meeting twice a week, once in an interdisciplinary team and once in their

departments. In these meetings, teachers worked collaboratively to write and refine curriculum, develop alignment across the curriculum, and create interdisciplinary projects. In addition to collaborative team meetings, the schools held bi-weekly whole-school professional development meetings and staff meetings. In follow-up interviews, 15 out of 16 teachers said that weekly collaboration within disciplines and in interdisciplinary teams was helpful to their practice. The network of Intermediary C schools in which these teachers worked also allowed educators to draw on the expertise and resources of educators across schools through formal and informal interactions, as described in Chapter 3.

> "We coordinate the curriculum across grade levels. The 9–10th grade science teachers have multiple meetings, and the 11th grade science teacher joins the meetings, and we do planning, so the 9–10th grade curriculum spirals into the 11th grade. We also have interdisciplinary team meetings, and we host a science blog where we share a lot of planning tips and devise content themes for our classes." —Math teacher, School 5 (interview)

In Schools 1 and 2, where we found moderate to strong evidence of teacher learning, teachers described how weekly department meetings provided structures for collaboration. They spoke positively about the ways in which meeting times were used for collaboration, developing alignment across the curriculum, and professional development. In follow-up interviews, eight of eight teachers at School 1 and six out of eight teachers at School 2 spoke positively about their collaboration with other teachers in these weekly department meetings. A science teacher at School 2 reported, "We design lesson plans and share the types of projects we have done in class." An English teacher at School 1 described how the English department aligned the scope and sequence from 9th through 12th grades: "We meet as an English department to make sure it flows nicely from grade to grade. In 9th grade we concentrate on thematic and character essays. In 10th they concentrate on persuasive essays." A math teacher at School 1 described how weekly meetings provided opportunities for teacher collaboration such as discussions about how to incorporate accountable talk into the math curriculum. These examples, as well as those from Schools 5 and 6, indicate an emphasis on teacher collaboration and planning that is organized both vertically across grades and horizontally across disciplines, leading to a coherent and integrated instructional approach.

In the two schools where we found less evidence of teacher learning, there were dedicated monthly meetings for teachers in each discipline, but some teachers reported that generally these meetings did not provide opportunities to develop and coordinate curriculum. In follow-up interviews, three out of eight teachers at School 3 described these department meetings as ineffective. For example, one teacher noted that, since department meetings were held only monthly, teachers had to build in collaboration time—often informally—outside these meetings. Four School 3 teachers mentioned in their interviews that they lacked time for collaboration. Teachers at both Schools 3 and 4, when asked about opportunities for collaboration, frequently cited informal means of collaboration such as interactions in the teachers' room. Findings suggest that teachers sought the support of peers, but that, without regularly scheduled meetings where collaboration and learning were a focus, such occurrences were limited to pockets of teachers working together.

Culture of Reflection and Inquiry

A part of effective teacher learning is related to how teachers use their time together. Effective professional communities are characterized by a "deprivitization" of practice (Little, 1990) as teachers come together to engage in reflective dialogue about teaching practices, to observe one another's classrooms, and to engage in joint problem solving (Bryk, Camburn, & Lewis, 1999).

Teacher Learning through Study Groups

In response to the varying skill levels of teachers and the changing needs of the growing school, the principal at School 6 restructured the weekly professional development meetings, designing a process that allowed teachers to self-organize around areas of professional interest. For example, a group of science teachers worked collaboratively with students to develop a curriculum for students with advanced science skills. In another group, drama teachers worked together to create a unit on integrating kinesthetic movement into all subject areas.

Teachers in the two schools with strong evidence of teacher learning described a culture of reflection and teacher inquiry in the professional community of the school. In an interview at School 5, one teacher reported: "As a team, we visit each other's classes and do observations. In our collaborative team meetings we discuss what we saw in each other's classrooms and make suggestions." We also observed a professional development committee meeting at School 5 in which teachers worked on a yearlong plan for school-wide professional development focused on developing teacher inquiry through such activities as using student portfolios to reflect on their practice and on curricular alignment. After the meeting, the principal explained that this work is linked to broader goals of engaging teachers to be reflective about their work with students and about their own professional development.

This culture of reflection and inquiry was also evident in School 6 where, in a focus group, a teacher spoke to the ways in which teachers are continually working to improve practice:

> We spend hours looking closely at student work, trying to learn about their strengths. It is connected to our professional culture. We look across different grades and looked to see if interventions were making a difference. In our curriculum share meetings every week, we'll look at work and share.

At the two schools with moderate to strong support for teacher learning, we saw in-school professional development sessions that helped to establish a culture of inquiry and provided opportunities for more experienced teachers to share best practices with newer staff. At School 2, where 81% of teachers had been teaching for 0–2 years and the other 19% for 3–5 years, the principal reported in her interview that she seeks support from Intermediary A for teacher learning opportunities to develop her young staff. The considerable effort to enhance teacher development at these schools drew on the expertise of coaches and other personnel from the intermediary.

In Schools 3 and 4, inquiry teams, consisting of teachers and administrators focused on enhancing practice and improving the performance of struggling students, were supposed to be in place, but, when we attempted to observe inquiry team meetings at School 4, we found that they had been cancelled. An inquiry team member in an interview characterized the work of the team as "floundering." In a teacher focus group at School 3, a teacher described his participation in an inquiry team that had met the

previous semester to monitor the progress of 16 students at the bottom third of the class. The team's work involved observing students in classrooms, conducting student focus groups, and engaging in reflection about structures necessary to support students. Other teachers in the focus group responded to this teacher's description by indicating that they were not aware of the existence of inquiry groups in the school. Their reaction suggests that, though School 3 contained pockets of teacher learning and reflection, this work was not integrated into the overall work of the school. The structure of inquiry team meetings is designed to facilitate collaboration and reflection, but teacher comments in these schools suggested that the teams had little institutional support.

Teacher Participation in Design and Implementation

In case-study schools with strong support for teacher learning and collaboration, teachers reported on in-school learning opportunities designed by teachers on professional development committees. Studies of effective teacher professional communities emphasize the importance of routines, such as regularly scheduled time for reflecting about teaching practices (Little, 2003). At Schools 5 and 6, a group of teachers served on a committee that worked to identify priorities and implement professional development. We observed a professional development committee meeting at School 5, comprising one representative from each of the instructional teams. The purpose of the committee was to plan professional development activities for the school and to communicate with the intermediary's professional development committee in order to influence the development of network professional development activities. The committee conducted a survey of teachers to determine their professional development needs. At School 5, to instill teacher-led professional development, the principal instituted a request-for-proposals (RFP) process in which teachers worked in cross-school groups to propose study groups on topics of interest. (See Chapter 3 for an example of such a study group.)

> "I think that strength of our model is that it is shaped by teachers' input as opposed to the administration setting the agenda." —Teacher who represented School 5 on the intermediary's professional development committee (interview)

The two schools with moderate to strong support for teacher learning showed less evidence of teacher participation in the design and implementation of professional development. In a follow-up interview, a School 2 teacher who had attended the intermediary's summer institute described a particularly useful "design your own workshop" session, which was intended to equip teachers to lead professional development activities. However, the data also suggest that the intermediary's coaches, rather than the teachers themselves, tended to lead teacher learning. In her interview, the principal of School 2 described the support that she received from the intermediary to redesign her advisory curriculum with the help of the intermediary's coach and of intermediary-sponsored workshops in which "teachers developed lessons plans according to the students' needs. Teachers 'own' these lessons; therefore they have a vested interest in implementing these advisory lessons."

Distributed Leadership

In addition to teacher collaboration, a culture of inquiry, and teacher participation, we also saw evidence of distributed leadership in schools with stronger support for teacher learning and more effective instructional practices. Scholars describe distributed leadership models in which teachers collectively shape and implement high-quality instructional practices and effective school structures (Copland, 2003).

The two schools served by Intermediary C had a distributed leadership model that engaged teachers in shaping structures and practices in their schools. The intermediary used this same governance model to involve teachers in its own decision-making processes and to foster a pipeline of leaders that eventually move to new schools, bringing with them a deep understanding of the intermediary's model principles and practices. Teachers reported in focus groups that they appreciated the fact that the intermediary's professional development was collectively shaped and led by teachers. One math teacher at School 5 explained in his interview that he worked on the intermediary's professional development committee, which met with the organization's leadership monthly to design professional development activities and workshops.

Shared Decision Making

In May 2009, School 6 teachers, guidance counselors, and administrators participated in a two-day retreat to develop a guiding vision for the next five years. Staff members analyzed case studies of two current students to examine how current school structures addressed students' academic, linguistic, and social-emotional needs. Staff then were asked to envision the school receiving a major award in 2014 for their work in "educating the whole child." What structures and programs would need to be in place in order to win such an award? Based on their ideas, staff developed action plans and volunteered for groups that would work on various aspects of the plans in the summer and in the fall. Participants then brought their ideas back to the full staff in order to gather additional input and create buy-in. Examples of new projects included:

Orientation. The first week of school would be devoted to intensive advisory activities focusing on study skills, learning group collaboration, and team building.

College preparation in the 9th and 10th grades. Staff members agreed to develop plans for increasing the frequency and intensity of college prep activities, including one college visit a year, for 9th and 10th graders.

Reintroducing advisory groups. Staff members decided to bring back advisory groups, which the school had not had for over a year. They agreed that advisories were critical to address students' social-emotional needs and to support students in setting school performance and college goals.

In addition to the strong evidence we found for teacher learning at the schools served by this intermediary, we found evidence that the professional development model encouraged the development of leaders who can support the ongoing growth of the network. Teachers and administrators said in focus groups that conducting professional development workshops and working closely with intermediary personnel provided opportunities for leadership development. This model thus has a dual benefit: It not only ensures that professional development is aligned with teachers' needs but also increases the flow of institutional knowledge about successful practices across the network of schools. In the focus group of support staff at School 6, the assistant principal emphasized this leadership development:

> I have worked at three [Intermediary C schools].... For each of these schools, I served as the representative from the schools on the [network-wide] professional development committee. It was the first leadership opportunity that I had. It gave me a chance to work with other teachers and to decide what kinds of professional development we would offer and facilitate.

> "All teachers can be part of subcommittees. It impacts your practices to be part of policy decisions, decisions about hiring, curriculum, all kinds of policies. It makes you grow because you're connected to your community. **You're not an island who doesn't know what others are doing**."
> —Teacher, School 5 (focus group)

In a focus group of eight School 5 teachers, one teacher suggested that leadership opportunities contributed to her overall feeling of connection and internal accountability to her professional community (see box). In the professional communities of the two schools where we observed strong evidence for teacher collaboration and learning, we saw an emphasis on building capacity from within by engaging the collective knowledge of teachers through inquiry and shared decision making.

The principal of School 1, an Intermediary A school, indicated in her interview that she saw distributed leadership as an important goal:

> My vision is about distributed leadership. I hope that [the current assistant principal] will take over when I leave. If she is not interested, then I hope someone else from our staff will be interested in taking that leadership role. We have four grade leaders and seven or eight department chairs. Two of our founding teachers actually left to start their own charter schools.

Mention of opportunities for leadership was absent from interview responses of teachers in two schools, Schools 3 and 4, where we found limited evidence of support for teacher learning. Rather, teachers described barriers related to their own lack of authority. At School 3, teachers described feeling expected to "deliver" rather than having authority to shape and refine their own curriculum. A math teacher and a science teacher both described the curriculum as "set." The math teacher attributed this lack of freedom to Regents pressure: "Unfortunately, Regents and the state curriculum is 'king.'" Another teacher, on the other hand, attributed the "set" curriculum to the school administration, implying that he did not have the flexibility to align his curriculum with that of other courses in the same discipline: "The ... curriculum has been set for the year—the grading, criteria, and exams are set. The administration wants us to have similar tests across the department." When another teacher was asked if he works to develop alignment across the curriculum, he responded, "I follow a comprehensive ... syllabus that is closely aligned to the Regents."

We saw similar evidence that School 4 teachers felt they did not have the authority to exert leadership. To explain why the inquiry team at this school was not meeting, a teacher said that, as a colleague/peer teacher, he did not have "the authority to tell participants that they were required to attend these meetings." He added that the principal had not given him this authority.

Taken together, teacher collaboration with a culture of reflection and inquiry, participation in the design and delivery of professional development, and distributed leadership seemed to foster a coherent instructional approach. The schools characterized by these elements also worked across grade levels and disciplines to plan and reflect on the curriculum and their instructional practices, ensuring coordination across grade levels so that classes built on previous classes toward college readiness.

Access to Resources

Though it was outside the scope of our study, responses in teacher follow-up interviews and focus groups made it clear that the degree of access to resources could facilitate or constrain teachers' abilities to design and implement high-quality curriculum in the case-study schools.

> "No one asks me what I need for my classroom. This week they gave me an overhead projector. I don't need a projector…. I have no dictionaries. I put in an order in January and I still don't have any dictionaries." —English teacher, School 4 (focus group)

In a chemistry class we observed at School 6, a teacher had students create videos to gain a conceptual understanding of chemical mixtures (see Snapshot of Effective, Rigorous Instruction on page 65). In the follow-up interview, this teacher described how access to resources allowed her to design creative and engaging curriculum: "I am so glad we have the resources that we do. I was amazed when I started at [this school] and learned of all of the resources our school has. It really helps to make teaching a worthwhile, effective, and fun experience!" During a focus group at this school, teachers discussed the administration's support in providing the materials they needed to create curriculum.

