Evaluation of the Texas High School Project

First Comprehensive Annual Report

Submitted to the Texas Education Agency

SRI International

May 2010

SRI International

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Submitted to:

Texas Education Agency
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1701 North Congress Avenue
Austin, TX 78701

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SRI Project P18092

Suggested citation:

Young, V., Adelman, N., Bier, N., Cassidy, L., House, A., Keating, K., Klopfenstein, K., Padilla, C., Park, C., Wang, H., & Wei, X. (2010). *Evaluation of the Texas High School Project. First comprehensive annual report.* Austin, TX: Texas Education Agency.

Acknowledgements

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The authors especially thank Alison Hayward and Barbara O'Donnel at the Texas Education Agency for their guidance in preparing this report.

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Copia Consulting
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Texas A&M University
James Dyer, Ann Lessem, and Trey Marchbanks at the Public Policy Research Institute

Triand Inc.
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This first annual report of the evaluation satisfies ***Rider 79 of the General Appropriations Act of the 80th Texas Legislative Session pertaining to the T-STEM, ECHS, and HSTW programs, which stipulates that those programs be evaluated by TEA.***

Contents

Exhibits

Abbreviations

AA	Academically Acceptable
AED	Area Executive Director
AEIS	Academic Excellence Indicator System
AISD	Austin Independent School District
AP	Advanced Placement
AU	Academically Unacceptable
AVID	Advancement Via Individual Determination
AYP	Adequate Yearly Progress
Big 8 Council	Big 8 Urban Superintendents Council
BMGF	Bill & Melinda Gates Foundation
CDC	County/District/Campus Code
CIS	Communities in Schools
CFT	Communities Foundation of Texas
CMO	Charter Management Organization
CTE	Career and Technical Education
CRSS	Center for Reform of School Systems
DISD	Dallas Independent School District
DIEN	District Engagement
DLD	District Leadership Development program
DMS	Data Management System
DSRD	District Redesign
ECHS	Early College High School
ELA	English Language Arts
EOC	End-of-Course Exams
ESC	Educational Service Center
GIS	Geographic Information Systems
GPA	Grade Point Average
HB	House Bill
HISD	Houston Independent School District
HLM	Hierarchical Linear Modeling
HSRD	High School Redesign
HSRR	High School Redesign and Restructuring
HSTW	High Schools That Work [Enhanced Design Network]
IB	International Baccalaureate
IHE	Institution of Higher Education
ISD	Independent School District
MMGW	Making Middle Grades Work
MSDF	Michael & Susan Dell Foundation
NCLB	No Child Left Behind Act
NMSI	National Math and Science Initiative
NR	Nonrepeaters
NSCS	New Schools/Charter Schools

Abbreviations (concluded)

PBMAS	Performance-Based Monitoring Analysis System
PD	Professional Development
PEIMS	Public Education Information Management System
PLC	Professional Learning Community
PSAT	Preliminary Scholastic Aptitude Test
R	Repeaters
RFA	Request for Application
RFP	Request for Proposal
SAISD	San Antonio Independent School District
SAT	Scholastic Aptitude Test
SB	Senate Bill
SLC	Small Learning Community
SREB	Southern Regional Education Board
TA	Technical Assistance
TAC	Texas Administration Code
TAKS	Texas Assessment of Knowledge and Skills
TEA	Texas Education Agency
TEKS	Texas Essential Knowledge and Skills
THECB	Texas Higher Education Coordinating Board
THSP	Texas High School Project
TNT	Teach North Texas
TOC	Theory of Change
T-STEM	Texas Science, Technology, Engineering, and Math Initiative
UT	University of Texas

Executive Summary

This first annual report of the Evaluation of the Texas High School Project (THSP) describes early findings for schools beginning reform implementation in the 2006–07 and 2007-08 school years. Data included in this report specifically come from the 2007-08 school year, when many THSP schools were just embarking on their THSP-related reform work. The second annual THSP evaluation report will be available in summer 2010 and will include findings from the 2008–09 school year.

Overview of the Texas High School Project

THSP supports and promotes school reform to achieve the overarching state goal of having all Texas students graduating from high school ready to succeed in college and career. THSP reforms encompass multiple approaches including increasing instructional rigor and relevance, expanding teacher professional development (PD), strengthening school leadership, increasing data use, improving teacher-student relationships, providing student academic supports, and creating school climates of respect and high expectations. THSP also provides grantees with third-party technical assistance (TA) and networking activities. District capacity and state policies further facilitate these reforms.

In contrast to most Texas education grant programs that the Texas Education Agency (TEA) funds with monies appropriated by the legislature alone, a public-private alliance (THSP Alliance) supports THSP. The $346 million THSP Alliance includes TEA, the Communities Foundation of Texas (CFT), the Bill & Melinda Gates Foundation (BMGF), the Michael & Susan Dell Foundation (MSDF), and the Wallace Foundation.[1]

Across these funders, THSP seeds reform under different grant programs:[2]

- **Texas Science, Technology, Engineering, and Mathematics (T-STEM) academies and centers.** T-STEM academies aim to improve student achievement through innovative and rigorous science and math instruction, with technology integrated across the curriculum. An academy may be a "school within a school"[3] or an autonomous small school. T-STEM academies are funded by TEA, CFT, or MSDF. Between the 2006–07 and 2009–10 school years, 46 T-STEM academies opened. Eight T-STEM Centers—strategically located throughout the state—also received funding. The T-STEM Centers support the implementation of T-STEM academies by providing PD, TA, and instructional materials.
- **Early College High School (ECHS).** The purpose of ECHS is to increase high school completion and encourage college enrollment. ECHS seeks to do so by providing students from backgrounds that are underrepresented in higher education with the opportunity to simultaneously attain a high school diploma and a significant number

[1] The total investment of $346M is as of May 2009; 59% of THSP funding came from public funds and 41% from private sources.

[2] See Chapter 6 in the First Comprehensive Annual Report of the Evaluation of THSP for complete descriptions of these grant programs.

