

# How Do Teachers Learn to Teach Effectively? Quality Indicators from Quality Schools

A Report to the Rockefeller Foundation  
from Just for the Kids and  
The Southeast Center for Teaching Quality

## Introduction

The standards-based reform and accountability movements have emphasized the importance of integrating a number of elements to create powerful learning environments for all children. Standardized testing, accountability, aligned curriculum, and teaching materials are critical components in the school reform equation. However, the importance of teachers who have the “right” knowledge and skill and schools with the capacity to use them cannot be underestimated. Research shows that America needs high-quality teachers and teaching to close the achievement gap and to bring students from diverse populations up to high academic standards (Ferguson, 1991; Sanders & Rivers, 1996). Only with all of these components firmly in place can schools fully realize the potential of current reforms. If the movement toward standards-based reform and accountability systems is to succeed, it is critical that educators have the capacity to use test data to improve practice.

The multi-phased project described herein was undertaken by Just for the Kids (JFTK) and the Southeast Center for Teaching Quality (SECTQ). It is designed to identify key teacher learning indicators that can explain the success of high-performing schools in a small sample of Texas schools and then to develop and test that set of indicators to be used to augment current accountability systems. Although its implementation is complex, the idea is simple and straightforward: For accountability systems to support school improvement more fully, they need to publicize not only *which* schools and students are doing well, but also *why* they are doing well. This project positions JFTK and SECTQ to forge a new consensus around what it takes for schools to improve and how accountability systems can provide better information to policymakers, practitioners, and the public. Publicly available teacher learning indicators will help focus attention and support for creating conducive learning environments for teachers.

JFTK’s unique method of assessing school improvement in Texas is based on a rating system that sets higher academic standards while encouraging schools to include more students in the testing program and assign fewer to special education as a means to exclude them from testing. Drawing on the JFTK assessment system and fieldwork from this project, we have begun to identify teacher learning indicators in elementary schools. In later phases, we intend to further develop and validate these indicators by testing them in a larger set of elementary schools before extending the project to middle and high schools. This study is unique: No state has yet developed an indicator system specifically for teacher learning.<sup>1</sup>

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<sup>1</sup> In preparation for this project, JFTK surveyed the departments of education in the thirty-eight largest states and conducted an exhaustive ERIC database search. No evidence was found of any teacher learning indicators.

There is widespread consensus that teachers are what matter most for improving student achievement (National Commission on Teaching & America's Future, 1996). There is considerable debate, however, about *how* to improve the quality of teaching. This fragmentation often leads policymakers and educators, who do not have the information they need to make good decisions, to adopt ineffective educational policies that do not necessarily support or improve student learning. In their work across the nation, JFTK has found that most states currently lack the capacity to understand what data can and should be collected to improve student achievement and support public policy making, to assemble student data that can be linked to data on the conditions that support effective teaching and learning, and to use the information they do have. Many states enact laws that set high expectations for student achievement only to discover that high expectations at the state house do not always translate into higher achievement at the schoolhouse. This project is designed to remedy this situation by:

- Constructing a research-based understanding of what is needed in teacher learning to ensure that students meet high expectations,
- Developing teacher learning indicators that help schools, districts, and states shape their strategies, provide professional development to improve instruction, and assess progress in supporting teacher learning that is directly related to higher student achievement, and
- Generating informed political will to support teacher learning and professional development through widespread public dissemination of the research findings.

The collaboration between Just for the Kids and the Southeast Center for Teaching Quality provides a unique opportunity to bridge the current policy divides over standards-based reform, accountability, and efforts to improve teaching. Our organizations have a strong track record in research and policy development in these areas, but they have tended to have influence over separate sets of policymakers and practitioners, who hold divergent and incompatible views about these issues.

In our initial phase of this investigation, we identified schools that have closed the achievement gap among students in poor and minority schools and explored what may account for the differences between the high- and average-performing schools in our sample. What follows is how we conducted our investigation and what we have found.

## **Methods**

For the initial phase of the study, the research team drew upon JFTK's database of student performance and demographics for all Texas schools for the years 1999-2001 to identify twelve elementary schools that were matched on a range of demographic and achievement variables. All of the schools served a high proportion of at-risk students (at least 50 percent of their students qualified for free or reduced lunch).

Seven high-performing schools were chosen, all of which had 70 to 80 percent low-income students who performed academically in the top 25 percent among low-income schools across all subjects. In addition, these schools had proficiency levels that never dropped below 30 percent in

any grade or subject (reading, writing, mathematics). Their overall performance did not decline by 15 percentage points or more over the three-year period. Their reading proficiency rates were never 15 percentage points or more below writing mastery rates. Fewer than 15 percent of students were in special education for at least two-thirds of grades in the school and years of test data. Finally, the students' overall scores did not drop six points or more after they left the school's highest grade.

As a comparison group, five average-performing schools with very similar student populations were chosen on the basis of lower student performance (e.g., these schools averaged between the 40th and 60th percentiles in their low-income decile group of students). The researchers, supported by an advisory board, sought average rather than poorly performing schools to match with the high-performing schools, in order to understand the subtle differences that allow a school to rise above the others.

We then had the teachers at each of the twelve schools complete a survey on teacher preparation, learning opportunities, and school/district environments. Survey items were drawn from a range of teacher surveys used in other well-known studies.<sup>2</sup> The survey, administered in March 2002, yielded response rates close to 100 percent for all twelve schools. The survey was designed to see which items might best distinguish the high- from average-performing schools, and in turn, which four of the twelve schools were the best candidates for participating in the extensive case study research that was to follow. Descriptive and inferential statistical analyses were conducted in order to reveal items where means differed significantly across the two groups of schools, which surfaced dramatic findings. In addition, each of the twelve principals completed a one-page open-ended survey that asked for information about teaching assignments and professional development at the school level.

An advisory board of national and state experts convened two times during this initial phase of the project: in April 2002, to review survey results, discuss and approve case site selection, and provide insight into plans for indicators to be developed through case work; and in August 2002, to contribute to our understanding of preliminary case findings.

For the case studies, the research team chose two high- and two average-performing schools, taking care to select schools that could be differentiated easily on the basis of their teachers' responses to the full range of survey items, as well as issues of geography and ethnic distribution of students. One pair of schools was chosen from the same district in a mostly Latino, border county to emphasize school-level differences and to understand district-level effects. Valley Elementary,<sup>3</sup> the high-performing school, and Chavez Elementary, the average-performing one, provided an important match because they had so many similar characteristics and demographics, including drawing on similar pools of teachers, having access to the same

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<sup>2</sup> Surveys that were used in developing the instrument for this project include NPEAT survey of school climate and instruction; NCTAF exemplary teacher education survey; SASS; NCREST New York Networks for School Renewal, Beginning Teacher Preparation Survey; NEA Conditions of Teaching and Learning; National Reading Research Center US Elementary Reading Instruction Survey; Longitudinal Evaluation of School Change and Performance; University of Southern Maine Survey of Teacher Preparation Program.

<sup>3</sup> The actual names of all case-study schools have been replaced with pseudonyms to protect the confidentiality of participating schools.

community resources, and, of course, having the same school district structure. Valley was chosen because it had produced the most positive survey responses with regard to teacher preparation and professional development; Chavez had some of the most negative responses, relative to the sample.

For the other two schools, we sought to draw upon more geographic and ethnic diversity. Therefore, we selected a high-performing school, Richards Elementary, that serves an almost even distribution of African-American, Caucasian, and Latino students and had survey results that were quite positive. The other average-performing school, Crane Elementary, is located in an urban community with considerable resources and also had teacher survey responses that were more positive than its counterparts with similar student achievement. Knowing that a teacher survey of beliefs and understandings alone could not disentangle the complex issues we sought to understand, we intentionally searched for average-performing school whose teachers reported similar perceptions to those in the high-performing schools.