By contrast, in an observation at School 4, an English teacher had created an "experimental" course in which seniors read "the kinds of novels that these upperclassmen and women enjoy" and analyzed characters to whom students could relate. In the follow-up interview, this teacher explained that students had had to purchase their own textbooks for the course. She said, "One of the challenges for these lessons is that they don't all have the text.... We are limited in what we can do and what I can assign." This teacher said that she copes with the lack of books by reading to the students.

Our examples suggest that access to resources influences not only teachers' ability to create effective curriculum but also the degree to which teachers feel supported and valued in their professional communities.

Summary

Data from multiple sources indicate that all of the case-study schools implement, to some extent, the effective instructional practices identified by the research. All of the case-study schools indicated that rigorous instruction was a priority and a prerequisite to preparing students for college. However, some schools seemed to implement effective practices, including academic rigor, to a greater extent than others. Not surprisingly, in classrooms where we observed frequent implementation of effective practices, we also observed students to be engaged in the instruction. The common element in the schools where we saw effective instruction and student engagement was a strong focus on teacher learning.

Our data indicate that teacher learning is fostered by teacher collaboration and the provision of common planning time characterized by certain elements. These elements

include dedicated time and space for formal collaboration that is guided by a professional community of practice—teachers working collaboratively to develop a sequenced and interdisciplinary program of instruction and engaging in continuous reflection on their practice in order to solve problems and improve instruction. The schools with stronger implementation of effective practices also emphasized distributed leadership and teacher involvement in their own learning.

Taken together, these elements seemed to facilitate a more integrated approach to instruction that was aligned both vertically, across grades, and horizontally, across disciplines. This alignment, in turn, enhanced teachers' focus on working toward college readiness. In these schools, intermediaries supported teacher learning by offering high-quality professional development opportunities in which teachers participated in both planning and implementation. The two schools with the strongest support for teacher learning were served by the intermediary that focused on fostering a strong collaborative network, both across and within schools, in which teachers and administrators could share expertise and resources.

6. College Preparation

Getting students "college ready"—prepared to enroll and succeed, without remediation, in a credit-bearing postsecondary institution (Conley, 2007)—is a foremost goal of the Bill & Melinda Gates Foundation and of the intermediaries and schools in our study. Indeed, one intended outcome of the focus on personal and academic support (Chapter 4) and on high-quality instruction (Chapter 5) is to prepare students for post-secondary education.

Recent research has identified several key aspects of college readiness: Students need to have the cognitive strategies, content knowledge, self-management skills, and knowledge about postsecondary education to access and be successful in college (Conley, 2007). Cognitive strategies include those fostered by effective instruction, as discussed in the previous chapter. Additional strategies—"habits of mind" (Conley, 2007) essential to college-level work—are explored below along with self-management skills and knowledge about postsecondary education. The scope of this study did not include the extent to which schools developed content knowledge. However, the impact study conducted by MDRC will measure the impact of the Gates-funded small schools on student achievement in content areas as measured by the Regents exams.

The case-study schools, to a greater or lesser degree, addressed college preparation by embedding college readiness and a college-going culture in virtually every aspect of students' educational experience. We saw the emphasis on college reflected in:

- A school-wide college-going culture
- College access activities
- College readiness activities

> "The primary focus of our school's leadership is to address the issue of getting students ready for college." Teacher, School 1 (interview)

The distinction between college access and college readiness is a theme that emerged from teacher focus groups and interviews. College *access* refers to the activities necessary to get students into college—entrance exams, applications, financial aid, and the like. College *readiness* refers to the skills and abilities students need to succeed once they are enrolled. As a teacher noted in a School 3 focus group, "There's a difference between getting kids into college and getting them college ready. We get them into college, but then when they get to college they need to take extra classes and need extra help."

School-wide College-going Culture

Students served by the case-study schools, most of whom would be the first in their families to attend college, do not see necessarily themselves as being on a college track. For this reason, all of the six case-study schools hammered home, repeatedly and in multiple formats, the message that the school's role was to prepare its students for college.

> "A lot of students haven't even considered that they are on a college track. Repeating it a lot in class and advisory is very important." —Teacher, School 5 (focus group)

The college-going message began with the leadership and then was instilled in staff, students, and parents. Every one of the six principals said in the interview that preparing students for college is integral to the vision and mission of the school. For example:

That's what I tell teachers. Remember our goal is to get students into college. (School 2)

[Our mission is] to provide for the success of our students. Students of today must be able to adjust to the rapidly changing technology and society that we live in. This school will use all the resources available to prepare students for college. (School 4)

In interviews, teachers confirmed the leaders' role in conveying the college message.

> The consistent message from the leadership has been for teachers to focus on college readiness. (School 2)
>
> My principal is always encouraging me to do professional development related to preparing students for college. (School 6)

From the leaders and staff, the college-going message is in turn communicated to the students. Students at all six schools overwhelmingly reported in their focus groups that

teachers had high expectations for them and that the entire school staff expected them to go on to college.

> If you ask the teachers here, how many of your students will go to college, they will say 100 percent, because they believe in us all. (School 5)
>
> Our first day of school we were told, "Hello, class of 2010." This is a preparatory high school for college.... Only be here if you want to go to college, or this isn't the school for you. (School 1)

The college-going message is also conveyed to the parents. In their interviews, principals described the many ways in which they bring the college-going message to parents:

- **Workshops.** "We host structured events for parents—how to save money for college, types of colleges for their kids, etc." (School 5)
- **School Nights.** "We stress back-to-school night as well as incoming-student night with all parents to keep them involved and aware of the college process." (School 3)
- **Website.** "On our website, we provide links for parents that explain what they need to be doing every year to prepare for college." (School 6)
- **Handbook.** "I tell parents: Getting your kids ready to go to college is our mission. In our student and parent handbook, it's clearly stated that our mission is to prepare students for college." (School 2)
- **Newsletter.** "I write a parent and staff weekly newsletter that touches on the college piece, just to be sure that everyone is on the same page." (School 3)
- **EdLine.**[1] "We started using EdLine, where teachers post grades so that parents and students can monitor, and they love it. All of this communication helps get our kids college ready." (School 1)
- **Student Data Displays.**[2] "During parent/student/teacher conferences and especially with seniors, I extensively use student [data displays] that let everyone know exactly where students stand, how many credits they have and how many they need to graduate and go to college." (School 4)

Fig. 6.1. College readiness bulletin board at School 1

The teacher survey shows that teachers also participated in engaging parents in the college message: 44% of all teachers surveyed reported that they discussed college attendance with parents one to four times a year.

Our observations showed that every case-study school made the college-going message visible by posting various kinds of displays in the school building. These ranged from posters announcing Regents and SAT exam schedules and prep

[1] EdLine's grade book and classroom management system is an online tool the school purchased to enable teachers to post assignments, progress reports, and grades so students and parents can access them. See Chapter 4 under Home-School Relationships.

[2] The intermediary provided the student data displays to the schools it supported. Reported data included attendance, credits earned, grades, and Regents passing rates. See Chapter 4 under Use of Data.

Fig. 6.2. College readiness bulletin board at School 4

opportunities to displays of college posters. School 5 had a bulletin board that read "Seniors, have you finished your college essays? Here are some examples from last year's seniors who are now in college." The sample essays were accompanied by the senior photographs of the graduates who wrote them. School 4 displayed the names of students who had completed college applications along with the schools to which they had applied.

Though the case-study schools put a lot of effort and time into cultivating the college-going message, school staff recognized the challenges inherent in instilling the message in students and their families. In focus groups, teachers and support staff at every case-study school acknowledged difficulties including lack of motivation, unrealistic goals, family concerns, and external barriers such as financial or immigration issues.

Staff members noted in focus groups that, for some students, the concept of college going has not been nurtured. As a School 5 teacher said in a focus group, "A lot of students don't come in with mentality that college will follow high school." A teacher at School 1 agreed:

> For many of our students, just mentioning "college"—hearing it from the staff, the administration, and guidance counselor all of the time—is novel. It's an uphill climb. Here, at this school, many students may not hear about college beyond the school walls. So it's a difficult battle.

In three of the case study schools, the staff raised lack of motivation as a barrier to instilling the college-going culture. As one staff focus group participant from School 1 put it, "We can't convince 100% of the students that college is the way to go." A staff member at School 2 said, "The biggest challenge is motivation and a sense of realism. They think they can pull it together at the last minute and don't see how hard that is."

"They post the colleges that you were accepted to. I think that inspires us to push harder." —Student, School 1 (focus group)

In two of the case-study schools, the staff mentioned that some students tend to set unrealistic goals. For example, a teacher said in a School 5 focus group, "They want to be a nurse, but they hate math and science." A teacher at School 2 noted, "They might want to be a basketball player, but they haven't thought about a Plan B."

In three of the case-study schools, staff members mentioned that many of their students would be the first in their families to go to college, so that their families might not be prepared to support the college preparation process. As one teacher said in a School 2 focus group, "The parents don't know what it is to be in college. [An overnight college trip] is the first time [the students] have left New York City." A School 6 staff member said in a focus group, "It is complicated because many of our students provide income and childcare within their families."

Data suggest that students' financial concerns complicate the schools' efforts to support all students to attend college. In four of the case-study schools (1, 2, 4, 5), apprehension about college finances was mentioned in student and staff focus groups. A student at

School 4 summed it up: "I think the hard part is financial." A teacher in a School 5 focus group, noting that every student who passes the Regents with a 65 or higher is guaranteed admission to a CUNY school, said, "Not all who get accepted actually go, often for financial reasons."

> "One of our students was really stressed out because they didn't think they could pay for college, but counselors did help him out." —Support staff, School 1 (focus group)

Further, in schools where students are newly arrived immigrants, teachers and counselors described financial concerns related to students' immigration status. As a support staff member noted in a School 5 focus group, "Immigration status makes it impossible to apply to some schools because they can't get financial aid." A college advisor at School 6 described dealing with undocumented students:

> I ask students their documented status on the survey that I do with all students and then I let them know that they cannot receive federal aid—but I work with them to find other scholarships. Also I explain how the process will be a little different for them.

In focus groups at these schools, teachers and guidance counselors described the added challenge of supporting undocumented students to maintain motivation for the college admissions process given that their immigration status limits their possibilities.

A few references came out in teacher and staff focus groups at two case-study schools about students being "pushed" into college though they were inadequately prepared. As a teacher at School 2 put it, "I think we are pushing the kids through too quickly. ...They are not ready for college just because they pass the Regents with a 65." A teacher at School 5 said in a focus group, "I don't think all kids will go to college—but there is a much better chance that these students' children will." It should be noted, however, that these reservations were minority opinions and not representative of the case-study schools.

College Access Activities

Every case-study school had, to some extent, built college access activities or courses into the regular programming of the school. These activities were designed to prepare students for the complexities of choosing a career and a college as well as for completing college and financial aid applications.

We saw a variety of ways in which the case-study schools prepared students for college access. Advisory groups were one of the key means of motivating and assisting students with college and financial aid application processes. Teachers described a variety of other ways in which they worked with students to facilitate college access. The schools also offered programs and activities such as career development activities, outside speakers, college trips, assistance with college and financial aid applications, and SAT preparation.

Advisory Groups

Advisory groups, in addition to providing personalized academic support as described in Chapter 4, were a key structure for preparing students for college access in all case-study schools except School 6, which did not have advisories at the time of this study. A teacher from School 2 noted in a focus group: "In advisory we talk all the time about setting goals, what careers are you interested in, what steps you need to take and when, to prepare for college." Advisories were where many schools assisted students with exploring their interests and researching colleges and careers. These groups also helped with completing college applications, particularly the essays, and with financial aid forms and scholarship searches.

College Access Activities in Advisory Groups

At School 1, students in each grade met in their advisory groups once a week. The same groups met with the same advisor for all four years. With the help of the guidance counselor, each teacher planned an advisory curriculum with a college readiness focus. A guidance counselor described in a focus group how the college preparation focus was adapted to each grade. Students in the 9th grade were oriented to the school's mission, particularly its focus on college preparation. They identified personal goals and discussed high school graduation requirements. To increase students' interest in and awareness of schools, college trips began in the 9th or 10th grade. In the 11th grade, the focus was on getting students ready for the college application process, which became the major focus in the senior year, when students worked on selecting colleges, writing essays, and other college access activities.

Teachers and staff in focus groups at Schools 1, 2, and 5 said that advisories focused on different aspects of college access in different grades. The structure of School 5's advisories is described in Chapter 4; advisories at School 1 are described in the box at left. In these two schools, advisory teachers worked in conjunction with the college counselor on the advisory curriculum. A teacher at School 5 noted how crucial this collaboration was: "There is a joint effort between the college advisor and the advisory teachers. I don't think that I would be able to do it by myself, and [the college advisor] couldn't do it on her own."

Advisory structures seemed to facilitate teachers' involvement in college access activities. At Schools 1, 2, and 5, teachers said in focus groups that advisories afforded time and space to work closely with students on all aspects of the college admissions process. For instance, a teacher in a School 1 focus group described how advisory provided time for work and reflection:

> I have an advisory where I help my students with the college application process. It allows time to talk about the college experience like the social and academic aspects. I have shared my own personal college experience with them, which they appreciated.