[3] A school within a school is a smaller organizational unit typically with its own leadership, teachers, and students and with an educational program distinct from the offerings in the rest of the school.

of college credit hours (up to and including a 60-credit Associates degree) during a four- or five-year high school program. Within THSP, 29 ECHSs opened between 2004–05 and 2007–08, with TEA funding 15 ECHSs and CFT funding 14 with support from BMGF.[4] In 2008–09, four new ECHSs received funding, with another three previously-funded ECHSs receiving grants to expand to the middle school grades. Five additional grants were awarded to open small rural ECHSs. TEA expects to award approximately five to eight additional grants for 2010 through 2012 (Cycle 4).[5] As with T-STEM academies, some ECHS are schools within a school, whereas others are autonomous small schools. Many ECHSs are located on or in close proximity to a postsecondary institution campus.

- **Redesign High School Initiatives, including High School Redesign and Restructuring (HSRR), High School Redesign (HSRD), High Schools That Work Enhanced Design Network (HSTW), and District Engagement (DIEN).** The Redesigned High School Initiatives support the redesign of existing comprehensive high schools.[6] This initiative was created to transform large, low-performing high schools into places that provide personal attention and guidance to all students, offer students a challenging curriculum with real-life applications, and encourage all students to succeed. Additional information about the four grant programs identified as redesign initiatives follows.
  - The HSRR program provides high school campuses rated Academically Unacceptable (AU) under the Texas accountability rating system with resources to build the school's capacity for implementing innovative, schoolwide initiatives that are designed to improve student performance. TEA has funded 64 grantees that began implementation between 2005 and 2009 (i.e., during the first five cycles).[7]
  - The HSTW program funded by TEA supports schools to implement the national HSTW model designed by the Southern Regional Education Board. HSTW principles focus participating schools' reform strategies on improving instruction in academic and career and technical education to raise overall student achievement. The principles also emphasize creating a culture of high expectations and continuous improvement (TEA Request for Application 701-07-105).[8] Twenty schools were funded through the first two cycles of HSTW (2006-08 and 2007–09), with an additional 10 to be funded in cycle 3 (2009–11).

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4 The 14 CFT-funded ECHSs are included in the national evaluation of the BMGF ECHS Initiative and therefore to reduce burden to the schools are excluded from surveys or site visits for the evaluation of THSP. Only the TEA-funded ECHSs are included in surveys and site visits for this evaluation. However, because it does not place any burden on the schools, the outcomes analysis (presented in Chapter 7) does include 11 of the 14 CFT-funded ECHSs—those that began implementation in 2006–07 or 2007–08—along with the TEA–funded ECHSs.

5 Beginning in 2008–09, schools could be designated an ECHS through a state certification process.

6 "Comprehensive" high schools refer to the traditional American high school, one that typically offers a wide range of academic and elective courses, athletics, and other extracurricular activities.

7 Cycles 1 and 2 were part of a separate evaluation. That report can be found at http://ritter.tea.state.tx.us/opge/progeval/HighSchoolCollege/HSRR_Final_Report.pdf.

8 For a description of the SREB model, go to http://www.sreb.org/Programs/HSTW/publications/2005Pubs/05V07_enhanced_design.pdf.

- The HSRD program provides coaching and technical support for selected urban high schools to reorganize into smaller learning communities such as schools within schools, career academies, or autonomous schools. Six campuses were funded by CFT; they began implementation in 2006–07.
- Under the DIEN program begun in 2007–08, CFT funded four[9] high schools in Houston Independent School District (HISD) to further develop school leadership and practices that intensify academic rigor, student-teacher relationships, and educational relevance for all students under the HSTW model.

- **New Schools/Charter Schools (NSCS).** The NSCS program funds charter management organizations (CMOs) to replicate school models that have a history of achieving high performance with underserved populations and to build a network of such schools in areas of greatest need in Texas. NSCSs are funded by CFT and include IDEA Public Schools, YES Prep, Uplift, the Asia Society, and KIPP Academy. Seven schools were opened under NSCS in 2006-07 and four in 2007-08.[10]

Overview of the THSP Evaluation

The evaluation of THSP studies the implementation and effects of both the initiative overall and the specific grant programs under THSP, from 2006–07 to 2009–10 (and potentially to 2012–13). SRI International and its subcontractors, Copia Consulting, the Public Policy Research Institute at Texas A&M University, the Texas Christian University, and Triand, Inc. are contracted to conduct the evaluation, which is funded by TEA, BMGF, and CFT.

The first year of the evaluation, discussed here, addressed the following questions:

- What is the nature of early reform implementation in THSP-supported schools?
- What role do districts and charter management organizations (CMOs) play in supporting schools to implement THSP-related reforms?
- How do the reform models differ in specificity and capacity? How do reform model networks support schools in implementation?
- What implementation factors, if any, are related to early, intermediate outcomes (i.e., teacher and student attitudes and behaviors)?
- What effects, if any, have THSP and individual grant programs had (as of the 2007-08 school year) on selected ninth- and tenth-grade student outcomes?

To understand the goals, strategies, implementation, and impact of the reform efforts, the evaluation draws on multiple sources of data, including the following:

- TEA-collected data (e.g., school and student characteristics and Texas Assessment of Knowledge and Skills (TAKS) scores) for the 2007–08 school year

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[9] In 2008–09, one school that previously participated opted out of the District Engagement program as its accountability rating improved.

[10] KIPP and Asia Society schools did not participate in original data collection (i.e., surveys and site visits) for this evaluation. They are included, however, in the student outcomes analysis using TEA data.

- Principal, teacher, and student surveys administered in spring 2008 in THSP schools that began implementation in 2006–07 or 2007–08
- Site visits in spring 2008 to a random sample of schools beginning implementation in 2006–07 that included school-level interviews with principals, administrators responsible for curriculum, instruction, teacher professional development, and student supports, and English, mathematics, and science teachers; and district-level interviews with assistant superintendents or directors of secondary education, curriculum, instruction, professional development, assessment, and accountability
- Interviews in winter and spring 2008 with representatives of key stakeholder groups including state policymakers, THSP program officers, and TA providers

This first comprehensive annual report includes findings for THSP grantees that began reform implementation in 2006–07 or 2007–08, including comparisons in student outcomes to matched, non-THSP schools. In the future, evaluation reports will incorporate schools beginning implementation in 2008–09 and 2009–10 with additional matched comparison schools. Exhibit ES-1 details the number of THSP schools funded in each program that will eventually be included in the evaluation and the number that are included in the student outcomes analysis in this report.