The case studies incorporated document analysis, a second, more thorough review of survey findings, extensive interviews with district officials, community leaders, principals, and teachers, and a large number of classroom observations and follow-up interviews with targeted teachers. These methods enabled us to understand better how and why these teachers teach as they do. In addition, principals completed an open-ended School Resource Survey that sought to identify how school resources were used to improve teaching and learning. Center staff and consultants developed a three-day training session for the ten-member research team that included an overview of qualitative research methods and specific exercises in classroom observation (using videotaped lessons), reflective analysis, and internal reporting. Team members were assigned to each of the four sites for three consecutive days during the first half of May 2002.

Teacher, principal, and district administrator protocols were designed to build on the information gleaned from the teacher and principal surveys and to relate to important areas identified through previous work of JFTK, such as their Best Practices project mentioned later in this report. Prior to site visits, lead researchers for each of the four schools interviewed principals by telephone to elicit essential background information about the schools. These data were combined with Internet documents, survey data, and JFTK analyses to form a background memo on each school. Lead researchers then distributed the memos to their research teams for each site and utilized them to amend and annotate interview protocols.

Lead researchers consulted with administrators prior to the site visits, providing guidelines for the selection of a representative group of teachers to be observed and interviewed during the site visit. In addition, lead researchers utilized a snowball sampling technique on-site, using team debriefings and information provided by administrators and others to identify additional teachers to interview more in-depth. A significant percentage of teachers were observed or interviewed in each of the four schools. Fifteen to twenty-seven teachers were observed in each school, representing proportions that ranged from 39 to 55 percent of the entire faculties of each respective school. Teams also interviewed from two to six teachers in-depth at each school. In total, seventy-three teachers and administrators were interviewed.

Classroom observation guides were drafted prior to team training sessions and revised based on feedback and assessment of their effectiveness in training. The final packet for each observation included forms for recording vital details, instructions for observing, and instructions for reporting on observations. Observations, each approximately one hour or one lesson in length, were preceded and followed by brief, structured conversations between the observer and teacher to clarify and elaborate on the context of the observation.

Lead researchers, in concert with their teams, wrote case reports according to a standard format. The following main areas were covered: (a) goals, and school/district plans and context, (b) resources and support, (c) leadership, (d) teacher recruitment and hiring, (e) supervision and evaluation, (f) teacher learning and professional development, (g) teacher collaboration and communication, (h) instructional practices, and (i) student assessment. The data were organized to test for patterns emerging from different teachers and administrators from schools with different performance levels. The research team then began the process of data reduction that identified the prevalence of certain practices found in high-performing, but not average-performing schools. The team was able to re-assemble this long list of practices according to several categories, which formed the basis of how we are reporting our initial findings. To confirm an initial indicator of teacher learning, the team surfaced multiple points of evidence from different sources (i.e., interviews, surveys, document reviews) and/or from different informants.

## **Preliminary Findings**

The research team administered a 24-question survey (with multiple items nested in many questions) to every teacher in the twelve schools. We found significant differences between the average- and high-performing schools on virtually every item related to teacher education, mentoring and induction, professional development, curriculum and instruction, school testing and assessment, school climate, and leadership. The differences in teacher responses from the two groups of schools were not only statistically significant, but their overall magnitude was striking on several counts. What follows are some of the more salient findings.

In high-performing schools, teachers were much more likely to agree, by a 20-point margin or more, that professional development was connected to a larger whole-school plan (29%+); was a good fit with what teachers needed in their current teaching assignment (21%+); was connected to teacher evaluation processes (21%+); led to recognition or higher ratings on an annual teacher evaluation (19%+); and focused on subject matter content and how to teach it (19%+). Responses are presented in Figure 1.

In high-performing schools, teachers were much more likely to agree that their teacher education programs prepared them to teach in ways that support new English Language Learners (15%+); use a variety of assessments (15%+); and work with parents to support student learning (7%+). See Figure 2.

In high-performing schools, teachers were much more positive about their school culture and climate. Teachers in the high-performing schools were more likely to report that the stance towards work at the school is one of inquiry and reflection (27% +); their principal is a strong

leader in school reform (22%+); they take steps to solve problems, not just talk about them (22%+); they have an effective process for making group decisions and solving problems (21%+); and that the school curriculum is planned across grade levels to promote continuity (21%+). See Figure 3.

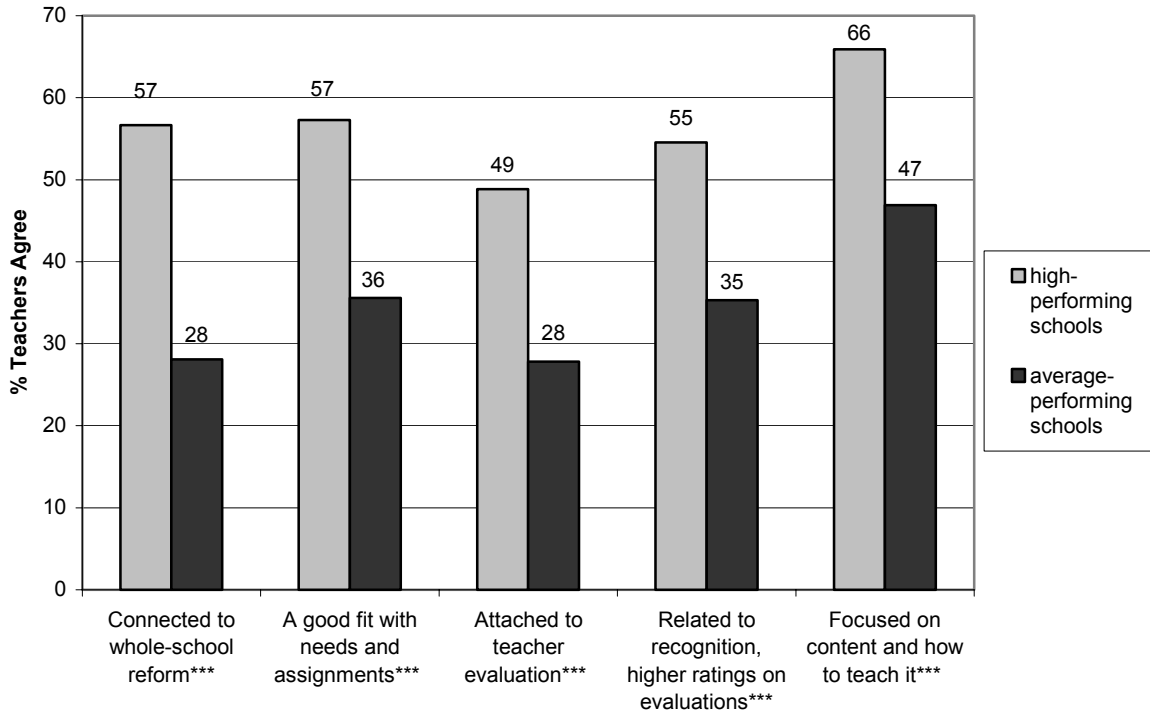
When it came to curriculum, instruction, and assessment, again there were several items that really demarcated the two groups of schools. Teachers in the high-performing schools were more likely to report that committees or task forces focused on curriculum and instruction (20%+); the curriculum is relevant for the students they serve (20%+); and the relationship between instruction and assessment is clear (19%+). See Figure 4.

There were other areas in which significant differences emerged between high- and average-performing schools. Teachers in the high-performing schools were more likely to agree that the school has well-defined learning expectations for all students (14%+); the curriculum is aligned with established academic measures (14%+); and the school has high standards for students' academic performance (12%+). See Figure 5.

With regard to school assessment and accountability, some of the significant differences between the high-performing and average-performing schools include: school-wide commitment to assessment and accountability (14%+); all assessment results are reported to parents (19%+); teachers understand and use a variety of assessment tools and results for instructional planning (13%+); and a variety of assessment strategies is used to measure student progress (12%+). See Figure 6.