Other College Access Activities

In the case-study schools, most teachers understood that their main goal was to prepare students for college. On the principal survey, we asked what proportion of teachers viewed college readiness among their highest priorities, with the choices being less than 25%, 25% to 50%, 51 to 75%, or more than 75%. Principals at Schools 2 and 4 responded that 51% to 75% of teachers had this priority. Principals at the four other schools said that more than 75% of their teachers made college readiness a high priority.

Teacher survey data demonstrate that teachers at all six case-study schools frequently engaged in college access activities with students. Close to 50% of the teachers surveyed reported discussing the value of attending college with their students one to four times a week, with 14% reporting having these conversations on a daily basis. We did not see large differences among the schools on these items. The frequency with which teachers reported that they engaged in this and other college access activities is outlined in Table 6.1.

Table 6.1. Teacher College Access Activities

Frequency with which teachers reported they took part in college access activities

	Never	1–8 times a year	1–3 times a month	Weekly/ Daily
Discuss the value of attending college	1%	12%	25%	63%
Advise students about selecting a college	4%	25%	41%	30%
Advise students about careers	14%	31%	35%	21%
Help students prepare college applications	18%	43%	27%	12%
Help students get information about college costs, financial aid, scholarships, etc.	25%	42%	23%	11%
Discuss college attendance with parents	38%	57%	3%	2%
Participate in college nights, college visits, etc.	43%	53%	2%	1%

Source: Teacher survey (n = 139–143)

Teachers affirmed in interviews that they talked with students about college and helped them with college access activities. For instance, a School 1 teacher said, "I talk with students about their future plans all the time. I also help them write their college essays, and I have written recommendation letters for my students." Another School 1 teacher put it differently: "I start by always saying, 'When you are in college....' I also have talked with them about my college experiences."

Career Awareness and College Access Programs

The case-study schools offered a variety of types of assistance for career awareness and college access. All case-study schools, according to the principal survey and interviews, facilitated college visits and invited guest speakers to share their college and career experiences; five of the six offered students workplace visits. All six principals also said that the school had a counselor or advisor focused exclusively on college admission.[3]

A beginning step toward college access at case-study schools was career awareness, starting as early as 9th grade. Career awareness activities included matching student interests to possible careers, understanding the requirements of those careers, and

[3] In one case, a focus group comment revealed that the college counselor had other duties as well, as noted below.

finding the colleges and majors that could best help students meet those requirements. Most case study schools integrated career development into advisories; the one with no advisory (School 6) offered a career development class that also covered the college application process. The benefit of this class was apparent in an end-of-year portfolio presentation we observed. Reflecting on what he had gained from the class, the student reported:

> I learned how to apply to college, research about what college you exactly want. Also, a project I did about my career is called Career Tree. This project is about your future job. I had to find the tasks and responsibility, skills and knowledge for the career.... It helped me to see myself in college and to think about careers.

All of the schools, according to the principal survey, reinforced the college/career message by having guest speakers share their experiences and serve as role models. Teachers also said in focus groups and interviews that outside speakers could play an important role both in motivating students to attend college and in giving students realistic information about what to expect in college. For example, a teacher from School 6 said in a focus group that a student college visit included "a speaker who spoke about how important every piece of their performance counts towards admissions to college.... It really helps to hear it from someone at college and not just from their teachers."

Student Role Models

In a School 2 focus group, one teacher said that he had 12th graders talk to the 9th grade class about the college application process. "We really need to show the 9th graders real-life examples [of students going to college]. If they actually see role models and that there is a life outside of [this borough], it can inspire them to do the same."

All of the case-study schools, according to the principal survey, also took students on college visits. School 1 took students on overnight trips to colleges in the Washington, DC, and Boston areas, according to respondents in a teacher focus group. Students prepared for the trip by researching the colleges and investigating the majors and degrees offered.

In addition, all of the case-study schools provided assistance to students with college applications, according to the principal survey. Schools 1 and 5 offered such assistance as part of the advisory program. Schools 2, 4, and 6 offered a separate class on college applications. At School 3, an outside partner paired with the school in accordance with the intermediary's emphasis on community partnerships held college application drop-in workshops for seniors.

Although we did not explicitly ask about this aspect of college access, teachers in Schools 3 and 5 noted in interviews that they included college-application essay writing as part of the 11th or 12th grade English curriculum. All but one of the principals surveyed (School 2) reported that the school offered SAT preparation after school.

Integrated Approach

Though all of the case-study schools created college access activities, we saw differences in how these programs were executed and perceived by the staff. In Schools 3 and 4, we saw what we call a "compartmentalized" approach to college access, while in the other

four schools we saw what we describe as an "integrated" approach. These two approaches led to differences in the extent to which teachers and staff took responsibility for supporting students in the college admissions process.

> "It's a whole school effort instead of it being a specific team. Each teacher has adopted a struggling student…. I help [the 11–12th grade guidance counselor] with the application process since I used to be an admissions counselor…. I have seen students go to teachers' classrooms and ask their experiences in college…. We don't have any boundaries here; everyone contributes to the child."—Guidance counselor, School 2 (focus group)

In Schools 3 and 4, staff reported in interviews and focus groups that college access preparation was seen as the responsibility primarily of guidance counselors and outside school partners. Teachers described the work of supporting students in the college admissions process as largely external to their roles. At School 4, one teacher said in a focus group, "We have a chain of command around here. Our guidance counselors work with the students, and I write recommendations." All of teachers interviewed at this school reported that they did not collaborate with counselors or other teachers around college access. Similarly, when asked in an interview how School 3 coordinates college preparation activities, one teacher described the work as "disjointed." When asked how the school prepares students for college, he said, "I don't know. Guidance comes in and talks about credits students need. They could do a lot more to integrate it." Another teacher at this school noted that the school partners "do the college help after school." When asked in interviews how they personally prepare students for college, teachers mentioned writing recommendations, encouraging the development of literacy skills, talking to students about their own college experiences, and motivating students to think about career and college goals. They generally did not describe being involved in the broader work of supporting students through the college admissions process.

Architecture for College Access

In a focus group, the college advisor at School 5 described her work to develop an integrated plan for meeting a "9–12 schedule of school-wide goals" around college access in collaboration with teachers and administration. In weekly meetings, advisory teachers and the college advisor worked to develop a 9–12 advisory curriculum. The college advisor added, "In between all of that, we work on developing longer-term life goals." She also described the way in which college preparation is coordinated among classroom teachers, counselors, and the college advisor. For example, "The 11th grade curriculum has a creative non-fiction unit where students write a piece that often turns into their college essay. They revise it during advisory. When they need to send it out, I work with them one-on-one on rewriting and rewriting and rewriting." She said that community mentors also worked with individual students on their career goals and college essays.

By contrast, in the four other schools, college access was a school-wide effort. When asked in an interview who in the school is responsible for college access, one teacher at School 6 replied, "We are all involved." In these four schools, teachers described their responsibilities not only for developing academic college readiness skills but also for helping students define their career goals and interests, choose colleges, and complete college applications and financial aid forms. In a focus group, a School 6 teacher described "staying until 7:30 at night helping students with college essays." Some teachers also said that they communicated with parents about college.

While advisory groups provided essential time and space for college access activities, teachers in the four schools with an integrated approach also described working in meetings and professional development sessions to develop plans and strategies for college preparation (see box). The principal at School 2 described professional

development sessions in which teachers worked with the intermediary's instructional coach to redesign the advisory program to emphasize college access. Teachers at School 6 said in follow-up interviews that collaborative reflection about college access activities took place in instructional team meetings. One noted, "Preparing students for college is the main goal of my [instructional] team, which includes the guidance counselor."

One challenge that could arise in case-study schools using either the compartmentalized or the integrated approach was the issue of resources. For instance, in one of the schools with an integrated approach (School 2), the college advisor was also the guidance counselor responsible for 200 11th and 12th graders. This counselor said in a focus group, "Another challenge is the fact that I have this office so far off, and I have no phone or computer, which makes it really hard for me to conduct my counselor duties." In their focus group, students at this school complained bitterly about the lack of resources to support them in the college admissions process. "You have to fight for counselor time," said one. Another added, "My FAFSA [financial aid] form was full of mistakes because my counselor was not able to meet with me."

By contrast, School 1 had a full-time college advisor who had dedicated office space and resources such as books and computers on which students could work on their college applications. A guidance counselor said in a focus group:

> For our second year in a row, we have a full-time college office with a full time college advisor, in addition to two guidance counselors. The college advisor does her own independent mailings and has direct contact with parents. One of my advisees was in the office with her working on her free application for federal student aid (FASFA) application, and I thought that was great.

While all of the case-study schools had guidance counselors who assisted students with the college application process, not all had counselors that focused *exclusively* on college. Being able to devote resources exclusively to college access can obviously make a big difference in students' ability to navigate the college application process.

College Readiness Activities

When asked what college readiness means, teachers in the case-study schools described cognitive and self-management strategies that are necessary for students to learn college-level material and complete college academic requirements. Rigorous, high-quality instruction, as described in the previous chapter, is a key factor in developing college-level cognitive skills. In interviews and focus groups, teachers also described practices aligned with Conley's (2007) college readiness framework. Conley outlines three key patterns associated with college readiness: habits of mind, academic knowledge and skills, and academic behaviors.

Conley's (2007) "habits of mind" are patterns of intellectual behavior that lead to the development of cognitive strategies and capabilities necessary for college work. We saw evidence, exemplified in specific illustrations below, that teachers fostered the following habits of mind in the case-study schools:

- **Reasoning**. A School 1 teacher said in an interview, "In science, [students] have been able to develop hypothesis, reasoning skills, gathering evidence, and even describe why they made an error and how they corrected it."
- **Argumentation and proof.** A teacher at School 3 emphasized in her interview that students needed to make claims and state their reasons for the claim. She said she tries to instill in students the idea that opinion means nothing without reasons and being accountable.
- **Analysis.** A School 5 teacher explained in a follow-up interview, "This unit encourages students to take a critical stance on mass media.... It also supports the development of analytical skills and oral presentation skills that are necessary for success in college."

Another piece of Conley's (2007) college readiness framework is academic knowledge and skills. One key skill for college success is writing, since it is one means by which students are evaluated in most college courses. Particularly important are expository, descriptive, and persuasive writing. College writing requires students to present arguments clearly and substantiate each point (Conley, 2007). In an interview, an English teacher from School 4 described fostering college-level writing skills: "Essay writing and thesis statements are key. Critical thinking, discussion of films, analysis, critique—and practice doing all of these things—are very important."

The academic knowledge and skills necessary to succeed in math include a thorough understanding of the basics concepts, principles, and techniques of math—not just a knowledge of formulas. In science courses, students need to learn not only the scientific method but also what it means to think like a scientist (Conley, 2007). In interviews and focus groups, teachers gave examples of the ways in which they encouraged college-level reasoning in math and science. For example, one School 4 teacher said in an interview:

> I introduce some of the topics in astronomy which students may encounter in college. I also stress critical thinking skills in class because this prepares them to think. Rational thinking is what students need to become college ready.

Finally, Conley's (2007) college readiness framework includes academic behaviors: student behaviors that reflect self-awareness, self-monitoring, and self-control of processes and behaviors necessary for academic success. In addition to the metacognitive skills described in the previous chapter, these behaviors include such study skills as note taking and time management, as well as the ability to direct and monitor one's own learning. In interviews, teachers gave examples of how they encourage such college readiness skills:

> This lesson gives students an opportunity to develop note taking and summarizing skills. (School 5)
>
> One big thing we are focusing on is trying to teach our students how to better manage their time and meet deadlines. (School 6)
>
> We follow a syllabus so in that way they are getting used to working as you work in college. Also, I guide them, but in this class they have to take a lot of responsibility for learning on their own. (School 1)

When asked in an open-ended question in their follow-up interviews how the observed lesson prepared students for college, 46 of the 48 teachers noted that the lesson contributed to students' readiness by developing students' habits of mind, building academic skills and knowledge, or building needed academic behaviors, as shown in Table 6.2. Most teachers connected their lesson to the academic skills and knowledge students needed to be successful, particularly in writing and reading comprehension. About one-third indicated that the observed lesson helped build students' academic behaviors such as study skills or self-monitoring for learning, and a similar number noted that the lesson helped build students' habits of mind such as critical thinking and analysis. Eleven teachers mentioned more than one of these areas. One teacher noted that the observed lesson was related to college readiness in that it helped students achieve the credits they needed to graduate. One observed class was in career development, so it focused on identifying students' career interests and the training and education required to pursue those interests.

Table 6.2. College Readiness Components in Observed Classrooms

Number of teachers reporting that observed lesson addressed college readiness components

	Intermediary A		Intermediary B		Intermediary C		
	Sch 1	Sch 2	Sch 3	Sch 4	Sch 5	Sch 6	**Total**
Habits of mind	3	3	2	3	3	0	**14**
Academic skills and knowledge	5	5	5	5	5	5	**30**
Academic behaviors	3	3	2	2	2	3	**15**

Source: Teacher interviews (n= 48)

Note: 11 teachers reported that their lesson addressed more than one college readiness component.

In addition to infusing college readiness throughout the curriculum, most case-study schools offered college-prep or college-level courses. Schools 1, 3, and 4 offered Advanced Placement or International Baccalaureate courses. Two other schools, 2 and 6, offered 11th graders with an average of 85% or better the opportunity to take courses at a local community college.