Exhibit ES-1
Number of THSP Schools Included in Evaluation and Those Included in Student Outcomes Analysis, by Year of Implementation

	THSP Schools Included in Evaluation Over Time					THSP Schools Included in Outcomes Analysis in First Comprehensive Annual Report		
Year of Implementation	2006–07	2007–08	2008–09	2009–10	Total	2006–07	2007–08	Total
T-STEM	7	13	14	8	42	2	12	14
ECHS	0	8	6	8	22	8	8	16
HSRR	0	15	13	10	38	0	15	15
HSRD	6	0	0	0	6	6	0	6
HSTW	14	11	0	10	35	14	10	24
DIEN	0	4	0	0	4	0	4	4
NSCS	4	5	1	1	11	1	7	8
Total	31	56	34	37	158	31	56	87

Notes: The number of schools included in the outcomes analysis and the totals in the evaluation differ for the following reasons: 1. Schools are included in the outcomes analysis only once they begin serving ninth-graders; 2. Eight ECHSs funded by CFT in 2006–07 are excluded from the Evaluation of THSP except for the student outcomes analysis due to their participation in a separate national study of ECHS; and 3. Two Asia Society schools funded in 2007–08 under NSCS are also excluded from original data collection but included in the outcomes analysis.

The findings to date, based on THSP schools' early stages of implementation, offer some promising practices and identify areas for improvement that will hopefully strengthen ongoing THSP efforts. Although potential improvements in student outcomes may result from schools' participation in THSP, they are expected to lag program implementation by three to five years

(Rhodes et al., 2005). Thus, while this report provides preliminary outcomes based on up to two years of implementation, it is likely too early to draw conclusions about the effects of THSP and its component programs.

School Reform Implementation

This report discusses reform implementation across the THSP initiative as a whole and also notes where implementation appears to differ across THSP grant programs. Where appropriate, the report identifies how specific contexts such as new start-up status, charter status, or urbanicity influence implementation. This executive summary highlights the most striking findings from the first year of data collection (i.e., from 2007–08). A more comprehensive listing of key findings can be found at the beginning of each chapter in the report.

In addressing the question on the nature of early reform implementation, the evaluation found that THSP schools' reform strategies are influenced by the reform models that the schools participate in, their district initiatives, and state policies. THSP schools also undertake their reforms under different conditions. In some cases, the reforms are incremental within an existing high school, for example, HSTW, HSRR, HSRD, and DIEN are all aimed at turning underperforming, large, comprehensive high schools into effective schools. In other cases, the reforms occur through the establishment of a new school or a new school within a school—NSCS program funds new charter schools, and T-STEM academies and ECHS may be either new schools or academies created within an existing comprehensive high school. The difference in contexts matters a great deal in understanding reform implementation. Prior research has suggested that school cultures of high expectations, respect, collaboration, and continuous improvement are easier to forge in new schools than in restructured ones, where teachers and students have entrenched norms and practices (AIR/SRI, 2006).

Organizing to Support Instruction

A variety of organizational strategies are featured in the THSP reform models as promising practices toward improving instructional rigor and students' engagement in their education. These strategies– for example, creating smaller learning communities within a larger school, providing collaborative learning opportunities for teachers, and increasing teachers' use of data–are intended to create structures conducive to teachers' improving instruction, strengthening their relationships with students, connecting an academic curriculum with students' real-world interests, and developing a culture of high expectations and continuous improvement.

Practitioners at THSP schools espouse high expectations for student learning, but some also express reservations that reflect the difficulties of putting such high expectations into practice. Compared with comprehensive high schools, teachers and students at small and charter schools supported by THSP reported stronger agreement that faculty hold high expectations for students.

A majority of teachers and principals surveyed (spring 2008) agreed that all students in the school can do well academically, but hold some reservations about the feasibility of putting high expectations into practice. For example, teachers are concerned that students' success or failure is due to factors beyond teachers' control. Overall, students perceived that their teachers believe in them, but about one in four said that teachers only care about "smart" students. These results highlight that as one moves closer to the reality of the classroom, the challenges of putting into action high expectations for all students become more apparent and require strategies that move beyond positive attitudes.

In comparing the THSP redesign of existing comprehensive high schools with the newly created small school models, teachers and students in the small schools and charter schools supported by THSP—primarily falling under the T-STEM, ECHS, and NSCS programs—reported stronger agreement about faculty holding high expectations for students. Students in these schools also reported a slightly higher academic orientation among their peers and friends, and teachers perceived those students as more engaged in their learning.[11]

Teachers' professional learning is supported through opportunities for collaboration and PD, but those opportunities could be more strategically aligned to explicit teacher learning goals.

Across sites visited in spring 2008, teachers in THSP schools participated in a variety of professional learning opportunities through collaboration and PD activities. Teachers valued collaboration time with their colleagues as a means of getting their work done and reported that such collaboration contributed to their professional learning. But the frequency with which teachers engaged in collaborative activities such as sharing ideas on teaching, discussing student work, and discussing student assessment data to make instructional decisions varied from a few times per year to weekly. School leaders, moreover, generally viewed teacher collaboration as a source of professional learning that would occur organically and did not express a need to guide that time with explicit teacher learning goals.

Teachers in THSP schools reported through the spring 2008 surveys that they also have access to various conferences and PD workshops. Teachers' PD opportunities, however, are not consistently strategic and useful to them, with more than half reporting that they have access only a few times a year to PD that is sustained and coherent, closely connected to their schools' improvement plans, or subject-matter specific. Almost one-third of surveyed teachers disagreed with the statement that what they learn in PD directly addresses their students' academic needs. These results suggest that schools can improve on meeting teachers' professional learning needs.

Instructional Reform

Based on site visit data collected in spring 2008, the comprehensive high schools under THSP prioritized changes to organizational structure during the opening stages of implementation and have been slower to develop clearly articulated goals and strategies for instructional change. Yet strengthening instructional rigor, making curriculum more compelling and relevant for students, and providing adequate and appropriate student supports to buttress

[11] The differences between students attending charter and small schools and those attending traditional high schools may also reflect self-selection bias. Students and families actively choosing to attend specialized schools like T-STEM academies, ECHS, and NSCS may, for example, have a stronger academic orientation in their beliefs about the importance of succeeding in high school and expectations to attend college. This problem of self-selection bias is one confronted by all research and evaluation involving charter schools, new small schools, academies, and other schools where students make a choice to attend. Descriptions of our methods to contend with this challenge can be found in Appendix A of the First Comprehensive Annual Report of the Evaluation of THSP.

their learning are central to the THSP reforms intended to lead to the desired outcomes—higher student achievement, increased high school graduation rates, increased college enrollment, and ultimately college graduation and career success.