In terms of the induction experience of new teachers in the twelve surveyed schools, there were fewer significant differences between the groups of high- and average-performing schools, although the differences that stood out foreshadowed findings from our case studies. For instance, more teachers in the high-performing schools reported that they had release time to observe other teachers in their first year than in the average schools (19%+). Also, 12 percent more teachers in the high-performing schools benefited from peer coaching as new teachers than in average schools. Teachers in high-performing schools had a higher rate of regular, supportive communication with an administrator during their first year than in the average schools (14%+). See Figure 7.

Figure 1: Professional Development is . . .

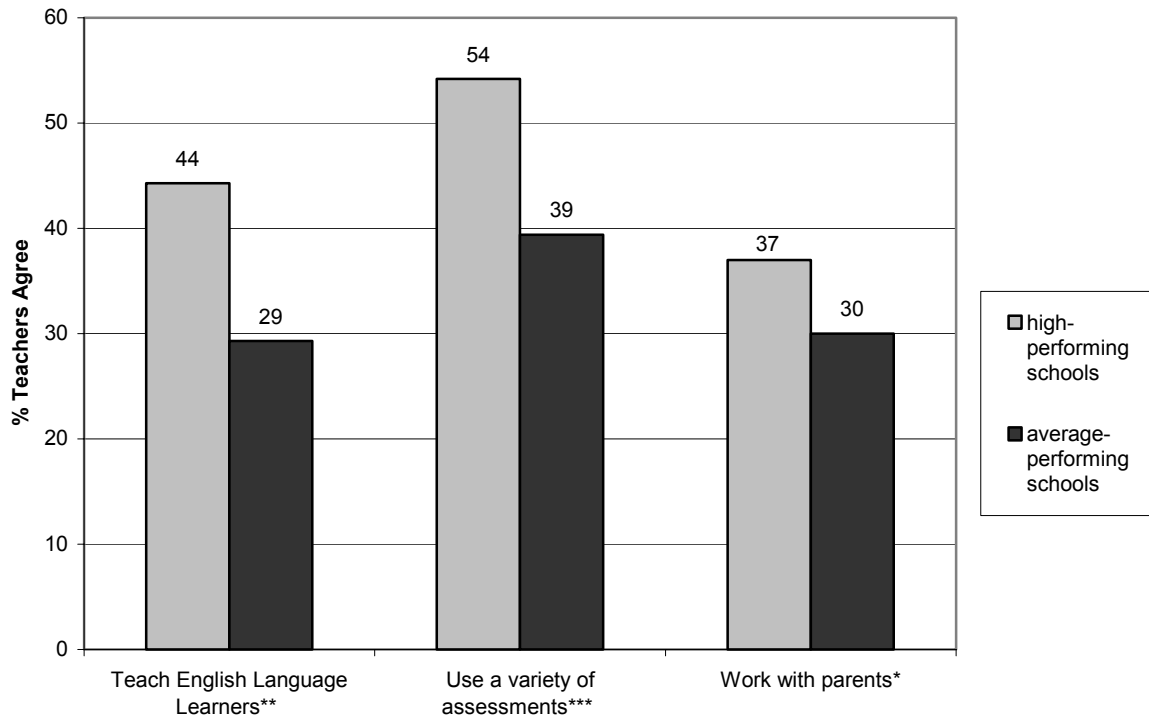


\* $p \leq .05$

\*\* $p \leq .01$

\*\*\* $p \leq .0001$

Figure 2: Teacher Education Prepared Teachers To . . .

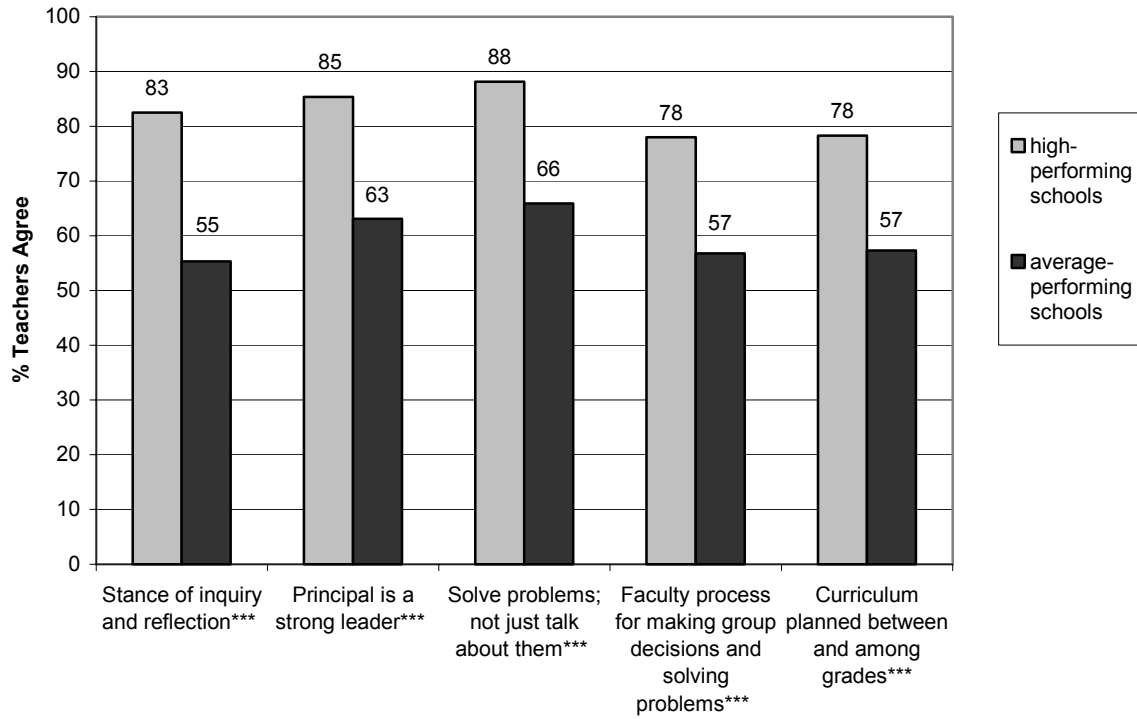


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Figure 3: School Culture/Climate

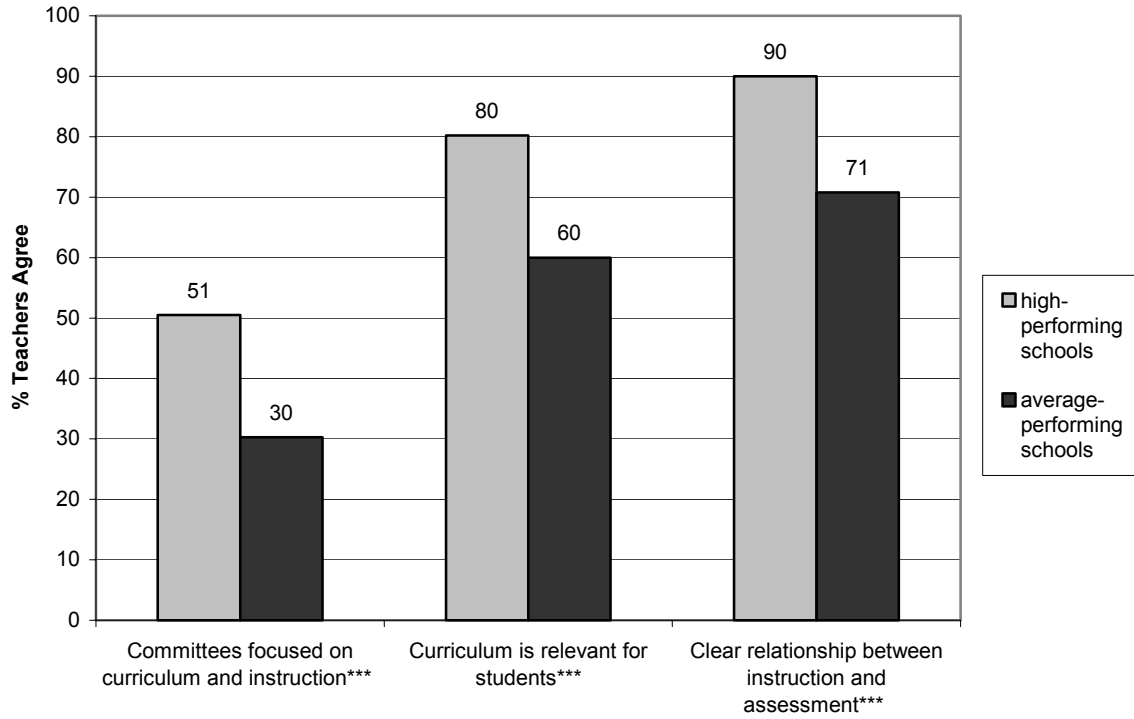


\* $p \leq .05$

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Figure 4: Teaching and Learning