Although teachers worked vigorously to implement college readiness practices, teachers and staff pointed out their challenges in preparing students to be college ready. For one thing, they noted that some students enter high school seriously under-skilled. As one teacher put it in a School 6 focus group: "We haven't mastered the really struggling students who are at a reading at a 6th grade level. We don't have an intensive reading program to bring them up to where they need to be.... We just don't have the staff for it." Teachers and staff at Schools 1 and 3 mentioned similar concerns in focus groups.

The task of preparing for college is even more daunting for immigrant students who are learning English while adjusting to a new country and a new culture, as was pointed out by a counselor in a support staff focus group in School 5, "[Our] kids are in this country four years or less —and learning English. In the time they have with us, they need to write and speak academic English.... It takes a lot more time for a lot of kids."

Another challenge raised by teachers and support staff in three of the schools (Schools 1, 2, and 6) was resistance from students—often from the neediest ones—to participate in academic support services, as noted in the earlier section on academic support.

The case-study schools share these and similar challenges with virtually all urban public high schools, particularly in cities with large immigrant populations. The Bill & Melinda Gates Foundation small-schools initiative was designed to address these challenges and to assist schools in overcoming them. That schools could be only partially successful in doing so is hardly surprising in light of the overwhelming needs of students, their families, and their communities.

Summary

Preparing students to be successful in college is a primary focus for all of the case-study schools and the intermediary organizations with which they are associated. All of the case-study schools conveyed a college-going culture to students and parents through multiple methods, and students indicated that they got the message. All of the case-study schools offered students college access activities (such as preparing for and taking entrance exams and completing college and financial aid applications) and attended to college readiness skills (the skills and abilities required to do college-level work) in their classrooms to some extent.

Nonetheless, the case-study data suggest that schools approached college preparation differently. Specifically, some schools used an integrated approach while others used a compartmentalized approach. In an integrated approach, the work of preparing students for college was distributed, with all staff taking responsibility for the process in a coordinated, school-wide effort. Further, college preparation was an integral part of curricular and instructional planning rather than a distinct set of activities. Attention was paid to the various aspects of preparation needed at each grade level, building towards college readiness by the end of high school.

By contrast, in schools with a compartmentalized approach, specific staff members were responsible for specific components of college preparation, with little or no coordination across the components of college preparation or connection with the instructional program. In these schools, staff spoke of clearly distinct roles and did not see themselves as responsible for the college preparatory process as a whole.

The findings of this case study suggests that some schools were more successful than others in providing personal and academic support for students, delivering effective instruction, and promoting college preparedness. The support of the intermediary organizations seemed to be a key factor in the relative success of these schools. The final chapter of this report suggests conclusions, based on these findings, that may help to inform future small schools initiatives.

7. Conclusions and Questions for Further Study

A plethora of educational research demonstrates that youth who successfully achieve the goal of receiving a high school diploma and attending college are more likely than those who do not to achieve a productive adulthood. For example, college graduates are earn three times more income, on average, than high school dropouts and are one-third as likely to be unemployed (Alliance for Excellent Education, 2009). To respond to the need for greater high school success, funders and administrators have put their resources and energy into the proposition that small, personalized high schools are better able to meet the challenge of educating urban youth in today's world.

Data from the case-study schools reveal a detailed portrait of how small high schools work to create personalized academic and social-emotional supports, provide effective instruction, and, ultimately, prepare students to go to and be successful in college. These data also describe how schools worked with their intermediaries and how they perceived the intermediaries' support. Data from this case study are descriptive in nature, but they suggest important findings that can guide similar efforts as well as raising questions worthy of additional study.

Conclusions

- Consistent, structured programs facilitate student support.
- An integrated approach to college preparation fosters a strong college-going culture.
- A strong focus on teacher learning and collaboration supports effective instructional practices.

Factors Associated with Small-School Success

All six case-study schools faced at least some of the challenges typical of urban public high schools in low-income neighborhoods—though some dealt with more, and more serious, versions of these challenges than others. All six benefitted from funding from the Bill & Melinda Gates Foundation, the support of their intermediary organizations, and additional support from community partners. All of the case-study schools implemented best practices to some degree. Yet some of the case-study schools seemed to be more successful than the others in personalizing their environments, providing effective and rigorous instruction, and providing support for college attendance. While one might have expected to see the starkest differences in implementation of best practices between the schools identified as successful implementers and the "turnaround" schools, that was not the case. Larger differences appeared among schools served by different intermediaries.

The case-study data suggest factors that may have contributed to schools' relative success. The factors that were associated in our data with personalization and academic support, effective instruction, and college preparation are supported by previous research in these areas and should be considered in efforts to design small, effective urban high schools.

Consistent, structured programs facilitate student support.

Much of the focus in developing small schools has been on creating personalized environments in which all students receive needed supports and no student falls through the cracks. Certain kinds of organizational features in the case-study schools seemed to facilitate the development of a strong system of support for students' academic and social-emotional needs. Although many small high schools use advisory groups and instructional teams to foster personalization, the ways in which schools implement these organizational features and integrate them into a coordinated effort can make a vast difference in their effectiveness. The mere existence of such features and programs is not enough to create an effective and engaging learning environment.

In most case-study schools, advisory groups and instructional teams provided a web of support. However, some of these organizational features were less comprehensive, and therefore less effective in reaching all students, than others. What seemed to differentiate the stronger organizational features were consistency and structure. Specifically, the stronger features were:

- Applied consistently to the entire student body, not only selected grades
- Organized, with administrator support, to meet frequently and regularly

- Effective in using data—both qualitative and quantitative—in assessing student needs and informing decisions
- Guided by structured protocols and procedures for identifying and addressing students' needs and ensuring that no student was overlooked

An integrated approach to college preparation fosters a strong college-going culture.

A clear emphasis on both college access—the many aspects of the application process—and college readiness—developing the behaviors, knowledge, and skills needed to succeed in college—was present in all of the case-study schools. Schools conveyed the college message repeatedly and in multiple formats. However, we saw some evidence that schools with an integrated approach to college preparation, and particularly to college access activities, more effectively facilitated a school-wide college-going culture.

In schools were we saw an integrated approach to services, college access was a school-wide effort that included coordination across staff. Teachers and staff members expressed a holistic, team-based approach to college readiness and a sense of ownership of the task of preparing students for college. Consistent, structured organizational features also seemed particularly effective in facilitating teachers' involvement in college access activities. Advisory groups, in most of the schools, engaged students and teachers together in college access activities. Advisories gave teachers the time and space to work closely with students on all aspects of the college admissions process, from career exploration to researching colleges to completing college and financial aid applications.

In contrast, staff in schools that used a compartmentalized approach to college access tended to see different staff as responsible for different components of college access. For example, guidance counselors were responsible for college applications, while teachers took responsibility primarily for letters of recommendation. When outside partners provided a stand-alone set of college-access services, we saw less coordination across the school staff than in schools that implemented organizational features to address college preparation at each grade level.

A strong focus on teacher learning and collaboration supports effective instructional practices.

Our case-study data, focusing as they do on specific practices that research has linked to student achievement, cannot fully capture the complex phenomenon that is effective teaching. No single practice or even set of practices defines the instruction that results in student learning. Rather, what makes a particular lesson or set of lessons effective is a complex set of behaviors and interactions.

Nonetheless, our classroom and meeting observations, along with interview and focus group data, trace a clear pattern. In schools where we saw the most frequent implementation of effective instructional practices, including indicators of rigorous instruction, we also saw strong support for teacher learning. A strong focus on teacher learning and collaboration was characterized by specific features:

- Dedicated time and space for formal teacher collaboration
- A strong culture of reflection and inquiry that guided such collaboration
- Teacher participation in the design and implementation of professional development
- An emphasis on distributed leadership

These factors apparently build capacity for effective instruction. The common thread among them is that teachers are involved in their own learning. They draw on their expertise and experience to improve not only their own knowledge and skills but also those of their colleagues. The collegial and cooperative nature of this learning, the research suggests, can ultimately improve the likelihood of sustainability. Further, collaboration fosters a coherent instructional approach; coordination across grade levels and disciplines helps to ensure that instruction builds toward college readiness.

In the case-study schools where these features were in place, the intermediary played a large role in supporting teachers. Teachers pointed to the intermediary's professional development as an influence on their teaching practice. They spoke of the benefit of sharing resources and collaborating with teachers across a network as well as within their own schools. Often, these opportunities were made possible by the intermediary.

Questions for Further Research

While this and the other inter-related studies have provided an enormous amount of information about the effort of the Bill & Melinda Gates Foundation to develop small schools in New York City, they have also raised important questions whose further study would be valuable to the field and would contribute to the sustainability of success at such schools.

Specifically, additional study could examine the impact of provision of consistent, structured student support programs on student academic and social-emotional outcomes. Of value would be deeper inquiry on precisely how structures and organizational features support students, which structures or combination of organizational features best support students' social-emotional and academic needs, and under what circumstances they do so.

Further study is also warranted on the outcomes and impacts of teachers' efforts to instill college readiness skills—particularly habits of mind and academic behaviors—in students. A study of this nature could explore the best instructional strategies for teaching habits of mind and academic behaviors and then measure the extent to which students internalize those skills and behaviors and apply them in college.

In the area of teacher learning and collaboration, further exploration is warranted on the ways in which collaborative structures guided by reflection and inquiry become part of a school's organizational routine. Further study could reveal more about how a school instills a culture of inquiry and reflection in its work and what conditions foster its widespread use. The connection between strong support for teacher learning and implementation of rigorous instruction should be explored thoroughly to identify whether and how such support improves the quality of instruction, as suggested in this report. Of particular interest would be determining the impact of strong support for teacher learning and collaboration on implementation of rigorous instructional practices and improved student outcomes.

Another area that is beyond the scope of our study but worthy of further pursuit is related to distributed leadership. Quantitative and qualitative studies on how distributed leadership is fostered, under what circumstances it is most effective, and how it affects teaching and learning would provide valuable information to the field.

Finally, this work points to the need for further study about how teachers effectively address a challenge that many teachers in our study pointed out: instilling rigor in their instruction despite the lack of foundational skills some students bring to high school, while also preparing students to pass state- and city-mandated tests. Such a study might explore specific strategies that are effective in balancing development of foundational skills with development of higher order thinking skills.

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Appendix A
All Instruments Used in Case Study of Gates Small High Schools

Classroom Observation Instrument

SY 2008–09

School: Date:
Observer: Time of day:
Grade: Length of observation:
Teacher's Name: Subject being taught:

Begin the observation at the beginning of a lesson. Look at these questions and take notes as you observe. Later you will use your notes to answer these questions. Give specific examples of all of the constructs of this evaluation and use direct quotes where possible.

A. School/Classroom Environment

School Environment

1. How are students greeted into the school?
2. What security measures are apparent: Guards, metal detectors, scanners?
3. Describe student to student interactions/teacher to student interactions in the hallways (e.g. was it cordial, respectful, etc).
4. Are there displays of student work in the hallways?

Classroom Environment

5. Are there displays of student work in the classrooms?
6. Describe content on hall bulletin boards.
    a. Are there bulletin boards about where to go for personal support?
    b. Academic support?
    c. College information or other postsecondary pathways (e.g. technical training, apprenticeships)?
7. Describe how the classroom space is organized with equipment and furniture. Describe what was on the walls and/or boards. (e.g., educational messages, behavioral messages, students' work, colorful displays, seasonal exhibits)
8. Did the instructional materials (e.g. texts, technology, manipulatives) look plentiful, attractive, age appropriate? (Give examples)
9. Are there visible supports for students, such as important vocabulary words or definitions of key concepts?
10. How many students were present in the classroom where the observation is taking place? How many were Males? Females?
11. If adults other than the teacher were in the classroom, describe their role(s).

B. Preparation for Instruction

1. How did the students enter and settle into the classroom? (e.g., proceeding to seats, noise level, attention to written/oral instructions).
2. What pre-instruction actions, routine tasks, did the teacher perform?

C. Delivery of Instruction

1. Did the teacher convey the goal/purpose of the lesson or activities to the students? If so, what was it? (If you gleaned it yourself, say that.)
2. Was the purpose clear to the students? How do you know? Use the rubric to respond and then explain.

Expectations for learning

Unsatisfactory	Teacher's purpose in a lesson or unit is unclear to students.
Basic	Teacher attempts to explain the instructional purpose, with limited success.
Proficient	Teacher's purpose for the lesson or unit is clear, including where it is situated within broader learning.

Distinguished	Teacher makes the purpose of the lesson or unit clear, including where it is situated within broader learning, linking that purpose to student interests.

Explain:

3. Did the teacher give clear, accurate instructions about the activities that would take place? Use the rubrics to respond to #3. Then give an example.

Directions and procedures

Unsatisfactory	Teacher's directions and procedures are confusing to students.
Basic	Teacher's directions and procedures are clarified after initial student confusion.
Proficient	Teacher's directions and procedures are clear to students.
Distinguished	Teacher's directions and procedures are clear to students and anticipate possible student misunderstanding.