Teachers and leaders in THSP schools struggle to define instructional rigor and curricular relevance in the classroom.

Interviews with principals and teachers during spring 2008 site visits indicated that most comprehensive high schools under THSP lack clear definitions of rigor for classroom instruction. Leaders of those schools widely acknowledged that they need to improve instructional rigor. Consistent with a statewide effort, some school leaders identified increasing Advanced Placement (AP) and pre-AP enrollment as one strategy to raise the rigor of the overall curriculum. However, this approach does not necessarily improve classroom instruction in other types of courses. Without explicit definitions, teachers often reported relying on their own experience to understand instructional rigor, with TAKS achievement serving as the common benchmark. With respect to their instructional strategies, teachers also reported attempting to balance a focus on fundamental skills with more extended and in-depth learning opportunities, resulting in widely varying notions of rigor within departments and within schools. THSP schools are not alone in this challenge, as states and districts nationally offer a wide range of assumptions about rigor and how to achieve it.[12]

Making curriculum more relevant, like instructional rigor, is also a widely acknowledged goal among THSP principals and teachers. However, based on spring 2008 interviews with them, improving curricular relevance remains challenging. Meaningfully connecting content with students' experiences and potential career interests is largely left up to the individual teacher and varies from teacher to teacher in priority, approach, and effectiveness.

As of spring 2008, THSP schools provided primarily academic student supports, with an emphasis on TAKS preparation.

To accompany goals of more rigorous instruction and relevant curriculum, THSP reform models advocate strong student supports to shore up gaps in learning for those most in need. Based on spring 2008 site visits, THSP schools provide students with a variety of supports, most of which are academic and geared towards increasing students' success on TAKS. Most commonly, teachers offer before- and after-school tutorials, Saturday tutorials, extra TAKS preparation classes, and credit recovery programs to help students get back on track. Beyond academic supports and test preparation, however, the spring 2008 site visits indicated that few comprehensive high schools under THSP have a coherent student support strategy ensuring that students master the high school curriculum, explore their career interests, gain knowledge of college readiness expectations and application processes, build their resume, and prepare parents for the eventuality that their children will go to college.

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[12] What rigor is and how to achieve it lacks clarity nationally. Definitions of rigor are typically based on alignment with standards or assessments. For example, Florida provides incentives for schools to increase student participation in AP courses as an effort to improve rigor in the curriculum and Chicago Public Schools promote the ACT standards and adopted instructional design systems (IDS) to provide schools with comprehensive and aligned curriculum, materials, PD, and formative assessments. By contrast, the evaluation of the BMGF's High School Grants program had a focus on rigor in instruction and included "aligning curriculum, instruction and assessment with college admissions standards" and "creating opportunities for in-depth exploration of topics" among others as attributes of rigor (Mitchell et al., 2005).

District and Charter Management Organization Supports for School Reform

All THSP schools pursue reforms within their particular district contexts, or in the case of charter schools, within their respective CMO contexts. Within a state policy environment that is demanding higher standards and accountability, districts with THSP schools are proactive, to varying degrees, in creating change in their high schools.

Districts and CMOs play a crucial role in THSP schools' reform implementation.

Many schools implementing THSP reform models need to integrate, negotiate among, or trade off multiple school-level reforms, including those related to THSP, district initiatives, and possibly state intervention (i.e., schools classified as AU according to the state accountability rating system must adhere to the recommendations of a state intervention team [Campus Intervention Team]). These various efforts compete for limited time and energy among school leaders and teachers. The ultimate result is that THSP schools tend to emphasize the aspects of school reform that align with district strategies and priorities.

Based on spring 2008 site visits, the leadership in districts with schools participating in THSP generally demonstrated support for THSP-related reforms. For example, district leaders underscored their commitment to high standards, by eliminating low-level courses, using data to hold schools accountable for improvement, developing or adopting common assessments to provide teachers with instructionally relevant information, and building school leader and teacher capacity through workshops focused on instruction. Nevertheless, many THSP schools in the spring 2008 site visit sample had difficulty managing the multiple reform efforts and creating a coherent plan for reform.

CMOs serve many of the same functions as traditional districts, although depending on their development, those functions may be more or less formalized. Under the NSCS program, specific CMOs were funded to replicate successful charter campuses. This expansion meant that the "home offices" of the CMOs have had to build their capacity to develop leaders, support increasing numbers of new teachers, install procedures that standardize quality across campuses, and grapple with high facilities costs in the start-up phase before they are amortized over full enrollment. Through their efforts to manage this expansion and to ensure fidelity in model implementation, all but one of the CMOs visited in spring 2008 exercised stronger accountability mechanisms (e.g., data monitoring, observations) than districts in the site visit sample generally did.

Network Supports for School Reform

THSP invests in model-specific networks that are external to schools and districts and designed to support schools in implementing their respective reforms (i.e., T-STEM, ECHS, HSTW, and the other models that are supported through the THSP grant programs listed above). The networks may provide TA and coaching to individual schools, as well as networking activities that bring grantees together to learn from each other. At the time of data collection in 2007–08, most networks did not have a formal process for ensuring consistency in the quality, content, or usefulness of the TA they offered to schools. They were beginning to address this issue along with bolstering their capacity to provide TA to a growing number of schools.

THSP technical assistance had been focused on the needs of school leaders through 2007–08 and began shifting to a focus on instruction for the 2008–09 school year.

TA provided as part of the THSP networks tended to focus on school leaders' needs and followed a practical approach of meeting schools' most pressing concerns. Based on spring 2008 site visit data, teachers generally had little exposure to supports provided by external networks in the first year of their schools' THSP reform implementation. As networks have matured in their assistance to schools and spurred by state policies to increase rigor and college readiness, TA providers indicated in spring 2008 interviews that they were moving toward a greater focus on instruction from the 2008–09 school year forward, even though specific instructional approaches are not explicit design elements within some reform models. TA providers and network leaders also noted that shifting focus to improving instruction has implied a need for more network staff who are knowledgeable about curriculum and instruction.