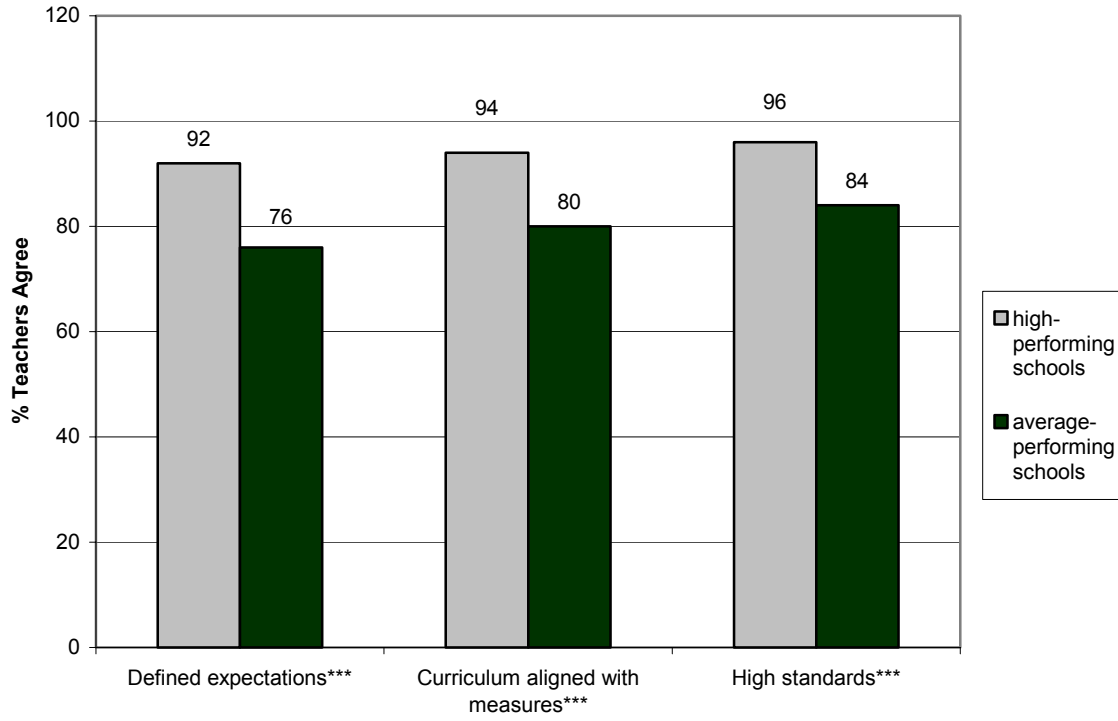


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Figure 5: Learning Expectations

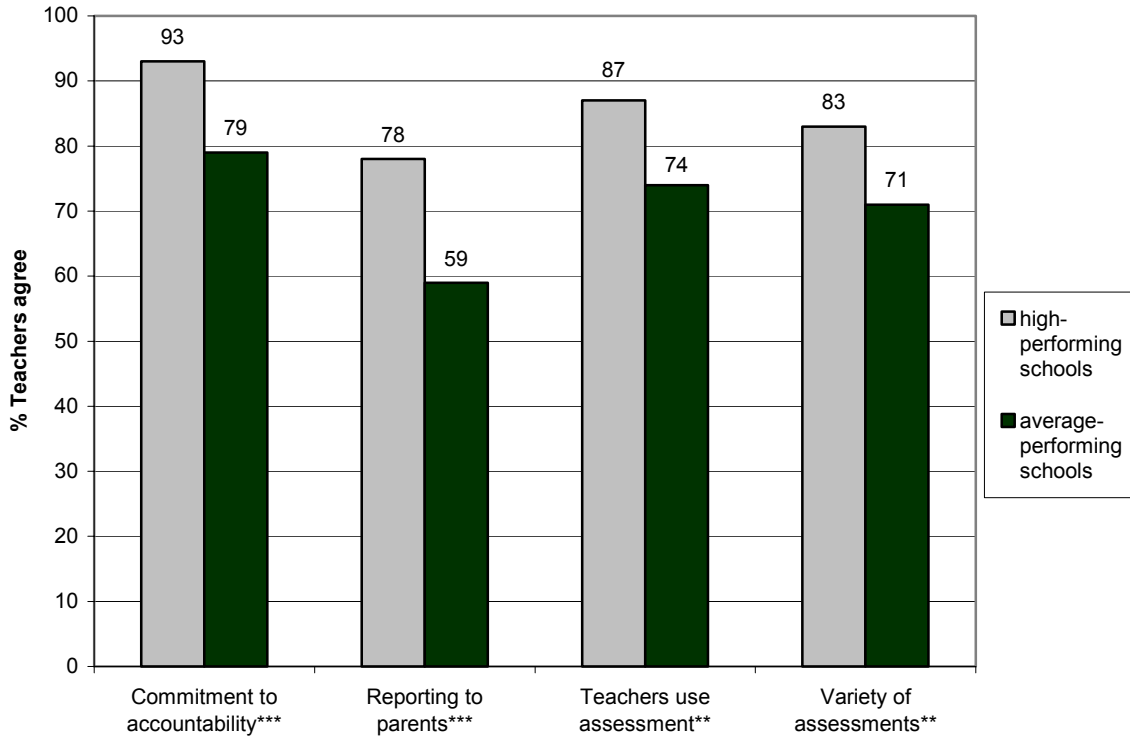


\* $p \leq .05$

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Figure 6: Assessment and accountability