Examples:

4. Were the students ever given a choice about what they could do--was any creativity allowed? If yes, give examples.
5. Was any type of technology or laboratory equipment used during the lesson? Please describe the equipment, and how it was used.
6. Were any manipulative or hands-on materials used during the lesson? Please describe the manipulatives and how they were used.
7. Was there any assessment of student's progress during the lesson by the teacher, formal or informal? If so, what kind, how was it done and did it include feedback to the students?
8. How and to what extent did the teacher model ways students should act or think i.e., gave an oral description of the complex thinking and analysis that could lead to a certain conclusion then mentored and coached students as they learned similar skills.
9. How and to what extent did the teacher guide the students to self-monitor their own learning (metacognition). For example, was there conversation about what an individual needs to do in order to learn, how students should manage their learning tasks or techniques for monitoring their understanding and initiating corrective action when they have not grasped key ideas? Give examples.
10. Did the teacher/lesson require academic rigor rather than facts and formulas (higher order thinking)? Use the rubric below and then explain your answer.

0	There may be informative presentation of facts, figures, formulas or information, but there is no organizing, interpreting, applying prior knowledge or making judgments.
1	The lesson requires occasional probing for opinions or using formulas to solve problems, but no deeper thinking or analysis is required or encouraged.
2	The teacher/lesson frequently requires students to apply information to new contexts, make judgments and explain their reasoning but most dialogue is directed through the teacher.
3	Students are encouraged to work together with the lesson material in ways that demonstrate synthesizing, hypothesizing, explaining, drawing conclusions, making models or producing new meaning and understanding. The teacher's role is supporting and facilitating.

Example:

11. How and to what extent did the teacher show consideration of students' individual abilities (differentiated instruction)? Give examples.

12. Describe any significant aspects of these classroom interactions during the lesson
    - Tone
    - Behavioral events
    - How inappropriate behavior was handled

- Language used to praise, reinforce, support
- Teacher's approach to maintaining student's engagement (e.g., positive reinforcement, material incentives, tone of voice).

13. Teacher used good questioning techniques. Use the rubric to respond. Then give examples.

Quality of questions

Unsatisfactory	Teacher's questions are virtually all of poor quality, with low cognitive challenge and single correct responses, and they are asked in rapid succession.
Basic	Teacher's questions are a combination of low and high quality, posed in rapid succession. Only some invite a thoughtful response.
Proficient	Most of the teacher's questions are of high quality. Adequate time is provided for students to respond.
Distinguished	Teacher's questions are of uniformly high quality (e.g. promote thinking, encourage students to make connections with other concepts or events and to arrive at new understandings of complex material), with adequate time for students to respond. Students formulate many questions.

Example:

14. Discussions were student-centered. Use the rubric to respond. Then give an example.

Discussion Techniques

Unsatisfactory	Interaction between teacher and students is predominantly recitation style, with the teacher mediating all questions and answers.
Basic	Teacher makes some attempt to engage students in genuine discussion rather than recitation, with uneven results.
Proficient	Teacher creates a genuine discussion among students, stepping aside when appropriate.
Distinguished	Students assume considerable responsibility for the success of the discussion, initiating topics and making unsolicited contributions.

Example:

15. In discussions, did the students build on each other's ideas? If so, give examples.

16. How well distributed was student participation. Use the rubric to respond. Then give an example.

Student participation

Unsatisfactory	A few students dominate the discussion.
Basic	Teacher attempts to engage all students in the discussion, but with only limited success.
Proficient	Teacher successfully engages all students in the discussion.
Distinguished	Students themselves ensure that all voices are heard in the discussion.

Example:

17. To what extent was accountable talk encouraged or required i.e., students backed up answers with evidence and reasoning; they put forth knowledge that was accurate and relevant to the issue that was under discussion?
18. To what extent and how did the teacher make the relationships between the lesson and the students' future life clear (e.g., mentioning college, postsecondary training, future employment or citizenship)?

D. Content of Instruction

1. In a few sentences describe what the lesson was about and how the content was delivered. Describe the students' reactions to the lesson and activities.
2. Use this rubric to tell about the teacher's explanation of the content. Then, give an example.

Explanations of content

Unsatisfactory	Teacher's explanation of the content is unclear or confusing or uses inappropriate language.
Basic	Teacher's explanation of the content is uneven; some is done skillfully, but other portions are difficult to follow.

Proficient	Teacher's explanation of content is appropriate and connects with students' knowledge and experience.
Distinguished	Teacher's explanation of content is imaginative and connects with students' knowledge and experience. Students contribute to explaining concepts to their peers.

Example:

3. How much, if any, of the class was devoted to completing homework assignments (e.g., students working independently for more than just example/practice items)?

4. In your opinion, what aspects of the lesson were the most effective? Least effective? Why?

For each of the dimensions below, indicate the rating that most accurately describes the observed lesson. Use the rating guide provided for each dimension. Provide examples that support your rating.

5. Connection with students' out-of-school experience: Students make connections with substantive knowledge and either public problems or personal experiences.

0	Lesson topic and activities have no clear connections to real word problems or students' out-of-school-experiences.
1	The lesson topic and activities could be connected to real-world problems or students' lives, but there was no explicit connection made by the teacher or students.
2	There were explicit connections made between lesson material and real-world problems or students' own lives.

Provide examples that support your rating:

6. *Teacher Support for Student Achievement: the extent to which the classroom is characterized by an atmosphere of mutual respect and support by the teacher.*

0	The teacher shows a lack of support for students. Action/comments by the teacher are sarcastic, disrespectful or 'put-downs'.
1	The teacher shows no support for students –communication and behavior are neutral, no negative or positive communication/behavior is observed.
2	Teacher support is mixed. Both positive and negative behavior and comments are observed.
3	Teacher support is somewhat positive. There are some displays of positive affect by the teacher, positive communications with students, and some indication that the teacher and students enjoy a supportive relationship.
4	Teacher support for students is distinguished. There are many indications that the teacher and students enjoy a supportive relationship, frequent displays of positive affect by the teacher, and frequent positive communications. Teacher and students consistently demonstrate respect for one another. The teacher solicits and welcomes contributions from all students.

Provide examples that support your rating:

7. Student on-task behavior

0	Most students appear to be inattentive. They may look as though they are bored and preoccupied with thoughts and activities unrelated to the task at hand. One or more students disrupt most of their classmates.
1	Most students appear to be occasionally on-task. For those who are on-task, however, they seem to be rather lethargic and/or not trying very hard.
2	Most students appear to be on-task most of the time, although there may be occasional lapses in concentration. A few students are occasionally off-task.
3	All but one or two student(s) are deeply engaged in the lesson (paying attention, clearly interested in learning the material, concentrating) for all but a few short instances of the lesson.

Provide examples that support your rating:

8. Student grouping

Indicate the amount of the time students participated in classroom activities in each of the following ways (please check).

	None of the time	1%-25% of the time	26-50% of the time	51-75% of the time	More than 76% of the time
Individually					
Small groups (2 or more)					
Whole class – teacher-led discussion					
Whole class-teacher lecture					

E. Summary Comments (use this space to comment on other important aspects of this observation not addressed above).

Follow-up Teacher Interview

(after classroom observation)

About the Observed Lesson

1. How did this lesson fit in with your curriculum and unit? (Probe: was the learning scaffolded in previous lessons?)

2. Do you coordinate curriculum across grade levels? If so, how? Do teachers have cross-grade planning meetings or other ways of coordinating curriculum?

3. What were your main goals for the lesson? What did you want students to learn or achieve?

4. Did you find that you differentiated instruction for students during this lesson? If so, how?

5. How will you know whether students learned what you intended?

6. Is this lesson related to any professional development you participated in –either in content or pedagogy? If so, was the professional development offered or sponsored by the intermediary (ISA, Internationals, New Visions?)

7. In what ways have you worked with the intermediary, if at all?

8. How does this lesson fit into the larger picture of preparing students to be college-ready?

9. What do you do (personally) with your students to get them ready for college?

10. Who do you collaborate with in doing this?

11. How does the school's leadership address the issue of getting students college-ready?

12. Is there anything else that you would like me to know about this lesson?

Teacher/Staff Meeting Protocol

Date: School: Time: Length: Observer:

1. Type of meeting:

_ Professional Development

_ General Staff Meeting _ Grade level meeting: Grade _____

__Department or subject-area meeting: Department/subject_____

_ Team meeting: Team _____ _ Other: (Specify) _____

2. Meeting Topic/Agenda: _____

3. Number of Attendees:

__ Teachers ___Other staff: (Specify) _____ ___ Administrators

4. Who called the meeting? Who ran/facilitated the meeting? Was it a regularly scheduled meeting?

5. Describe the focus and purpose of this meeting:

    a. How was the focus and purpose communicated? Was there a written agenda? Were there other materials distributed? Was there an outside speaker? Was the focus of the meeting linked to a larger organization/academic mission or purpose?

6. Describe the interactions of the meeting participants. Were participants collegial? Did you observe positive or negative communication? Did you observe participants collaborating or solving problems together as a group?

7. At this meeting did you observe the use of student data to inform instruction and meet individual needs? If so, what kind of data was used and how was it used?

8. At this meeting was there any communication regarding the frequent monitoring of student progress? (Describe)

9. At this meeting was there any discussion regarding policies/programs that will help support student attendance? (Describe)

10. At this meeting was there any discussion regarding policies/programs that will address academic progress? (Describe)

11. At this meeting was there any communication regarding college readiness? How are they preparing their students for college? What kinds of comments and questions were raised about college-readiness? (Describe)

12. At this meeting was there any communication regarding home/school relations? How does the school communicate with parents? (Describe)

For meetings that included professional development:

13. Describe what teachers were learning: (curriculum content, curriculum planning, instructional delivery strategies, student support/counseling strategies, etc.)

14. How was the professional development delivered? (e.g. study group, critical friends group, lecture, etc)

15. How was the professional development linked to the larger academic mission of the school?

16. How was it linked to preparing students to be college-ready?

17. What were the outcomes/results of this meeting?

School Administrators Interview

SY 2008–09

School: _____Date:_____
Interviewer(s): _____
Name and Role of Administrator: _____

***Instructions*:** This should be a scheduled interview where the principal has set aside a specific time away from other duties. Be sure you review the environmental and instructional context of the school before you arrive for the interview. Give your name and tell your part in the study. Provide a brief description of the evaluation. Assure the principal of the confidentiality procedures and the voluntary nature of their participation.

Introduction
Thank you for agreeing to be interviewed. We are conducting brief interviews with principals of schools that have received Bill and Melinda Gates Foundation funding as part of a comprehensive research study of the impact of the Foundation's investment in New York City. As you may know, this study involves collecting data from teachers, principals, and students. The principal interviews are intended to provide us with information, from the principal's perspective, about how the Gates initiative is working at the school level. The interview should take about one hour. Does that work for you?

Your responses to the interview are completely confidential. No individual names or schools will be reported. Participation is voluntary. You may skip questions you do not wish to answer or stop the interview at any point; however, we hope that you will answer as many questions as you can.

Do you have any questions before we begin?

A. Initial Questions

1. How long have you been a school administrator? (Probe: In how many other schools?)
2. How long have you been an administrator in this school? (Probe: How did you come to this particular school?)

B. Becoming a Gates School
I understand that your school has been working with [intermediary organization] with funding from the Bill and Melinda Gates Foundation. [Confirm the intermediary and the years the school has worked with the organization]

1. **ASK THE NEXT QUESTION ONLY IF THE SCHOOL EXISTED BEFORE GATES FUNDING. IF THE SCHOOL WAS CREATED WITH GATES FUNDING, SKIP TO #3**
   Describe the school before it was in the Gates Initiative. (Probes: daily routine; instructional focus; modes of working together among teachers, parents and students)

2. **ASK THE NEXT QUESTION ONLY IF THE SCHOOL EXISTED BEFORE GATES FUNDING. IF THE SCHOOL WAS CREATED WITH GATES FUNDING, SKIP TO #3**
   How was this school chosen for the Gates initiative? (Probes: Were you given choices? Who gave input into the decision?)

3. Describe the start-up procedures for working with your intermediary. (Probes: orientation for faculty, staff and students; choice of intermediary)

4. How has the intermediary organization_____ (name) worked with this school? (Probes: What resources were brought to bear? What has been particularly helpful to this school?)
5. How has that organization worked with you as an administrator? (Probe for differences in intermediary's work with faculty vs. administrators.)

6. Was there a particular focus or a set of principles brought by the intermediary? If so, what was it?

7. How often has the intermediary organization worked with this school? (Probes: How many sessions? Of what duration? In groups? Is this help ongoing?)

8. Were there any non-negotiable components to working with the intermediary? If so, what were they?

C. Structure and Instruction

1. What is the mission of this school? How is it articulated to parents, students, staff and faculty? May I have a copy of your mission? Aside from the mission, what is your vision for the school?

2. How have the intermediary's principles been implemented in this school? Can you give me some concrete examples? How did that happen?

3. How has the intermediary's focus translated into classroom practices?

4. How will the principles and classroom practices be sustained after Gates funding?

5. What personal and academic supports are available to students in this school? To what extent are these within the school/referred out to other organizations?

6. What approaches have you found useful in working with students who start high school below grade level?

7. How is a focus on college-readiness conveyed to students in this school? Probes: How do you define a college-ready culture? Who are the different parties (e.g., counselors, teachers) responsible for communicating that to students? How early do students (and their families) start to get messages about college? How is this manifest in the curriculum?

8. How do you think the work with the intermediary and the instructional practices developed through Gates funding have affected student achievement? Student social development?