THSP networks can increase the strategic role they play by sharing lessons and helping create coherence for schools facing competing demands for reform.

Although THSP encompasses multiple networks, each associated with a specific reform model, the networks share some common objectives and serve schools facing similar challenges. For example, at the core of each THSP model is the need to support teachers in increasing instructional rigor in the classroom, as well as to support traditionally underserved students to attain college and career readiness. Sharing lessons on how best to support schools in these pursuits—as of spring 2008—did not occur systematically. As additional grantees join the networks, program officers reported that ensuring adequate capacity to support schools in instituting the reform models is vitally important.

Implementation Factors Related to Intermediate Teacher and Student Outcomes

Even though THSP schools were in the early stages of implementation (i.e., within their first or second year of serving ninth-graders under THSP), it was important to begin exploring mechanisms by which THSP may affect outcomes. To that end and based on data from surveys of principals, teachers, and students in spring 2008, the evaluation team analyzed the relationships between key components of THSP reforms and intermediate teacher and student outcomes. Key components of THSP reforms included specific aspects of potentially important factors such as school leadership, teacher PD, use of data by principals and teachers, student supports, and student attitudes towards school. Analyses explored the relationship between these potentially reform-related factors and higher levels of intermediate outcomes such as teachers' expectations for students, teacher collaboration, types of instructional activities used, and students' attitudes towards academics, expectations for graduating high school and attending college, and their TAKS achievement. The results presented here pertain to THSP overall, across all grant programs (i.e., includes all schools that returned the spring 2008 surveys). The statistically significant relationships (those not likely to occur just by chance, at the .05 significance level) are summarized below.

- Teachers' and students' perceptions of higher levels of trust and respect between them were linked to both a higher sense of responsibility for student learning among teachers and more positive student attitudes toward school. Conversely, teachers' and students' perceptions of lower levels of trust and respect between them were linked to both a lower sense of responsibility for student learning among teachers and less positive student attitudes toward school.

- Teachers' reports of greater opportunities to experience high-quality PD and collaborate with colleagues were related to more positive student attitudes about academics and high school graduation, and to greater frequency of teaching behaviors such as assigning rigorous class work requiring critical thinking skills. Teachers' reports of lower opportunities to experience high-quality PD and collaborate with colleagues were related to less positive student attitudes about academics and high school graduation, and to lower frequency of teaching behaviors such as assigning rigorous class work requiring critical thinking skills.
- Students who reported receiving higher levels of postsecondary support and preparatory experiences also had more positive attitudes toward academic improvement, effort-based learning, and the importance of school. In contrast, students who reported receiving lower levels of postsecondary support and preparatory experiences had less positive attitudes toward academic improvement, effort-based learning, and the importance of school.
- Teachers' beliefs about higher student engagement in learning were related to a higher sense of responsibility for student learning among teachers and higher frequency of teaching of advanced skills. Conversely, teachers' beliefs about lower student engagement in learning were related to a lower sense of responsibility for student learning among teachers and lower frequency of teaching of advanced skills.
- Student reports of greater parental involvement were strongly related to more positive student attitudes about school, including attitudes toward academic improvement, effort-based learning, and the importance of school; aspirations to graduate from high school; and plans to attend college. Student reports of lower parental involvement were strongly related to less positive student attitudes about school in those same areas.

Because teachers' own perceptions about student engagement and students' perceptions of support from their parents figure significantly in these intermediate outcomes, these findings suggest that school-level reform strategies need to be broad enough to reach each individual teacher and student in its target population and intensive enough to influence these individual attitudes and behaviors. The evaluation will survey principals, teachers, and students again during the 2009–10 school year. Those data will allow comparisons between early implementation reported on here (2007–08) and a maturing THSP, and will include analysis of THSP overall as well as intermediate outcomes by specific program (e.g., T-STEM, Early College, High Schools That Work, and so on).

Early Data on State Assessments and Other Student Outcome Indicators

The evaluation of THSP follows the outcomes for student cohorts starting with ninth-graders in schools beginning implementation in 2006–07. Each year, as that initial student cohort advances, the analysis includes additional grade-appropriate indicators. The analysis also incorporates the ninth-grade cohort for schools beginning implementation each subsequent year. Thus this report includes outcome data from 2007–08 and includes both ninth- and tenth-grade students—tenth-grade students from schools beginning implementation in 2006–07 and ninth-grade students from schools beginning implementation in 2006–07 or 2007–08.

The evaluation of THSP employs a rigorous school-matching strategy to compare the THSP schools to other similar schools in the state. The strategy involves matching on both school characteristics (e.g., enrollment size, prior-year accountability rating) and student characteristics at the school level (e.g., overall student demographics, prior-year TAKS math and reading passing rates for ninth graders). After school-level matching, analyses further control for a host of school characteristics, student demographics, and prior achievement in comparing the student-level outcomes at THSP schools with those at the matched, non-THSP schools. Analyses look at the effects of THSP overall in recognition of the THSP Alliance's efforts to pursue coherent high school reform. However, the programs under the THSP umbrella have distinct goals and features that likely influence any demonstrated effects. Therefore, this and future evaluation reports also offer analyses by THSP grant program.

THSP and Grant Program Effects on Student Outcomes Compared to Matched Non-THSP Schools, Through 2007–08

To understand whether THSP is improving key outcomes for students, the evaluation team examined TAKS achievement, attendance, and measures of being on track to graduate[13] at THSP schools compared to a rigorously matched set of non-THSP schools (Exhibit ES-2). The latest available TEA data on these student outcomes pertain to the 2007–08 school year, only the first or second year of THSP implementation.[14] Therefore, the latest available data for this report represent (1) tenth-graders who have been in THSP programs for two years[15] and (2) ninth-graders who have been in the THSP programs for one year.[16] Moreover, given that the available data pertain to the first or second year of implementation, the outcomes for which one can reasonably expect to see any effects are short term. As students move through high school, the evaluation will incorporate more diverse medium- and long-term outcomes such as enrolling in Advanced Placement (AP) courses, internships, and dual-enrollment courses; graduating from high school; and enrolling in college.

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[13] Measures of being on track to graduate include fulfilling the "four by four" curriculum requirement whereby students must take four years of each of the four academic courses to graduate, beginning with the ninth-grade students in 2007–08, and passing gate-keeping courses, namely Algebra I by ninth grade and geometry or Algebra II by tenth grade.