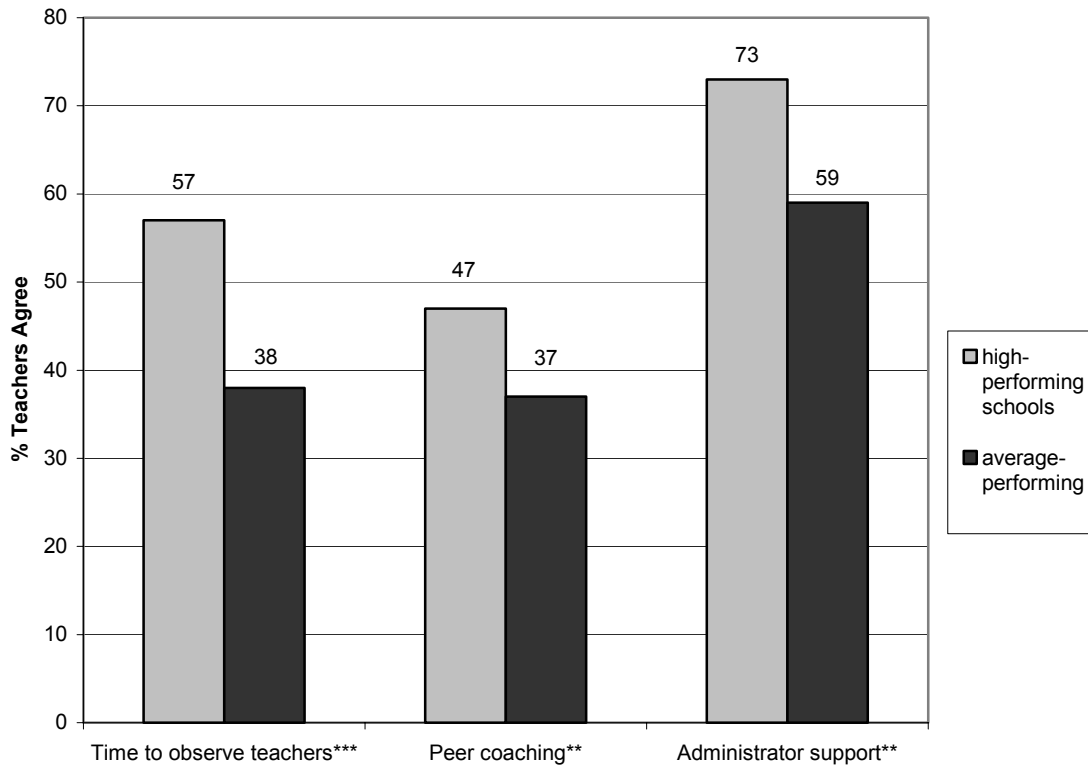


\* $p \leq .05$

\*\* $p \leq .01$

\*\*\* $p \leq .0001$

Figure 7: Induction



\* $p \leq .05$

\*\* $p \leq .01$

\*\*\* $p \leq .0001$

## The Case Studies

Drawing upon specific survey findings and the in-depth fieldwork conducted in four schools (two average- and two high-performing schools), the research team identified five key domains that characterized the schools and distinguished the high-performing schools from the average-performing. These include: (1) attitudes and expectations, (2) developing and distributing teaching expertise, (3) a tight focus on curriculum, assessment, and instruction, (4) use of instructional resources, and (5) leadership. To the savvy reader of school reform and effectiveness literature, these domains do not appear to be out of the ordinary. They are not. As usual, the devil is in the details, and some of the detailed explanations that we surfaced during the extended time we spent in the schools informed our thinking about what might best explain how teacher learning was contributing to substantial student achievement gains.

It is important to note that the average-performing schools were successful in maintaining a critical level of student achievement and tended to have elements of effective practices in place. What distinguished the high-performing schools was the consistent presence of *all* of these elements and the degree to which their practices were clearly articulated, systematically implemented, and pervasive in every aspect of the school’s operation. An in-depth discussion of each domain, with illustrative examples from the case site schools, follows. A brief synopsis of each school may be found in Figure 8 below.

**Figure 8: Brief Descriptions of Case Study Sites**

Valley Elementary	Chavez Elementary	Richards Elementary	Crane Elementary
high-performing	average-performing	high-performing	average-performing
This Pre-K – 5 school is like a tightly run ship with the academic success of students as its unwavering destination. Major investments have been made in computer-based instruction and a pervasive system of rewards/incentives for students.	This Pre-K – 5 school’s defining characteristic is its pervading culture of one big, happy family. Teachers clearly care about students’ welfare and learning, but a strong, school wide focus on academic achievement is limited. Warm, friendly atmosphere, with much “Spanglish” heard among teachers/aids in non-classroom settings.	This Pre-K – 4 school truly operates as one team with a strong sense of academic purpose and community. Everyone knows what to do, how to do it, and teachers have the freedom to teach as they know best. Every opportunity is taken to integrate learning into the daily routine.	This K – 5 urban school is in the process of transitioning toward improved performance. Recently under new leadership—the current principal is in his 2 <sup>nd</sup> year at the school. Survey results similar in many ways to the high-performing schools but site visit data indicate differences in the level of focus and consistency of policies and procedures.
719 students. Majority of students (98%) and teachers are Latino.	425 students. Majority of students (99%) and teachers are Latino.	700 students. Population is 33% Latino, 22% African-American, 43% white.	802 students. Population is 46% Latino, 19% African-American, 31% white.
33 regular classroom teachers	25 regular classroom teachers	32 regular classroom teachers	70 regular classroom and specialty teachers

### Attitudes and Expectations

The research team found that virtually every one of the seventy-three interviewees in each of the four schools expressed a great deal of commitment toward the children they were teaching and supporting. In this regard, there was no question about their dedication to work with young people, many of whom find themselves in precarious life circumstances. Our in-depth interviews and observations suggest that the intense commitment to children may be important as a baseline condition for the academic success of students in both average- and high-performing schools, yet commitment to students is not sufficient for the high academic achievement of all students. Other attitudes and beliefs were discerned that set the high-performing schools apart from the average-performing ones.

First, *academic goals and teaching strategies were clear, articulated, and shared* throughout the high-performing schools. For example, school improvement plans typically identified major goals and described key strategies for accomplishing those goals. What distinguished the high-performing schools was the clear indication that academic goals and strategies were shared by all and operationalized in the language and actions of the daily routine. Teachers consistently voiced the same message in their conversations, and we observed evidence of the practicing of those beliefs in classrooms.

For example, at Valley, teachers and administrators knew that newly hired staff *must* have high standards and expectations for *all* children, and the school would provide the support and professional development required for them to instruct each child to his/her highest capacity. We saw in classrooms what experienced teachers voiced was important in hiring new teachers and what new teachers reported was asked of them when they were interviewed for their teaching positions at the school. Similarly, at Richards, teachers and administrators articulated the importance of being a team player at a school that was highly dependent upon a tight, interpersonal network of faculty, staff, and volunteers to accomplish their learning goals. Richards' teachers were far more likely to believe that they had "an effective process for making group decisions and solving problems," even compared with teachers across the larger group of high-performing schools in our survey sample. And as soon as the spring test results were returned, the teachers and administrators launched a process, based on that data, for planning next year's academic program.

Second, in the high-performing schools, we found a *deep belief in student capacity to learn* and teachers' capacity to help students learn at high levels. While many schools espoused the belief that "all children can learn," the teachers at high-performing schools acted on those beliefs in very specific ways. For example, in the high-performing schools, every student was assessed and instructed in ways designed to move him/her to the highest level of achievement. At Valley, all teachers were required to attend professional development for instruction of gifted and talented students every year, which makes a strong statement about belief in the capacity of all students to learn at high levels and clear support for teachers to be prepared to accomplish that goal. In fact, any teacher new to Valley was required to attend a 30-hour workshop on teaching gifted-talented students; all teachers attended an additional six hours of gifted-talented professional development every year. In sharp contrast, the average-performing schools placed more emphasis on each student performing at grade level, focusing more on ensuring a minimum level of performance on the state test than on achieving a maximum potential.

Students at Valley were heterogeneously grouped. If a student was performing at grade level, he/she was pushed beyond that level, as in a case where a third-grade student was observed working on seventh-grade math on a computer mathematics program. In the average-performing schools, students were described as being heterogeneously assigned to classes, but it appeared that pullout classes for targeted groups of students and policies for assignment to bilingual classes resulted in a reduction of class diversity.

Teachers in the high-performing schools were able to be more student-centered in their teaching because they had the necessary information, skills, and support needed to know and address the learning needs of each student. For example, both of the high-performing schools had assessment systems in place that provided on-going, objective-specific information about individual students' understandings that allowed teachers routinely to target and adjust instructions as needed. (This topic is addressed in more depth in the section on curriculum, assessment, and instruction.)

In addition, teachers were well prepared. While we saw high-quality lessons in all four schools, teachers in high-performing schools were more likely to see each other teach, and administrators and teachers alike were more likely to point out exemplary teaching that others should emulate. We believe there were greater expectations and support for teachers to continue learning to teach more effectively in the high-performing schools. In contrast, teaching was more isolated in the average-performing schools, an issue we explore in-depth later.

Third, in the high-performing schools we found a *collective responsibility* of the entire school community for each student. In the average-performing schools we saw more isolation and compartmentalization among individuals or grade-levels. For example, at Richards, teachers and aides from one class or grade level worked with students at other levels as TAAS Buddies, and teachers described exchanging classes with others when they had difficulty teaching a concept to a group of students. However, community is not just about teachers, but students as well. At Valley, high-performing fifth-grade students were paired as lunchtime tutors with third-graders who needed additional instructional assistance. In both high-performing schools, instructional aides and parent volunteers served in academic-oriented roles supporting teachers.