9. What other education change programs or initiatives are in this school? To what extent are they integrated with the Gates-funded initiative?

D. Ending questions

1. What were the most difficult challenges in implementation this Gates-funded effort? How were the challenges overcome?
2. What has this initiative taught you about working with intermediary organizations?
3. In hindsight, how would you adjust the work in developing/changing this school if you were doing it again?
4. Have I missed anything that you would like me to know about your school and your work with [intermediary organization]?

Student Focus Group Protocol

Spring 2009

School: _____ Date: _____
Facilitator: _____ Time of day_____:
Grade(s): _____ Length of Focus group_____
Number of Students:_____ _____

Arrange to conduct the focus group in a comfortable place away from other students, faculty and staff. Begin by telling the students who you are and why you want to speak with them. Take notes and tape record as you observe and facilitate the discussion. Later you will code the notes and arrange them under the constructs we are studying. Use direct quotes and give specific examples wherever you can.

Setting the stage for the Focus Groups:

- I am _____from the Academy for Educational Development and I'm here to conduct a focus group with you. I want to hear you have a discussion about your school. Please be relaxed and at ease. I am not evaluating you or your teachers.
- Your participation is voluntary. I want everyone to participate in the discussion, but you may skip parts of the discussion you do not wish to talk about.
- For each topic, I will begin with a question about your school and then I will take notes as you discuss what I have asked. I am taping our discussion. The tape is only to help me remember what you have said. I will not share the tape with anyone outside of our research team. If there is anything you want to say with the tape off, please let me know and I will turn the tape off.
- If there is another person with you give that person's name and tell what role she will play (e.g., This is Carol. She will help take notes and operate the tape recorder.)

Introducing the Ground Rules: Tell the participants there are four important ground rules for participating in a focus group:

- Confidentiality (group members and facilitator). You and I will hold the focus group discussion in the strictest of confidence, and at no time will your names or any other identifying factor be used in my write-up. In addition you must maintain confidentiality and not divulge the contents of what was said in the room.
- Everyone's opinion is important and wanted. This is your time to speak and to let your opinions be heard.
- Agree to disagree—you can feel free to express your views regarding the topics. It is fine to disagree, if you have a different opinion.
- There are no right or wrong answers in the discussion. I am looking for your perceptions, opinions, and feelings about your school.

Going around the table or circle, have the students respond to these questions. Let them know that after each participant answers these questions, the focus group will begin and they are not expected to go around and wait for everyone to respond.

- Why did you come to this school?
- Was this your top choice? If not, was it one of your top three choices?
- How do you feel about this school now? Why?

Let the students know that the focus group will now begin and that you encourage participation from everyone.

Topic I. Rigorous Curriculum and Academic Press—*Introductory question to start the discussion****—How would you describe the teaching and learning in your classrooms?***
Probes to be used after they have responded to the main question:

- How challenging are your classes? What makes your classes challenging?
- Do your teachers expect you to work hard in school? How much of your class work do teachers expect you to do outside of school as homework?
- If you need help with your school work, where do you get help?
- Are teachers easily available when you need help?
- Are your classes interesting? If so, what makes them interesting? What makes them boring?
- What else could the school do to help you learn?

Topic II. College Access and preparation—*Introductory question to begin discussion****—Do you feel that this school is preparing you to go to college?***

Probes to be used after they have responded to the main question:

- What do you have to do in high school to prepare yourself for college?
- What have you done so far to prepare for college? (If not mentioned, probe about trips, applications, financial aid, preparatory courses)
- How do teachers, counselors, and other staff work with students to help prepare for college? Do they work with students individually or in groups? (If not mentioned, probe for choice of courses, requirements for college, applications, financial aid, college visits, how to choose a college, relationship to careers, letters of recommendation.)
- Do the teachers in this school expect all of you to go to college? If so, how can you tell?
- Does the principal expect all of you to go to college? If so, how can you tell?
- Is this school preparing you to go to college?
- What could the school do better to prepare you for college?
- Do most of the students in this school go to college? If not, what do they do after graduating?
- In what grade did teachers start talking with you about college?
- In what grade did counselors start talking to you about college?
- Who else expects you to go to college? How do you know? (Probe for advisors, coaches, etc)

Final question: Have I missed anything that you would like me to know about concerning this school.
Turn off the tape recorder: Is there anything else that you want to say with the tape recorder turned off?

Teacher Focus Group Protocol

Spring 2009

School: _____ Date: _____
Facilitator: _____ Time of day_____:
Grade(s): _____ Length of Focus group_____
Number of teachers:_____ _____

Arrange to conduct the focus group in a comfortable place away from noise and distractions. Begin by telling the teachers who you are and why you want to speak with them. Take notes as you observe and facilitate the discussion. You should also tape the discussion as a back-up to your notes. Later you will code the notes and arrange them under the constructs we are studying. Use direct quotes and give specific examples wherever you can.

Setting the stage for the Focus Groups:

- I am _____from the Academy for Educational Development and I'm here to conduct a focus group with you. I want to hear you have a discussion about your school. Please be relaxed and at ease. I am not evaluating you or your teachers.
- Your participation is voluntary. I want everyone to participate in the discussion, but you may skip parts of the discussion you do not wish to talk about.
- For each topic, I will begin with a question about your school and then I will take notes as you discuss what I have asked. I am taping our discussion. The tape is only to help me remember what you have said. I will not share the tape with anyone outside of our research team. If there is anything you want to say with the tape off, please let me know and I will turn the tape off.
- If there is another person with you give that person's name and tell what role she will play (e.g., This is Carol. She will help take notes and operate the tape recorder.)

Introducing the Ground Rules: Tell the participants there are four important ground rules for participating in a focus group:

- Confidentiality (group members and facilitator). You and I will hold the focus group discussion in the strictest of confidence, and at no time will your names or any other identifying factor be used in my write-up. In addition you must maintain confidentiality and not divulge the contents of what was said in the room.
- Everyone's opinion is important and wanted. This is your time to speak and to let your opinions be heard.
- Agree to disagree – you can feel free to express your views regarding the topics. It is fine to disagree, if you have a different opinion.
- There are no right or wrong answers in the discussion. I am looking for your perceptions, opinions, and feelings about your school.

Going around the table or circle, have the teachers respond to these questions. Let them know that after each participant answers these questions, the focus group will begin and they are not expected to go around and wait for everyone to respond.

- Tell us what grade & class you teach?
- How long have you've been teaching at this school?
- Why did you come to this school?

Let the teachers know that the focus group will now begin and that you encourage participation from everyone.

We would like to hear you discuss two topics: 1) support you and your school have received from the intermediary (_____name of intermediary) and 2) how you and this school provide support for college preparation and attendance.

1. Intermediary Support
How has the intermediary (name of intermediary) supported you in your work?
What technical assistance have they provided?
Once they have responded probe for:

- provided coaches
- professional development
- other supports

How would you assess the quality and impact of the Technical assistance? The other supports? Please explain.
Is there additional support that you're not getting that you need?

2. College Prep and Attendance
What does it means to get all students college-ready?
What is the school's role in getting students college-ready?
How do you support students who are struggling in terms of working towards college, either academically or socially?
Who is involved in getting students college-ready?
How early does work on college readiness begin?
How do teachers work together on college readiness issues?
What is done in this school in terms of the college search and application process?
After they answer ask about

- Informal activities (e.g. talking to students in or after class)
- Formal activities (college visits, advisories)
- How frequent students participate in activities
- Parent involvement in college readiness

Is there anything else you want to say about support from the intermediary or preparing students for college?

Turn off the tape recorder: Is there anything else that you want to say with the tape recorder turned off?

Support Staff Focus Group Protocol

Guidance, college advisor, social worker, parent coordinator, attendance monitor
Spring 2009

Arrange to conduct the focus group in a comfortable place away from noise and distractions. Begin by telling the staff who you are and why you want to speak with them. Take notes and tape record as you observe and facilitate the discussion. Later you will code the notes and arrange them under the constructs we are studying. Use direct quotes and give specific examples wherever you can.

Setting the stage for the Focus Groups:

- I am _____from the Academy for Educational Development and I'm here to conduct a focus group with you. I want to hear you have a discussion about your school. Please be relaxed and at ease. I am not evaluating you or your teachers.
- Your participation is voluntary. I want everyone to participate in the discussion, but you may skip parts of the discussion you do not wish to talk about.
- For each topic, I will begin with a question about your school and then I will take notes as you discussed what I have asked.
- For each topic, I will begin with a question about your school and then I will take notes as you discuss what I have asked. I am taping our discussion. The tape is only to help me remember what you have said. I will not share the tape with anyone outside of our research team. If there is anything you want to say with the tape off, please let me know and I will turn the tape off.
- If there is another person with you give that person's name and tell what role she will play (e.g., This is Carol. She will help take notes and operate the tape recorder.)

Introducing the Ground Rules: Tell the participants there are four important ground rules for participating in a focus group:

- Confidentiality (group members and facilitator). You and I will hold the focus group discussion in the strictest of confidence, and at no time will your names or any other identifying factor be used in my write-up. In addition you must maintain confidentiality and not divulge the contents of what was said in the room.
- Everyone's opinion is important and wanted. This is your time to speak and to let your opinions be heard.
- Agree to disagree–you can feel free to express your views regarding the topics. It is fine to disagree, if you have a different opinion.
- There are no right or wrong answers in the discussion. I am looking for your perceptions, opinions, and feelings about your school.

Going around the table or circle, have the staff respond to these questions. Let them know that after each participant answers these questions, the focus group will begin and they are not expected to go around and wait for everyone to respond.

- Tell us your job title and if you work with a specific group of students or grade levels?
- How long have you've been working at this school?
- Why did you come to this school?

Let the staff know that the focus group will now begin and that you encourage participation from everyone.

We would like to hear you discuss two topics: 1) support you and your school have received from the intermediary (_____name of intermediary) and 2) how you and this school provide support for college preparation and attendance.

1. Intermediary Support
How has the intermediary (name of intermediary) supported you in your work?
What technical assistance have they provided?
Once they have responded probe for:

- provided coaches
- professional development
- other supports

How would you assess the quality and impact of the Technical assistance? The other supports? Please explain.
Is there additional support that you're not getting that you need?

2. College Prep and Attendance
1. What is the school's role in getting students college-ready?
2. How does staff support students through the college search and application process?

What activities happen at what stages, (in 9th, 10th, 11th and 12th grades)?
Probes:

- Informal activities (e.g. talking to students in or after class)
- Formal activities (college visits, advisories)
- How frequent students participate in activities
- Parent involvement in college readiness

(If applicable) How did staff develop this plan for college prep activities at each grade level?

3. What is responsibility of guidance and what is responsibility of teachers and advisors? How do you share the responsibilities of preparing students for college?

4. What are the challenges that you and your school faces in preparing students for college?

5. What are the challenges that students face in the college admissions process?

6. How does staff work together on college readiness issues?

7. More generally, how do you support students who are struggling, either academically or socially/emotionally?

Is there anything else you want to say about support from the intermediary or preparing students for college?

Turn off the tape recorder: Is there anything else that you want to say with the tape recorder turned off?

The Bill and Melinda Gates Foundation Survey of High School Teachers[1]

Dear teachers,
We want to know what you think about issues such as school climate, professional development, and instructional practices. Your answers are confidential. Your answers will be combined with those of other teachers to describe what teachers think, do, and experience. No individual or school names will be reported.

This survey is voluntary. You do not have to answer any question you do not wish to answer, but we hope you will answer as many questions as you can.

To show our appreciation for your time and effort, we are offering you a $20 gift for participating in the survey.

First, some questions about you.

1. For this school year, which describes your primary teaching responsibilities? ***(Mark all that apply.)***

1 9th Grade
2 10th Grade
3 11th Grade
4 12th Grade
5 Ungraded (e.g. special education)

2. What is your primary area of instruction? ***(Mark only one.)***

1 Art/Music/Drama/Dance
2 Career or Technical Education
3 English Language Arts
4 English Language Learners
5 Foreign Language
6 Mathematics
7 Physical Education
8 Social Studies/history
9 Special Education
10 Science
11 Other (specify:_____)

3. Including this year, long have you taught at this school? _____ years

4. Including this year, long have you been a teacher? _____ years

Now, we'd like to know a few things about you and the students you teach.

5. How many students do you teach overall? _____ *(all classes combined)*

[1] Many of the items in this survey are adapted with permission from the Consortium on Chicago School Research's (2005 and 2007) Chicago High School Redesign Initiative teacher surveys

6. Are you assigned to meet with students regularly (e.g. weekly)—individually or in small groups—to provide career or college advisement, personal guidance, or other forms of support (e.g. through an advisory group)?