[14] The number of schools funded under each program varies. For the analysis of tenth-grade student outcomes, two T-STEM academies, 14 HSTW, 6 HSRD, 1 NSCS, and 8 ECHS schools are included. For the analysis of ninth-grade student outcomes, 14 T-STEM academies, 24 HSTW, 6 HSRD, 15 HSRR, 4 DIEN, 8 NSCS, and 17 ECHS (one drawing from two high schools is counted as two) schools were included. See Exhibits G-5 through G-6 in Appendix G of the First Comprehensive Annual Report for the Evaluation of THSP for the numbers of schools and Exhibits F-6 through F-7 in Appendix F in the same report for the full list of schools included in the outcomes analysis.

[15] Tenth-graders who were not at the THSP school for both their ninth- and tenth-grade years are excluded on the basis that they were not part of the THSP reforms for two years as their tenth-grade peers were.

[16] For schools beginning implementation in 2007–08, the ninth-grade students were only in THSP programs for about half of a year when TAKS were administered around March to May of 2008 (depending on individual school schedules).

Exhibit ES-2
Student Outcomes Analyzed

Student Outcome Measures	Ninth Grade	Tenth Grade
TAKS reading/English	•	•
TAKS mathematics	•	•
TAKS science		•
TAKS social studies		•
Passing TAKS in all four subjects		•
Passing Algebra I by ninth grade	•	
Passing Geometry or Algebra II by tenth grade		•
Meeting “four by four” course requirement	•	•
Promoted to tenth grade		•
Percentage of days absent	•	•

Overall, THSP schools show early indications of small positive effects on a few outcomes, with no differences on the majority of outcomes, in comparison to matched, non-THSP schools. *(All results below are statistically significant at the .05 significance level.)*

- Tenth-graders in THSP schools scored slightly higher (12 points) in TAKS math than their peers in the comparison schools. Given the average TAKS scale score of 2,262 points for the THSP and non-THSP students included in the analysis, a 12-point difference may be statistically, but not educationally, significant.
- Students in THSP schools are 1.5 times more likely to be promoted to the tenth grade than are students in matched comparison schools.

THSP and matched non-THSP schools, however, did not differ on the other seven tenth-grade outcomes (as listed in ES-2) or on the ninth-grade outcomes examined. The evaluation will continue to follow these and other grade-specific outcomes and over time, differences between THSP and matched non-THSP schools may emerge.

Outcome analyses that look at student-level results for THSP overall may mask effects of the individual and diverse programs that are included under the THSP umbrella. Early outcomes suggest that differential THSP program effects may be emerging. Although some programs show promising early results on some indicators, none demonstrated consistent results across the range of outcomes analyzed.

- **T-STEM.** Tenth-graders scored 49 scale score points higher than students in comparison schools on TAKS math—a potentially promising finding for a school model that emphasizes strong mathematics curriculum and instruction. However, tenth-grade results for T-STEM in this report come from two schools only and may not generalize to the larger T-STEM program. Analyses based on three points in time for a larger proportion of the T-STEM academies will be available in the second annual THSP evaluation report, anticipated for release in summer 2010.

- **ECHS.** Compared with students in matched non-THSP schools, tenth-grade ECHS students scored 26 scale score points higher on TAKS math, 25 scale score points higher on TAKS social studies, were two times more likely to pass TAKS in all four core subject areas, and were 2.2 times more likely to pass geometry or Algebra II by the end of grade 10. However, ninth-grade repeaters[17] in ECHS schools were also 1.5 times more likely to be absent than ninth-grade repeaters in comparison schools.
- **HSRD.** Ninth-grade repeaters in HSRD schools had a higher likelihood (1.6 times) of being absent compared with similar students in comparison schools. However, students in HSRD schools are three times more likely to be promoted to tenth grade than students in matched comparison schools, perhaps suggesting that the structural reforms associated with this model are creating personalized environments for keeping students on track to graduate.
- **NSCS.** First-time ninth-graders in NSCS schools were 40% less likely to be absent compared with students in matched non-THSP schools.
- **DIEN.** Ninth-grade repeaters were 21% less likely to be absent compared with students in matched non-THSP schools.

These initial results come early—in the first and second years—in the THSP schools' reform implementation and provide indications of potential trends that will be confirmed, refuted, or elaborated by future rounds of data collection and analysis involving increasingly larger numbers of THSP grantee schools and the students within them. The evaluation team does not consider any of the analytic results presented in this section as findings about the effects of either the THSP investments overall or about individual high school reform models. Rather, these results suggest hypotheses that we will continue to test as the evaluation proceeds.

Implications

The Texas High School Project operates in a state policy environment conducive to reforms, one of rising academic requirements in the "four by four" curriculum, new course-specific end-of-course exams (beginning with ninth-grade students in 2012), and increased efforts to better align the preparation of K-12 students with the expectations and requirements of higher education systems and the world of work. Operating within this policy framework, the public-private THSP Alliance supports diverse high school reform approaches and strategies directed at both improving existing large high schools that are struggling to serve high-need populations well and increasing the number of schools that adopt promising models for increasing curricular rigor and relevance (e.g., T-STEM Academies, Early Colleges, replications of successful charter schools). The hope is that the Alliance-funded schools will ultimately offer strong outcomes and promising lessons learned that can inform the improvement efforts of many more high schools across the state. At the same time, based on a new strategic plan aired in 2009, the Alliance will increasingly focus on documentation and dissemination of promising results and on sustaining and scaling up proven approaches to reform.

[17] The evaluation has found that enough students fail ninth grade (i.e., fail to earn enough credits to become tenth graders) so that the category of ninth grade "repeaters" is required for accurate analyses.

As the Alliance's work on THSP continues to evolve, interview data from the spring 2008 site visits suggest that outreach about the goals of high school improvement needs to reach further into the teaching ranks than it had up to this time. District and school leaders recognize the broad goals that THSP subscribes to, but moving closer to the classroom, teachers have less perspective on the broad strokes of high school reform. Although key goals such as improving instructional rigor and curricular relevance to enhance student engagement and learning resonate with school leaders, school reform strategies have focused primarily on organizational structures. Placing instruction at the center of school reform will demand greater clarity on what constitutes instructional rigor and relevance, and broader engagement among teachers to develop a shared understanding of those concepts and how they are manifested in daily instructional activities.