Fourth, in the high-performing schools we found *solution-centered approaches to problems* with little evidence of excuses or finger pointing. In the two high-performing schools, socio-economic factors were recognized as informative of who students are, but not as an explanation for failure to achieve. The students' backgrounds, home environments, and other high-risk factors barely came up in interviews with teachers and administrators at the high-performing schools, in contrast to comments that were volunteered by those at the average-performing schools. Again, it is important to note that the preparation of teachers and administrators to identify and successfully address the learning needs of individual students appeared to play an important role in their approach to and beliefs about learners.

Finally, in the high-performing schools we found *high standards for students' behavior, teachers' performance, and professional climate*. In all four case site schools, clear, well-enforced rules of conduct for student behavior contributed to a stable, predictable environment

that was conducive to learning, suggesting its importance in contributing to students' success. As noted earlier, however, the high-performing schools then built on that baseline stability with much higher academic expectations of each student.

The high-performing schools held very high expectations for teachers, as well. Teachers knew that administrators were aware of and interested in the quality of their classroom instruction. At both schools, there was a strong belief that it was the collective responsibility of the administrators and teachers to help all teachers perform well. At Richards, there was no doubt that teachers who did not meet expectations, particularly with regard to being team players, would not be retained. At Valley, on the other hand, the administration believed it was their job to "develop, not fire" poorly performing teachers. Both schools were effective in developing teachers' knowledge and skill, and at Richards, the principal was able to remove some teachers who could not get with the program.

#### Developing and Distributing Teaching Expertise

High-performing schools distinguished themselves from their average-performing counterparts in the way they selected, supported, and distributed expertise of teachers. Interestingly, survey responses from the twelve schools revealed significant differences in teachers' reports of their pre-service preparation in three areas: working with new English language learners, working with parents and families, and using a variety of assessments. It was particularly revealing to compare the responses of teachers at the two schools in the same district where most of them had received their pre-service education from the same teacher preparation program. Sixty-two to eighty-two percent of the Valley teachers reported that they felt well or very well prepared by their pre-service education program in the areas of "teaching the concepts, knowledge, and skills of their discipline" and "using their knowledge of learning, subject matter, curriculum, and student development to plan instruction." In contrast, only 23 to 35 percent of the Chavez teachers reported those levels of preparation.

Clearly, there were distinct differences between the high- and average-performing schools in teachers' perceptions of their pre-service education. Further study would be required to discern the extent to which these differences reflect actual differences in quality of recruits' pre-service education, differences in recruitment/selection, or the impact of in-service experiences on perceptions of pre-service education. However, our observations revealed a number of practices that may well have contributed to both differences in which teachers were selected and how their pre-service expertise was supported and cultivated as they began work in the high-performing schools. These practices are described below.

Our interviews revealed many similarities between high- and average-performing schools when it came to *recruiting teachers who are "right"* for them. All four schools valued teachers who knew a lot about teaching in the context of the student and community culture. All sought new teachers who were enthusiastic and had the knowledge, skills, and dispositions to know children and their families well. We believe that this may be an important contributor to the schools' success. All four administrators believed the schools of education that supplied them with new recruits were doing an increasingly better job in preparing teachers for specific challenges found in their schools.

Three of the case study schools drew upon connections of the school and/or district with local universities to facilitate the process of teacher recruitment and development. What appeared to separate the high- and average-performing schools was their use of faculty-driven hiring processes to build common values among all teachers and to drive school improvement. The high-performing schools had their teachers deeply involved in recruiting and hiring new teachers. In this sense, the teachers had a chance to articulate the school's ethos to the new recruits, assess more adeptly whether or not the new recruit had what it takes to be effective in their school, and then if the recruit was hired, vest the experienced teachers in the new hires. This recruitment culture was not observed in the average-performing schools. In the high-performing schools we found that this "experienced teacher/new teacher recruit" relationship was then expanded in the mentor-novice teacher relationships.

In high-performing schools, we found that the administrators and experienced teachers in the school were *able to build on the pre-service teacher education* of their new hires, further developing their nascent knowledge of teaching and learning. Peer-based learning, critical to this process, is built into the daily routines of the high-performing schools where *new teacher support and mentoring is highly developed*. In fact, the high-performing schools were much more sophisticated at new teacher induction than the average-performing schools. At Valley, there were one-to-one mentor-novice assignments. At Richards, two mentors (one at grade level, one above or below) were assigned to every teacher new to the school—not just new to teaching. In these two schools, all new teachers were observed, and new teachers had multiple opportunities to observe more experienced teachers in action. At Richards, observations of experienced teachers were not only highly encouraged and facilitated, but also required.

In contrast, the average-performing schools had mentoring programs in place, but both had multiple novices for each mentor teacher. Induction at Crane, which has invested a great deal in a new mentoring program, had an important, but perhaps limiting, factor. Crane hired retired teachers to serve as part-time mentors; since these teachers were without their own classroom, the mentoring program eliminated one source of the close observation of teaching that new teachers experienced in the high-performing schools.

In addition, at the two high-performing schools there was a clear understanding of the diversity among students, and proactive measures were in place to address the diverse needs. In these schools, we discovered a special form of collaboration that was more akin to *collective responsibility for each student*. These measures included the strategic use of teachers' expertise. For example, at Valley computers were used for targeted practice and instruction, allowing more time for teachers to work with smaller groups on less routine skills. At Richards, specialty teachers were strategically called upon and assigned to students based on identified individual needs. Still, the proactive approaches of these two high-performing schools were quite different. At Valley, all students were heterogeneously assigned to classes and all teachers were prepared and supported to work with diverse students through gifted and talented professional development and computerized, objectives-based instruction. In contrast, there was greater specialization among teachers at Richards, but the strong school wide network in a highly collaborative environment assured awareness and coordination of efforts. These represent very different circumstances from other schools that may heterogeneously assign students without

preparing or supporting their teachers to deal with that diversity or that depend heavily on specialization and pulling students out of classrooms in non-collaborative environments.

The sense of collective responsibility toward each student was apparent in some very concrete ways with regard to teachers' opportunities to share and build on each other's expertise. For example, at the high-performing schools, we found a special emphasis on making sure that teachers had routine collective time to examine and share resources, ideas, and insights regarding instructional and academic goals. This was generally in the form of shared planning time that was actually used on at least a weekly basis for tasks that were focused on instruction. In addition, both of the high-performing schools had more informal cultures of sharing; teachers routinely went to each other for help and ideas.

Also, in the high-performing schools, teachers had an awareness of goals and objectives above and below their own grade level in conjunction with a strong focus on the use of daily and/or weekly assessment data that informed them of each student's level of understanding of objectives. In one school, this knowledge was concretely facilitated by selecting two mentors—one mentor from the same grade level and a second mentor from the grade level above or below the mentee—and through weekly staff development activities that systematically explored how instructional objectives could be taught throughout all grade levels.

In the high-performing schools, teachers and administrators were more likely to *select and sustain professional development based directly on school priorities* and informed by multiple sources of data on student and teacher needs. In a nutshell, the high-performing schools were savvy about the use of data, had more data available, and used the data to drive school- and team-based professional development. Because of this kind of fine-tuned knowledge of their students, the high-performing schools were more likely to be more selective about which professional development opportunities they chose and were more likely to extend the professional development opportunities provided by their districts and/or regions.

#### Tight focus on curriculum, assessment, and instruction

In high-performing schools we found more *systematic processes in place for multiple daily/weekly student assessments* through early and on-going data collection in usable formats. Both high-performing schools developed unique benchmarking tools and prepared teachers to use them. Indeed, assessment was an integral part of instruction, and the assessment data were critical to decision-making processes throughout the school. In the high-performing schools, data were systematically recorded, analyzed, and accessible to teachers and administrators. In addition to the data available at the school and classroom level, instruments and procedures were in place that generated specific information about each individual student's level of performance on specific academic objectives. The importance of this information rippled throughout the system, allowing for an in-depth understanding of each student's needs and targeted instruction and interventions based on precisely identified student needs.