1 Yes 2 No

7. If so, how many students do you meet with in this way? _____

8. How many of your students' parents have you spoken with in person or by phone this year?

_____

9. How often do you typically do the following?

	Never	1-4 times a year	5-8 times a year	1-3 times a month	1-4 times a week	Daily
Follow up on individual students' progress with other teachers, counselors, or administrators	1	2	3	4	5	6
Review attendance records to identify students with excessive absences from class	1	2	3	4	5	6
Review grades to identify students who are falling behind academically	1	2	3	4	5	6
Recognize individual students in class for good attendance or good academic performance	1	2	3	4	5	6
Talk with students before or after class about their general interests	1	2	3	4	5	6
Talk with students before or after class about *personal* issues in their lives	1	2	3	4	5	6
Talk with individual students about their progress in your class or other teachers' classes	1	2	3	4	5	6
Help individual students with their work outside of regular classroom time	1	2	3	4	5	6

10. How often do you typically do the following?

	Never	1-4 times a year	5-8 times a year	1-3 times a month	1-4 times a week	Daily
Discuss the value of attending college with your students	1	2	3	4	5	6
Relate course content to the skills students will need to do well in college	1	2	3	4	5	6
Relate course content to students' cultural histories or cultural heroes	1	2	3	4	5	6
Relate course content to career opportunities	1	2	3	4	5	6
Relate course content to current events	1	2	3	4	5	6
Provide classes with guest speakers	1	2	3	4	5	6
Take students on trips related to course content	1	2	3	4	5	6
Advise students about your school's academic offerings	1	2	3	4	5	6
Help students select high school courses that will prepare them for college	1	2	3	4	5	6
Talk informally with students about their personal aspirations	1	2	3	4	5	6
Advise students about careers	1	2	3	4	5	6
Advise students about selecting colleges	1	2	3	4	5	6
Help students get information about college costs, financing, or scholarships	1	2	3	4	5	6
Help students prepare college applications (essays, letters of recommendation, etc.)	1	2	3	4	5	6
Discuss college attendance with parents	1	2	3	4	5	6
Participate in college nights, college visits, etc.	1	2	3	4	5	6

We would like to find out about professional development in which you participated this year.

11. How often did you engage in the following professional activities this year?

	Never	Once or Twice	3-5 times	6-9 times	10 or more times
Observed model lessons within your school	1	2	3	4	5
Observed model lessons in other schools	1	2	3	4	5
Participated in study groups with other teachers at your grade level in your school	1	2	3	4	5
Participated in content-area study groups in your school	1	2	3	4	5
Participated in school-based workshops/courses led by a knowledgeable professional from outside the school	1	2	3	4	5
Participated in school-based workshops/courses led by the principal or building administrator or school-based coach	1	2	3	4	5
Participated in PD activities involving teachers across schools in your district	1	2	3	4	5
Participated in networks with teachers outside your school or district	1	2	3	4	5
Received feedback from another teacher who observed in your class	1	2	3	4	5
Received feedback from an administrator or coach who observed in your class	1	2	3	4	5
Collaborated with teachers in planning lessons	1	2	3	4	5
Collaborated with teachers in discussing student work	1	2	3	4	5
Worked 1:1 or in small groups (e.g. 2-4) with an instructional coach or other professional	1	2	3	4	5

12. To what extent do you disagree or agree with each of the following descriptions of your professional development experiences this year?

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Sustained and coherent rather than short-term and unrelated	1	2	3	4	5
Closely connected to my school's improvement goals	1	2	3	4	5
Closely connected to my professional development needs	1	2	3	4	5
Helped me tailor instruction to students with slight learning disabilities	1	2	3	4	5
Improved my ability to communicate explicit expectations for quality work	1	2	3	4	5
Helped me engage students in active reasoning about and analysis of challenging content	1	2	3	4	5
Enabled me to choose classroom texts with material that is complex and absorbing	1	2	3	4	5
Helped me design activities in which students elaborate their ideas and present evidence	1	2	3	4	5

Enabled me to help students learn content and skills central to conceptual understanding	1	2	3	4	5

Please tell us about the work environment at your school.

13. How true are the following statements about your work environment this year?

	Not at all true	Not very true	Sort of true	Very true
I work closely with teachers who support my efforts to improve my teaching skills	1	2	3	4
Most teachers with whom I work are continually learning and seeking better teaching strategies	1	2	3	4
Teachers are encouraged to improve their teaching skills	1	2	3	4
The principal and/or other school leaders provide instructional leadership throughout the school	1	2	3	4
Our faculty tries to go the extra mile to get behind changes to make our school better	1	2	3	4
The word "teamwork" describes how most of the faculty functions at this school	1	2	3	4

For the remainder of the survey, we would like you to report on ONE credit-bearing regular class you teach (not an honors, AP, IB, ESL, or Special Education class). If you teach a regular credit-bearing class second period on Mondays, please tell us about that class. If you do not teach a regular class then, please tell us about the next such class you teach in answering the following questions. We will refer to this class as your REFERENCE CLASS.

14. Course Name:_____

15. What subject area is your REFERENCE CLASS? ***(Mark only one.)***

1 Art/Music/Drama/Dance
2 Career or Technical Education
3 English Language Arts
4 English Language Learners
5 Foreign Language
6 Mathematics
7 Physical Education
8 Social Studies/history
9 Special Education
10 Science
11 Other (specify:_____)

16. How many students are enrolled in your REFERENCE CLASS? _____

17. In what grades are students in your REFERENCE CLASS enrolled? ***(Check all that apply.)***

a 9th Grade
b 10th Grade
c 11th Grade
d 12th Grade

18. How many ***hours per week*** do you spend correcting homework and test results and updating student records for your REFERENCE CLASS? _____

19. How many ***hours per week*** of homework do you assign students in your REFERENCE CLASS? _____

20. What percent of students in your REFERENCE CLASS do the following?

	25% or fewer	Between 26% and 50%	Between 51% and 75%	Between 76% and 90%	Between 91% and 100%
Almost always complete their homework	1	2	3	4	5
Come to class every session	1	2	3	4	5
Come to class on time	1	2	3	4	5
Pay attention in class	1	2	3	4	5
Take notes	1	2	3	4	5
Actively participate in class activities	1	2	3	4	5

21. In an average week in your REFERENCE Class, how often do you use the following grouping practices?

	Never	1-4 times a year	5-8 times a year	1-3 times a month	1-4 times a week	Daily
Students work alone quietly on a test or assignment	1	2	3	4	5	6
Students listen to teacher lecture	1	2	3	4	5	6
Students listen to an outside speaker or a team of teachers	1	2	3	4	5	6
Students participate in teacher-led discussion	1	2	3	4	5	6
Students make presentations or share their work with the whole class	1	2	3	4	5	6
Students work together in pairs or small groups on cooperative tasks	1	2	3	4	5	6
Students tutor other students	1	2	3	4	5	6
Teacher tutors students	1	2	3	4	5	6
Students use technology (computers, calculators, etc.) as a tool or resource	1	2	3	4	5	6

22. To what extent do the following describe discussions in your REFERENCE Class?

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Students build on each other's ideas during discussion	1	2	3	4	5
Students get off the topic being discussed	1	2	3	4	5
Students use data and text references to support their ideas	1	2	3	4	5
A few students dominate the conversation	1	2	3	4	5
Students provide constructive feedback to their peers/teachers	1	2	3	4	5
Students draw on relevant knowledge learned outside of class	1	2	3	4	5
Most students participate in the discussion at some point	1	2	3	4	5

23. How often do you require students in your REFERENCE CLASS to complete the following?

	Never	1-4 times a year	5-8 times a year	1-3 times a month	1-4 times a week	Daily
Multiple choice or fill-in-the-blank assignments	1	2	3	4	5	6
Short answer or short problem assignments	1	2	3	4	5	6
Short writing assignments of 1 or 2 pages	1	2	3	4	5	6
Long writing assignments of 3 or more pages	1	2	3	4	5	6
Revisions of assignments after they receive feedback or corrections	1	2	3	4	5	6
Out-of-class readings	1	2	3	4	5	6
Experiential hands-on tasks that require solving real-world problems	1	2	3	4	5	6

24. Do you require students to maintain portfolios of long-term work that they regularly update and revise? Yes No

25. What weight do you give to each of the following in assigning full-year grades? Please write the percent for which each item accounts. NOTE: Percentages should add up to 100.0 %

Exams and quizzes ___ ___ %
Reports, presentations, portfolios ___ ___ %
Work done in class ___ ___ %
Regular homework assignments ___ ___ %
Attendance, behavior, effort ___ ___ %
Other, specify: _____ ___ ___ %
100.0%

THANK YOU SO MUCH FOR YOUR COOPERATION WITH THIS SURVEY.

New York City High School Reform Study

WELCOME

Thank you for your interest in our survey of New York City High School Principals.

A word of explanation—and thanks—in advance.

This survey is part of a larger study of high school reform in New York City that is being conducted by an independent research organization

We believe that, as a principal, you are in a unique position to help us understand what is going on in your school. Your answers are confidential. They will be combined with those of other principals to describe what principals think, do, and experience. No individual or school names will be reported.

We would like to acknowledge your participation with a $50 gift card to benefit your school. Upon completing the survey we will send you the gift card.

Please write the full name of your high school
Please use the blank space to write your answers.

In this survey we are hoping to learn what you think about issues such as school climate, and policies, professional development, and instructional practices. First, we would like to ask some questions about your tenure and work as a principal

1. **How many years (including this year) have you been principal at this school?**
   Please use the blank space to write your answers
   Year (s)

2. **And how many years (including this year) have you been a principal in all?**
   Please use the blank space to write your answers
   Year (s)

3. In a typical week, how much time do you spend on the following areas/activities?

Please mark the corresponding circle - only one per line.

	No time (0 hours) per week	A small amount of time (1-4 hours) per week	A moderate amount of time (5-15 hours per week)	A lot of time (more than 15 hours) per week
a. Dropping in on teachers to see what is happening in terms of instruction	○	○	○	○
b. Making scheduled visits to teachers' classrooms (outside of a formal evaluation) to see what is happening in terms of instruction	○	○	○	○
c. Reviewing student work with teachers to identify problems and successes	○	○	○	○

The next questions ask about your school's organizational features

4. Which of the following organizational features do you have in place at your school?

Please mark the corresponding circle - only one per line.

	Yes	No
a. Small learning communities (SLCs) (i.e., an arrangement in which a core group of teachers teaches a group of students for an academic year or several years. SLC's are often organized around themes and generally exist within a larger high school. Stand-alone small schools ARE NOT considered SLCs.)	○	○
b. Curricular themes, whether or not related to a SLC structure (e.g., majors)	○	○
c. Extended periods/block scheduling	○	○
d. Advisory groups (small groups of 10-15 students) who meet with a teacher or counselor at least weekly for academic, social, emotional, and college preparation support)	○	○
e. A teacher advisor/advocate assigned to every student.	○	○
f. A counselor who focuses exclusively on college admissions	○	○
g. Service learning requirements/opportunities for students	○	○
h. An orientation/welcoming program for freshman students	○	○
i. Study skills classes	○	○
j. In-school tutoring	○	○
k. After- school tutoring	○	○

l. Saturday classes	○	○
m. "Catch-up" classes for students behind grade level in reading or math	○	○
n. Credit recovery opportunities	○	○
o. Partial rather than full course credit for students who have completed some but not all of the requirements of the class	○	○

The next questions ask about various kinds of teacher meetings.
First, please indicate whether or not your school has this kind of teacher meeting. If so, please indicate the frequency with which these meetings take place and then the length of these meetings. (If your school does not have small learning communities, please mark "Not Applicable" in response to question 5A).

5. Do teachers have this kind of meeting?

Please mark the corresponding circle - only one per line.

	Not Applicable	Yes	No
a. SLC Teachers	○	○	○
b. Grade-level teachers	○	○	○
c. Subject-area teachers	○	○	○

6. If so, how often do they meet?

Please mark the corresponding circle - only one per line.

	Once or twice a year	Three or four times a year	Once or twice a month	Once a week	2-3 times a week	Daily
a. SLC Teachers	○	○	○	○	○	○
b. Grade-level teachers	○	○	○	○	○	○
c. Subject-area teachers	○	○	○	○	○	○

7. If so, for how long do these meetings last?

Please mark the corresponding circle - only one per line.

	Less than 30 mins	½ to 1 hour	1 to 1 ½ hours	1 ½ to 2 hours	More than 2 hours
a. SLC Teachers	○	○	○	○	○
b. Grade-level teachers	○	○	○	○	○
c. Subject-area teachers	○	○	○	○	○

8. For what proportion of teachers at your school is each of the following statements true?

Please mark the corresponding circle - only one per line.

	Less than 25%	25-50%	51-75%	More than 75%	Don't Know
a. Teachers in this school trust one another	○	○	○	○	○
b. Teachers in this school feel responsible to help their colleagues do their best	○	○	○	○	○
c. Teachers in this school are encouraged to experiment with their teaching	○	○	○	○	○
d. Teachers use time together to discuss teaching and learning	○	○	○	○	○
e. Teachers in this school are continually learning and seeking new ideas	○	○	○	○	○
f. Our faculty tries to go the extra mile to get behind changes to make our school better	○	○	○	○	○
g. The word "teamwork" describes how most of the faculty functions at this school	○	○	○	○	○
h. Teachers at this school feel individually responsible when their students do not succeed	○	○	○	○	○
i. Teachers at this school view preparing students to be college-ready as among their highest priorities.	○	○	○	○	○
j. Teachers in this school explore new instructional approaches in their grade /content area that promise to help low-performing students meet school standards	○	○	○	○	○

The next questions are about policies related to professional improvement in your school

9. Is there a policy in your school for teachers to do the following:

Please mark the corresponding circle - only one per line.

	Yes	No
a. Observe other teachers in your school	○	○
b. Give feedback to other teachers on classroom practices	○	○
c. Observe teachers outside your school	○	○
d. Participate in a study group at your school	○	○

10. Whether or not you have a school policy in place, what proportion of teachers at your school have done the following this past year?