Site visit and survey data from spring 2008 also suggest that student support strategies may need to be enhanced and diversified in order to reach the neediest students. With THSP's goals of advancing college readiness for underrepresented youth, much work is still needed to understand the range and types of supports that can truly move students from relatively low academic performance to an aspiration towards college and career. Based on data collected in 2007–08, few THSP schools had yet to move beyond a narrow focus on helping students pass TAKS. The evaluation will analyze the 2008–09 data carefully to determine whether more schools are embracing student support approaches that also build students' views of themselves as college goers and of school as relevant to their futures.

Spring 2008 data on the reform networks that are connected to specific THSP models suggest that these groups offer potential for increasing state capacity to support school-level reform. However, the networks often face the challenge of being external to the system, with little leverage to forge coherence for schools among competing local and state reform priorities and limited means to hold schools accountable for implementing elements of the school reform models. Going forward, as the reform networks take on instructional reform directly, their own capacity to support schools will need to evolve and they will need to build expertise in curriculum and instruction. Increased interaction among networks may yield synergies to better support schools, teachers, and students. The growth and refinement of network activities is another area that the evaluation will attend to in its analysis of data from the 2008–09 school year and will continue to probe on in years to come.

Perhaps more important, because the ultimate goal of THSP is to take lessons learned from grantee schools and districts to a larger scale, strategies that strengthen the network aspect of TA would enhance the possibility of growing a statewide cadre of high school reform experts who will be able to help other schools implement the models (or aspects of them) in the future. The first year of data collection and analysis raised questions about leveraging the considerable support infrastructure already in place to build a common statewide understanding of high school reform. For example, what role might the regional education service centers play, in tandem with model-based networks? The second evaluation report, based on data collected in 2008–09, will address this question. Early analysis of those data suggests that some technical assistance resources that support high school reform, including some THSP-related networks, are becoming better aligned.

In the future, the focus of network and TA activities may need to adjust to where the greatest need lies. For example, 2007–08 findings showed that TA efforts thus far have targeted district and school leadership, consistent with the early focus on structural and organizational changes associated with restructuring established schools or starting new ones. However, as noted above, these early findings also demonstrate that a coherent vision of the goals of high school reform for the state has not penetrated to the classroom level—that is to teachers and their instructional strategies. This lack of visibility among teachers may change as reform efforts deepen, something that the evaluation will watch for over time. Nevertheless, there is a legitimate concern that where grants are relatively short lived (i.e., two years on average), schools may not get to tackling issues of teaching and learning. Indeed, this observation suggests that THSP Alliance members should be considering the issue of sustaining reform momentum, perhaps through some mechanisms for maintaining network affiliations after grants end.

Because this is a longitudinal evaluation of a sustained statewide high school reform effort, each round of data collection and analysis will raise important issues and questions that members of the THSP Alliance and other interested parties may want to consider as they move forward. Some key questions follow:

- What common definitions of rigor and relevance can be agreed on within the various THSP models and programs?
- Where and how will teachers learn about instructional rigor and relevance? Who will guide them? If there are multiple guides, how can THSP help teachers find coherence in the ideas, mandates, and assistance that they experience?
- How can THSP more effectively use and build on existing state, regional, and model infrastructures and resources to support successful high school reform?
- What is an adequate suite of supports for the most at-risk students, especially in a policy environment of increasing emphasis on rigor and college/career readiness?

Preliminary Findings from 2008–09 Data Collection

Preliminary analyses of evaluation data collected in 2008–09 (the year after the data reported on in this report) are currently underway. The available data for the next report are more limited because surveys were not administered in 2008–09. Nevertheless, information from school site visits and interviews with district and network personnel will continue to advance understanding of how THSP investments are supporting high school reform in Texas. Although analysis is ongoing, emerging trends for the second year of the evaluation appear encouraging. Preliminary findings include an increased focus on curriculum and instruction that is somewhat broader than the strong TAKS focus found in the first year; PD that is tied to instructional improvement to a greater degree; and PD that is reaching more teachers with whole teams, departments, or faculties participating. At the same time, student supports still focused heavily on TAKS preparation for those in danger of failing, and few schools offered a comprehensive suite of supports to round out the experiences of underrepresented students to attain college readiness. These findings and others will be expanded upon in the next comprehensive annual report to be released in 2010.

Chapter 1. Background on the Texas High School Project and the Evaluation

The Texas High School Project (THSP) pursues the vision of all Texas students graduating from high school ready to tackle college and career successfully. The THSP public-private alliance includes the Texas Education Agency (TEA), the Communities Foundation of Texas (CFT), the Bill & Melinda Gates Foundation (BMGF), the Michael & Susan Dell Foundation (MSDF), and the Wallace Foundation. The $346 million investment in THSP supports redesigning existing high schools, as well as new start-ups and new schools within schools under a range of grant programs. The majority of the project's private philanthropic investments are managed by CFT. State and federal investments are managed by TEA. All grantees included in the four-year THSP evaluation began or will begin project implementation between the 2006–07 and 2009–10 school years.

This first annual report of the evaluation describes the early reform efforts for schools beginning implementation in 2006–07 or 2007–08, drawing on qualitative and quantitative data to focus on the nature of implementation across THSP schools. The evaluation team also conducted baseline analyses of student outcomes (through the 2007–08 school year), the results of which must be considered preliminary and merely suggestive of potential THSP effects that the evaluation will continue to examine. This report addresses the following key questions:

- What THSP implementation factors are related to teacher and student attitudes as early, intermediate outcomes?
- What is the nature of reform in THSP-supported schools with respect to key implementation factors?
- What role do districts and charter management organizations (CMOs) play in supporting schools that are implementing THSP-related reforms?
- How do the THSP reform models differ in specificity and capacity? How do reform model networks support schools in implementation?
- What effects have THSP and its individual grant programs had to date on selected ninth- and tenth-grade student outcomes?

To set the context for early evaluation findings, this chapter summarizes the background of the THSP and the evaluation methods.