At Valley, objectives-based, computerized instructional programs and the Accelerated Reader program systematically generated data about each child's performance that the principal and the teacher reviewed on at least a weekly basis. At Richards, a teacher-developed system was in

place to assess each student in every class on a daily basis on specified TAAS objectives. Teachers recorded the results for each child in their class and gave copies of the results to the principal for review. The timing of the assessments was particularly important in the high-performing schools. As soon as TAAS results were received, planning began to meet identified areas of need. From the time students arrived in the fall until the end of the school year, assessment data were collected and used to guide instruction and any necessary interventions. Tutoring and specialized instruction were in place immediately for students who were not performing at the expected level, and in the case of one of the high-performing schools, this intervention continued even after TAAS had been administered.

Through these formal and informal assessments, teachers in the high-performing schools were more likely to *review, recreate, and share curriculum and instructional resources*. As described earlier, collective planning time was available and used by teachers (at least weekly for several hours) for instruction-oriented activities at all grade levels. With these practices, teachers seemed more likely to deliver instruction tailored to individual students' needs. In the high-performing schools, teachers knew the status of each student by objective and were prepared to address specific students' needs. In contrast, teachers at the average-performing schools recognized areas of need and tended to address groups, rather than individuals. With these *highly individualized approaches*, the high-performing schools were more likely to offer *additional targeted instruction/interventions, as needed*, regularly throughout a child's time at the school. At Richards, instructional aides were working intensely with individual students in the halls a month after the TAAS test had been taken. At Valley, Saturday tutoring occurred from the beginning of the school year until the time of the TAAS test, and additional, targeted work based on assessment results was routinely assigned to students who did not progress as expected. Average-performing schools appeared to be more reactive in their strategies, with interventions more likely to take place suddenly in the last few weeks leading up to the April TAAS administration.

During our site visits we found other compelling differences in how the high- and average-performing schools assessed students and implemented interventions. For example, in the high-performing schools, students who were behind the academic "eight ball" were more likely to be identified early by teachers. At the average-performing schools, the same group of students were more likely to be identified by the district or by results from an external benchmark test that arrived at the school just a few months before the TAAS was to be administered. At the high-performing schools, the identification of and resultant support for students at risk of failing the TAAS was a whole school, teacher-driven process. At Richards, the teachers raised the issue early in the year about who needed extra help, why, and what needed to be done. The school already had a process in place and established resources, e.g., instructional aides, academic specialists, who were ready to work with the identified students. Again, at the high-performing schools, the interventions underway before TAAS administration were still underway after TAAS. At one of the average-performing schools, the administrators sounded the alert when the January benchmark results were received, and they, along with selected teachers, were personally involved in providing additional, targeted instruction to individual students on specific objectives. This point is made not to diminish the important work of these hard-working educators, but to speak to how and when high-performing schools deploy resources to serve at-risk students. Also, while all four schools "lightened up" a bit after TAAS, the high-performing schools continued to be very focused on teaching to standards and pushing students' learning.

Finally, at all four schools, teachers and administrators recognized the importance of enriching the “cultural capital” of students’ experiences, enhancing test-taking strategies, and addressing the emotional needs of children. Test preparation was an integral part of instruction at all of the schools so that students were familiar with the format and test-taking strategies as well as the content itself. The difference in the high- and average-performing schools arose in whether the curriculum content went beyond what was specified for success on the TAAS. While there was a *strong emphasis on standards-based teaching and learning* in the high-performing schools, it was surely not an exclusive one. As described earlier, in the high-performing schools the TAAS objectives were a minimum goal, not a ceiling. So, for example, when students mastered the grade-level objectives, teachers had the information and resources to introduce them to higher-level objectives. Similarly, additional enrichment and/or other topic areas were included in the curriculum. The curriculum of the average-performing schools appeared to be more focused on the tested, grade-level objectives.

#### Use of Instructional Resources

At the high-performing schools, we found a strategic use of instructional resources. The use of time, human, and fiscal/material resources was directed toward the academic goals of the schools. At these schools we saw and heard about a distinct *level of efficiency in how time for learning was used*. Every available minute was directed toward learning activities, and this focus continued *after* the TAAS testing in the spring. At Valley, school policy dictated that all school wide activities must be academically focused; holiday parties, for example, were not allowed. Students were observed arriving promptly to school and no one was dismissed from school until the principal announced the end of the day over the intercom. In contrast, the precise beginning and end of the school day were less clear to the researchers at Chavez, as students came and went over a longer period of time.

At Richards, the environment was somewhat more relaxed (compared to Valley), but definitely instruction-focused. Everyone was observed to be involved in teaching academic objectives, including the media specialist who was prepared to teach algebraic functions as students took their places on a large, grid-like carpet and the PE teacher who incorporated mathematics and geography into the class by recording and charting on a large world map the number of miles walked per student and total miles walked by all students in the school. (Last year, students ran far enough to get half way to Hawaii.)

In addition, at both of the high-performing schools, there was a clear understanding of who needed what academically, and how that could best be provided. In these schools, *all adults have instructional support roles that are clearly defined and understood*. Instructional assistants and volunteers were well integrated into the instructional process and directed their efforts toward accomplishing academic goals. At Richards, instructional assistants and parent volunteers routinely provided individualized attention to students with academic needs. At Valley, parent volunteers contributed to the very systematic use of the Accelerated Reader program to enhance students’ reading skills and interest. Chavez encouraged parent volunteers, but they were more focused on administrative tasks in the school and extra-curricular functions than on instruction.

In a number of previously described areas, it is clear that the high-performing schools were able to *direct the use of teachers' expertise to take advantage of their unique capabilities*. As noted earlier, one school used technology to assist in routine practice and testing, allowing more effective use of teachers' time and expertise in classrooms. The systematic use of the computerized instruction also contributed to addressing individual needs of students and generating information about each student's performance. At Richards, teachers with special intervention skills were strategically used to work with students identified as having specific learning needs. Tutoring for students identified as needing additional assistance was also used extensively at both of the high-performing schools.

Finally, at the high-performing schools, principals had *clear knowledge of available resources and a tight rein on assuring that spending and acquisitions were linked with instructional priorities and identified needs*. In fact, the principals in the high-performing schools were much more able to complete our resource survey fully, indicating their knowledge of where the resources are and their ability to manage them strategically.

### Leadership

Both of the high-performing schools had very strong principals. This is no surprise to anyone familiar with the effective schools literature. This is not to say that the principals leading the average-performing schools did not exhibit sound practices. They did in a number of respects, but we uncovered a few differences in the approaches, visions, and everyday strategies that set principals at the high-performing schools apart from others. In fact, it was their every day strategies that allowed us to get beyond some of the highly general accolades typically associated with the effective principal as instructional leader.

First, principals in the high-performing schools were *forward-looking and proactive with regard to changing expectations* for their schools. In both schools, for example, preparations were already underway for the transition from the TAAS to the TAKS, the new state test which would be implemented the following year. At Richards, the student assessment system that was so closely linked to the TAAS objectives was being revised to provide daily assessment information in line with TAKS objectives. School-based professional development that occurred each Wednesday focused on mathematics because that is the area that leaders recognized as undergoing the most extensive change in the new state test. Similarly, at Valley, administrators had located and shared all information they could find on the TAKS in order to prepare their teachers for this upcoming change.

We have already described the importance of academic goals that are central to the school, but it is important to reiterate that the principals in high-performing schools focus on these goals in all areas of their decision-making: budget, professional development, hiring personnel, and expenditures on other resources. At Valley, there was extensive use of incentives and recognition to encourage buy-in and awareness of the academic goals among teachers and students. Goal setting and rewards for accomplishments permeated the culture of the school. Importantly, as will be described more fully later, principals in high-performing schools expected teacher leaders to develop along the same lines.