Please mark the corresponding circle - only one per line.

	Less than 25%	25-50%	51-75%	More than 75%	Don't Know
a. Observe other teachers in your school	○	○	○	○	○
b. Give feedback to other teachers on classroom practices	○	○	○	○	○
c. Observe teachers outside your school	○	○	○	○	○
d. Participate in a study group at your school	○	○	○	○	○

The next questions are about classroom practices at your school

11. First, please tell us how important you think each of the following classroom practices is for a teacher's success.

Please mark the corresponding circle - only one per line.

	Not important	Somewhat important	Very important
a. Providing explicit in-class instruction about the quality of work needed to do well on each major task	○	○	○
b. Using cooperative learning strategies	○	○	○
c. Modeling or teaching metacognitive skills (i.e., helping students reflect on and monitor their understanding of material)	○	○	○
d. Differentiating instruction within the classroom	○	○	○
e. Making lessons relevant to students' lives/current events	○	○	○
f. Connecting lessons with other disciplines	○	○	○
g. Giving assignments that require higher-order thinking skills	○	○	○
h. Asking students to respond to open-ended questions in class discussions and in assignments	○	○	○
i. Using computers to do research and/or create presentations	○	○	○
j. Aligning what is taught within each content area over the years to ensure that students acquire the skills necessary to be college- ready.	○	○	○

12. For each of the following classroom practices, on average how much professional development do teachers in your school need to implement the practice effectively?

Please mark the corresponding circle - only one per line.

	Little or no PD	A moderate amount of PD (1-2 days)	A substantial amount of PD (more than 2 days ongoing)	Don't know
a. Providing explicit in-class instruction about the quality of work needed to do well on each major task	○	○	○	○
b. Using cooperative learning strategies	○	○	○	○
c. Modeling or teaching metacognitive skills (i.e., helping students reflect on and monitor their understanding of material)	○	○	○	○
d. Differentiating instruction within the classroom	○	○	○	○
e. Making lessons relevant to students' lives/current events	○	○	○	○
f. Connecting lessons with other disciplines	○	○	○	○
g. Giving assignments that require higher-order thinking skills	○	○	○	○
h. Asking students to respond to open-ended questions in class discussions and in assignments	○	○	○	○
i. Using computers to do research and/or create presentations	○	○	○	○
j. Aligning what is taught within each content area to ensure that students acquire the skills necessary to be college ready.	○	○	○	○

The next questions are about policies and practices that apply to students at your school. First, we would like to know whether your school has put each of the following practices in place as a school-wide policy. Then, whether or not your school has adopted an official policy on the matter, we would like to know how often the practice occurs.

13. When a student is failing a course, is there a school policy in place?

Please mark the corresponding circle - only one per line.

	Yes	No
a. The student's parents are contacted by phone or in person	○	○
b. The student's parents are notified in writing, other than the report card	○	○
c. A teacher or counselor meets with the student to discuss why he/she is having difficulty	○	○
d. The student is offered academic support, such as tutoring or extra classes.	○	○

14. Whether or not you have a policy in place, how often does the practice occur?

Please mark the corresponding circle - only one per line.

	Never	Sometimes	About half of the time	The majority of the time	Almost always	Don't know
a. The student's parents are contacted by phone or in person	○	○	○	○	○	○
b. The student's parents are notified in writing, other than the report card	○	○	○	○	○	○
c. A teacher or counselor meets with the student to discuss why he/she is having difficulty	○	○	○	○	○	○
d. The student is offered academic support, such as tutoring or extra classes.	○	○	○	○	○	○

15. When a student has more than 2 consecutive unexcused absences, is there a school policy in place?

Please mark the corresponding circle - only one per line.

	Yes	No
a. Student's parents/guardians are contacted by phone or in person	○	○
b. Student's parents/guardians are notified in writing, other than the report card	○	○
c. A teacher or counselor meets with student to discuss why he/she is not attending class	○	○
d. A teacher or counselor works with the student to develop a plan for catching up on missed work	○	○

16. Whether or not you have a school policy in place, how often does the practice occur?

Please mark the corresponding circle - only one per line.

	Never	Sometimes	About half of the time	The majority of the time	Almost always	Don't know
a. Student's parents/guardians are contacted by phone or in person	○	○	○	○	○	○
b. Student's parents/guardians are notified in writing, other than the report card	○	○	○	○	○	○
c. A teacher or counselor meets with student to discuss why he/she is not attending class	○	○	○	○	○	○
d. A teacher or counselor works with the student to develop a plan for catching up on missed work	○	○	○	○	○	○

17. How often do the following occur?

Please mark the corresponding circle - only one per line.

	Never	Annually	Twice a year	Quarterly	Monthly	More often
a. The school formally rewards or recognizes students for good attendance	○	○	○	○	○	○
b. The school formally rewards or recognizes students for good academic performance	○	○	○	○	○	○

The next questions are about post high-school planning and preparation.
First, does your school offer each of the following services or courses designed to help students make the transition from high school to college and/or work?

If so, in the last academic year, approximately what percentage of your students took advantage of the service or course designed to help them make the transition from high school to college and/or work?

18. Does your school offer this service?

Please mark the corresponding circle - only one per line.

	Yes	No
a. Counseling about college for 9th grade students	○	○
b. Counseling about college for 10th, 11th, and 12th grade students	○	○
c. AP/IB courses	○	○
d. College visits	○	○
e. Special visits by speakers from various professions to expose students to career choices	○	○
f. Visits to workplaces	○	○
g. Work internships for students	○	○
h. Assistance with college applications	○	○
i. Assistance with college financial aid applications	○	○
j. SAT prep classes	○	○

19. If so, percentage of students who made use of service in the last academic year

Please mark the corresponding circle - only one per line.

	None	Less than 25%	At least 25% but less than 50%	At least 50% but less than 75%	75% but less than 100%	All (100%)	Don't Know
a. Counseling about college for 9th grade students	O	O	O	O	O	O	O
b. Counseling about college for 10th, 11th, and 12th grade students	O	O	O	O	O	O	O
c. AP/IB courses	O	O	O	O	O	O	O
d. College visits	O	O	O	O	O	O	O
e. Special visits by speakers from various professions to expose students to career choices	O	O	O	O	O	O	O
f. Visits to workplaces	O	O	O	O	O	O	O
g. Work internships for students	O	O	O	O	O	O	O
h. Assistance with college applications	O	O	O	O	O	O	O
i. Assistance with college financial aid applications	O	O	O	O	O	O	O
j. SAT prep classes	O	O	O	O	O	O	O

Please tell us about your work with your Gates-funded intermediary organization this school year.

For each of the areas below, please tell us the extent to which your work with the intermediary focused on this area and how helpful that work has been to your school improvement efforts

20. Extent to which this area was a focus of your work with the intermediary

Please mark the corresponding circle - only one per line.

	Not a focus	A small focus	A moderate focus	An extensive focus
a. Providing professional development for teachers	○	○	○	○
b. Planning professional development for teachers	○	○	○	○
c. Providing professional development for administrators	○	○	○	○
d. Providing instructional coaches for teachers	○	○	○	○
e. Developing a personalized environment	○	○	○	○
f. Planning the school budget	○	○	○	○
g. Developing organizational structures (e.g., houses, small learning communities)	○	○	○	○
h. Fostering teacher collaboration	○	○	○	○
i. Using data to inform practice	○	○	○	○
j. Engaging all students in an academically rigorous curriculum	○	○	○	○
k. Planning college preparation activities (e.g., school visits, guidance in selecting schools, assistance with applications and financial aid)	○	○	○	○
l. Helping map how individual classes will function in a progression to build the knowledge and skills students need for postsecondary education	○	○	○	○
m. Planning support services for students	○	○	○	○

21. Helpfulness of your work with the intermediary in this area

Please mark the corresponding circle - only one per line.

	Not at all helpful	Somewhat helpful	Very helpful	Not a focus/Not applicable
a. Providing professional development for teachers	○	○	○	○
b. Planning professional development for teachers	○	○	○	○
c. Providing professional development for administrators	○	○	○	○
d. Providing instructional coaches for teachers	○	○	○	○
e. Developing a personalized environment	○	○	○	○
f. Planning the school budget	○	○	○	○
g. Developing organizational structures (e.g., houses, small learning communities)	○	○	○	○
h. Fostering teacher collaboration	○	○	○	○
i. Using data to inform practice	○	○	○	○
j. Engaging all students in an academically rigorous curriculum	○	○	○	○
k. Planning college preparation activities (e.g., school visits, guidance in selecting schools, assistance with applications and financial aid)	○	○	○	○
l. Helping map how individual classes will function in a progression to build the knowledge and skills students need for postsecondary education	○	○	○	○
m. Planning support services for students	○	○	○	○

22. In addition to the areas listed above, what other areas have been a moderate or extensive focus of your work with your Gates-funded intermediary? Please be specific

Please write your answer in the space below.

How much do you agree or disagree with the following statements about the Gates Foundation-supported intermediary with which your school works?

23. Working with the Gates-funded intermediary has:

Please mark the corresponding circle - only one per line.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a. brought new ideas for improving teaching and learning	○	○	○	○	○
b. provided new opportunities for professional development	○	○	○	○	○
c. increased teacher interaction about teaching and learning	○	○	○	○	○
d. refocused the goals and priorities of this school	○	○	○	○	○
e. led teachers to change their classroom teaching	○	○	○	○	○
f. led to improved student learning	○	○	○	○	○
g. assisted with leveraging resources with community partners	○	○	○	○	○
h. provided substantial financial resources	○	○	○	○	○

You have reached the end of the survey!
THANK YOU SO MUCH FOR YOUR COOPERATION

Appendix B
Response Rates & Respondent Characteristics

Teacher Survey Response Rates and Respondent Characteristics					
School	**Response rate (n)**	**All school response rate (n)**	**% of teachers who taught at school 0-2 years**	**% of teachers who taught at school 3-5 years**	**% of teachers who taught at school 6+ years**
Sch 1	90% (26)	86% (143)	42%	58%	0%
Sch 2	88% (21)		81%	19%	0%
Sch 3	83% (29)		52%	35%	14%
Sch 4	85% (22)		9%	59%	32%
Sch 5	84% (26)		50%	50%	0%
Sch 6	90% (19)		63%	37%	0%

Classroom Observation and Follow-up Teacher Interview Characteristics		
School	**Topic and grade level of class observed**	**Number of years teacher had been at school**
Sch 1	Global Studies, 12th grade	4
	English, 9th grade	4 (teacher) 1(CTT* Teacher)
	Physics, 11-12th grade	2
	English, 11-12th grade	2
	Geometry, 10th grade	4
	AP History, 12th grade	4
	Bio/Chem, 9th grade	5
	Math B, 11th grade	3
Sch 2	Social Studies, 11th grade	1
	Social Studies, 10th grade	1
	Science (chemistry), 11th grade	2
	English, 10th grade	2
	Science, 9th grade	4
	Math, 10th grade	6 months
	English, 9th grade	1
	English, 12th grade	2
Sch 3	English, 10th grade	2
	Global History, 9-10th grade	2
	Math (algebra), 10th grade	3
	Living Environments, 9-10th grade	4
	English, 12th grade	4
	Math B, 10th grade	5
	U.S. History, 11-12th grade	4
	Physics, 10-11th grade	4

School	Topic and grade level of class observed	Number of years teacher had been at school
Sch 4	History, 11-12th grade	3
	Participatory Government, 11-12th grade	4
	English, 11-12th grade	5
	Math (geometry), 11th grade	4
	Math, 9th grade	2
	Chemistry, 10-12th grade	2
	English, 9th grade	4
	Earth Science, 11th grade	4
Sch 5	Science, 9-10th grade	2
	Global History, 9-10th grade	2
	Math, 12th grade	3
	English, 11th grade	2
	Physics, 12th grade	3
	Global Studies, 9-10th grade	3
	English, 11th grade	5
	Math, 11th grade	2
Sch 6	English, 11th grade	3
	Math, 9-10th grade	1
	Social Studies, 9-10th grade	2
	Earth Science, 11th grade	4
	English, 12th grade	3
	Chemistry, 12th grade	1
	Career Dev, 11th grade	3
	Social Studies, 11th grade	3
* CTT=Collaborative Team Teaching		

Student, Teacher and Support Staff Focus Group Characteristics			
School	**Student focus groups Grade level/Number of Respondents**	**Number of teacher focus group respondents**	**Number of support staff focus group respondents**
Sch 1	9th/10th grade = 7 11th grade = 6 12th grade = 8 *Total = 21*	8	7
Sch 2	9th/10th grade = 7 11th grade = 7 12th grade = 7 *Total = 21*	7	6
Sch 3	9th/10th grade = 9 11th grade = 8 12th grade = 7 *Total = 24*	Group 1 = 6 Group 2 = 4	4
Sch 4	9th grade = 7 11th grade = 7 12th grade = 5 *Total = 19*	6	4
Sch 5	10th grade = 5 11th grade = 5 12th grade = 5 *Total = 15*	6	5
Sch 6	9th/10th grade = 8 11th grade = 7 12th grade = 5 *Total = 20*	5	3
TOTAL	**120 students**	**42 teachers**	**29 support staff**

Principal Survey and Interview Response Rates

Principal Interview=100% (n=6)

Principal Survey=100% (n=6)

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