Second, at both high-performing schools, principals had a deep understanding of instructional issues and high-quality instruction was a central priority for the school. Indeed, they *focused on student instruction and organizing teacher learning opportunities* simultaneously. The needs of teachers and school goals were critical in orchestrating capacity building opportunities for teachers, and this focus on learning came to bear in a variety of decision-making circumstances, such as the use of and assignments to teacher teams regarding professional development, student assignments, classroom assessments, etc. These processes were facilitated by the administrators' in-depth awareness of what was going on in classrooms.

Third, at both the school and district levels, administrators trusted and almost required teachers to know best how to conduct classroom instruction and make instructional decisions. Principals *expected and supported professional decision-making by teachers*. At Richards, teacher committees made critical decisions about all aspects of the school's operation and instruction. At Valley, the administrators stated very clearly that they trusted the teachers to know how to accomplish the academic goals established for the school. Crane was still in transition with a new principal when we visited, and his governance style was more hierarchical than the previous leader. At Chavez, teachers were respected, but they seemed to feel that they were given too much responsibility for instructional decisions relative to the level of support they received.

Fourth, at both high-performing schools, *responsibilities were shared among administrators and teachers*. Tightness in the system resided at different levels, i.e., not just at the administrative level, but key responsibilities were definitely assigned and clearly understood. There was no question about who was in charge (the principal), and leadership was clearly distributed. We realized that for a principal to develop this kind of shared responsibility and trust in teachers to make sound decisions as professionals, they had to have and use detailed knowledge about student assessment data. This was indeed the case at the high-performing schools and not at the average-performing ones. Along with the distribution of responsibility came sound procedures to ensure accountability for all involved—primarily with regard to how students performed. While Texas' external system of accountability clearly framed how principals and teachers judged themselves, the principals and teachers in the high-performing schools had *developed their own internal accountability systems to drive and assess their everyday practices*. The use of data in making decisions was pervasive throughout every facet of the schools' operation and teachers' instruction. At the high-performing schools, data were used to set performance goals and to assess progress of individual students toward those goals. Data were used to target instruction and interventions. Data determined areas in which professional development was needed and contributed toward assessing the effectiveness of instructional resources and strategies. At the high-performing schools, *principals and teachers constantly asked themselves, "Does it work?" and "How do we know?"*

## **Summary of Case Findings**

Findings from the study of these four schools have directed our attention toward the following key issues for the development of quality indicators:

### **I. Attitudes and Expectations**

- Academic goals and strategies that are clear, articulated, and shared throughout the school
- Belief in the capacity of students to learn *and* teachers' belief in their own capacity to help students learn at high levels
- Collective responsibility of the school community for each student
- Solution-centered approaches: no excuses, no blame
- High standards for students' behavior, teachers' performance, and professional climate

## II. Developing and Distributing Teaching Expertise

- Recruit and develop teachers who are “right” for the school
- Build on teacher education (scaffolding expertise)
- Highly developed new teacher support and mentoring
- Collaboration—and beyond—to collective responsibility (formal and informal structures)
- Teachers and administrators select and sustain professional development premised on school priorities and informed by multiple sources of data on student and teacher needs

## III. Tight Focus on Curriculum, Assessment, and Instruction

- Systematic processes in place for multiple daily/weekly student assessments through early and on-going collection in systematic and usable formats
- Teachers review, recreate, and share curriculum and instructional resources based on formal and informal assessments
- Instruction tailored to individual students' needs
- Additional targeted instruction/interventions, as needed, regularly throughout a child's school career
- Strong emphasis, but not exclusive focus, on standards-based teaching and learning.

## IV. Use of Instructional Resources

- Time used efficiently/with a consistent focus on learning
- All adults have appropriate instructional roles that are clearly defined and understood
- Professional expertise strategically allocated
- Strategic management of resources aligned to school mission

## V. Leadership

- Administrators and teachers take a long-term view and forge shared vision and focus
- Leadership focused on student instruction and organizing teacher learning opportunities
- Administrators expect and support professional decision-making by teachers and develop teacher leadership

- Maintains a tight system: responsibilities clearly defined and distributed
- Data-based decision making asks, “Does it work?” and “How do we know?”

To be sure, these issues are not easily transformed into indicators that can readily be used to improve state-level accountability systems. First, we need to know more about how each of these potential characteristics evolved in these schools and how to determine sound proxies for them. This will involve additional instrument development and validation of measures, and piloting them in a broader range of elementary, middle, and (eventually) high schools. We know that the tasks ahead will not be easy, but it can be done.

It is one thing to measure, perhaps through a paper-and-pencil instrument, the extent to which teachers and administrators possess clear, academic goals that reflect high standards and expectations for each student. It is another thing to have an indicator that represents the kind of professional development (like the gifted and talented professional development for all teachers at Valley) that allows teachers to believe in and act on those expectations. Moreover, it is one thing to document that a school selects well-prepared new teachers whose knowledge of content and students can make a difference for student achievement. It is another to verify and validate that the school’s new teacher mentoring and induction program can and does systematically extend and develop the preparation a novice brings with them to the school. It is one thing to structure opportunities for teacher collaboration; it is another thing to assess and verify how particular schools have teachers assume collective responsibility for serving each student—even those who are not in their classes. Finally, it is one thing to determine if a principal is forward thinking and acting. It is another to surface and quantify the way he or she builds teacher leadership to drive data-based decisions and the professional judgment of teachers who in turn produce student achievement improvements. These are just some of the issues we must confront as we move the effort forward.

### **Next Steps**

As noted earlier, the selection of schools for inclusion in this study drew heavily on JFTK’s work to rate schools based on high and inclusive standards of assessment. JFTK has also conducted a broad scale study of over 100 high- and average-performing schools over the past three years to identify Best Practices within those schools. From this related but independent effort, fourteen practices within three organizational levels (the district, the school, and the classroom) have been identified. Each of these practices is described in detail at the JFTK website, [www.just4kids.org](http://www.just4kids.org).

A comparison of the JFTK Best Practices and Rockefeller findings indicates extensive consistency in the policies and practices identified as important for high achievement of students. The Quality Indicator Areas articulate the overarching themes that are interwoven throughout descriptions of Best Practices for districts, schools, and classrooms. Findings from the sample of schools studied through the Rockefeller Project have provided insight into differences in how high- and average-performing schools embrace and operationalize attitudes, expectations, and support systems for teacher learning and high student achievement.

The development of Quality Indicators that integrate findings from the Rockefeller Study and incorporate the language, structure, and breadth of the JFTK Best Practices will be the heart of our next phase of work. For example, we recommend that we:

- Return to the four case study schools to determine how key issues and potential indicators could be assembled, measured, and reported—including the use of videography,
- Document more carefully the role districts play in providing support and guidance to high- and average-performing schools by developing more matched pairs of high- and average-performing schools in the same district (like Valley and Chavez),
- Develop instruments, including web-based surveys, that could document the extent of practices over time and expand on and refine our initial survey in ways that integrates JFTK work on Best Practices,
- Expand the focus to other elementary school levels in the initial sample to see if similar distinguishing indicators are surfaced, and
- Expand the focus to middle and high school levels, using the same criteria for the selection of average- and high-performing schools established for Phase I.

## Conclusions

The tools proposed for development through Phase II of the Rockefeller Project to create succinct, broadly applicable teacher and teaching quality indicators based on routine data collection will provide a powerful addition to student achievement data collected by schools across the nation. This work is particularly important in light of the federal *No Child Left Behind* legislation that depends so heavily on the presence of highly qualified teachers in every classroom. The proposed indicators will provide a readily available mechanism for schools to assess and improve the policies and practices that impact the selection of teachers, their continued professional development, and sound, systemic support required for high quality teacher learning/teaching and high achievement of all students. The Center's research and policy development expertise, coupled with JFTK's leadership in data systems, documentation of best practices, and accountability systems, provide a valuable means for publicity and dissemination to amplify the impact of this work.

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