Overview of the Texas High School Project

The THSP alliance strives towards its goal of graduating all Texas high school students college- and work-ready within a conducive state policy context. State policymakers have passed several landmark bills to stimulate high school improvement and college and career readiness for all students. Chief among them is House Bill (HB)1 (79th Legislature, Third Called Session, 2006). Along with other provisions, that bill established the requirement for four years of English, mathematics, science, and social studies ("four by four"); began a process to develop college readiness standards to vertically align the high school curriculum with college expectations; mandated that all districts provide dual-credit[18] opportunities to high school students; and provided the High School Allotment to decrease drop-out rates, increase academic rigor, and promote advanced coursework and high school graduation. Subsequently, new accountability provisions were passed in 2007 that included raising the passing scale score for the Texas Assessment of Knowledge and Skills (TAKS) over time, establishing End-of-Course (EOC) exams in the four core academic subjects, and adding college readiness measures to the school accountability reports (Senate Bill [SB] 1031, 80th Legislature, Regular Session).[19]

Within this active state context, THSP seeds reform under multiple grant programs:[20]

- **Texas Science, Technology, Engineering, and Mathematics (T-STEM) academies and centers.** T-STEM academies aim to improve student achievement through innovative and rigorous science and math instruction, with technology integrated across the curriculum. An academy may be a "school within a school"[21] or an autonomous small school. T-STEM academies are funded by TEA, CFT, or MSDF. Between the 2006-07 and 2009–10 school years, 46 T-STEM academies opened. Eight T-STEM Centers—strategically located throughout the state—also received funding. The T-STEM Centers support the implementation of T-STEM academies by providing PD, TA, and instructional materials.
- **Early College High School (ECHS).** The purpose of ECHS is to increase high school completion and encourage college enrollment. ECHS seeks to do so by providing students from backgrounds that are underrepresented in higher education with the opportunity to simultaneously attain a high school diploma and a significant number of college credit hours (up to and including a 60-credit Associates degree) during a four- or five-year high school program. Within THSP, 29 ECHSs opened between 2004–05 and 2007–08, with TEA funding 15 ECHSs and CFT funding 14 with support from BMGF.[22] In 2008–09, four new ECHSs received funding, with another three

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18 Dual credit courses are college–level courses for which high school students may earn high school and college credit simultaneously.

19 A detailed review of the state policies affecting high schools in Texas was published separately as part of this evaluation (Keating et al., 2008) and is available for download at http://ritter.tea.state.tx.us/opge/progeval/HighSchoolCollege/THSP_Policy_Report_1_13_09_FINAL.pdfAn update from the 2009 Texas Legislative Session will be included in the next comprehensive annual report for the evaluation of THSP.

20 Complete descriptions of all programs are in Chapter 7.

21 A school within a school is a smaller organizational unit typically with its own leadership, teachers, and students and with an educational program distinct from the offerings in the rest of the school.

22 The 14 CFT-funded ECHSs are included in the national evaluation of the BMGF ECHS Initiative and therefore to reduce burden to the schools are excluded from surveys or site visits for the evaluation of THSP. Only the

previously-funded ECHSs receiving grants to expand to the middle school grades. Five additional grants were awarded to open small rural ECHSs. TEA expects to award approximately five to eight additional grants for 2010 through 2012 (Cycle 4).[23] As with T-STEM academies, some ECHS are schools-within-schools, whereas others are autonomous small schools. Many ECHSs are located on or in close proximity to a postsecondary institution campus.

- **Redesign High School Initiatives, including High School Redesign and Restructuring (HSRR), High Schools That Work Enhanced Design Network (HSTW), High School Redesign (HSRD), and District Engagement (DIEN).** The Redesigned High School Initiatives support the redesign of existing comprehensive high schools.[24] This initiative was created to transform large, low-performing high schools into places that provide personal attention and guidance to all students, offer students a challenging curriculum with real-life applications, and encourage all students to succeed. Additional information about the four grant programs identified as redesign initiatives follows.
  - The HSRR program provides high school campuses rated Academically Unacceptable (AU) under the Texas accountability rating system with resources to build the school's capacity for implementing innovative, schoolwide initiatives that are designed to improve student performance. TEA has funded 64 grantees that began implementation between 2005 and 2009 (i.e., during the first five cycles).[25]
  - The HSTW program funded by TEA supports schools to implement the national HSTW model designed by the Southern Regional Education Board. The HSTW principles focus participating schools' reform strategies on improving instruction in academic and career and technical education to raise overall student achievement. The principles also emphasize creating a culture of high expectations and continuous improvement (TEA Request for Application 701-07-105).[26] Twenty schools were funded through the first two cycles of HSTW (2006–08 and 2007-09), with an additional 10 to be funded in cycle 3 (2009–11).
  - The HSRD program provides coaching and technical support for selected urban high schools to reorganize into smaller learning communities such as schools within schools, career academies, or autonomous schools. Six campuses were funded by CFT; they began implementation in 2006–07.

TEA-funded ECHSs are included in surveys and site visits for this evaluation. However, because it does not place any burden on the schools, the outcomes analysis (presented in Chapter 7) does include 11 of the 14 CFT-funded ECHSs—those that began implementation in 2006–07 or 2007–08—along with the TEA–funded ECHSs.

23 Through a state certification process, schools can be designated an ECHS participating in the TEA and CFT ECHS grant programs.

24 "Comprehensive" high schools refer to the traditional American high school, one that has high enrollment due to feeder patterns from multiple middle schools or junior highs and offers a wide range of academic and elective courses, athletics, and other extracurricular activities.

25 Cycles 1 and 2 were part of a separate evaluation. That report can be found at http://ritter.tea.state.tx.us/opge/progeval/HighSchoolCollege/HSRR_Final_Report.pdf.

26 For a description of the SREB model, go to http://www.sreb.org/Programs/HSTW/publications/2005Pubs/05V07_enhanced_design.pdf.

- Under the DIEN program begun in 2007–08, CFT funded four[27] high schools in Houston Independent School District (HISD) to further develop school leadership and practices that intensify academic rigor, student-teacher relationships, and educational relevance for all students under the HSTW model.

- **New Schools/Charter Schools (NSCS).** The NSCS program funds charter management organizations (CMOs) to replicate school models that have a history of achieving high performance with underserved populations and to build a network of such schools in areas of greatest need in Texas. NSCSs are funded by CFT and include IDEA Public Schools, YES Prep, Uplift, the Asia Society, and KIPP Academy. Seven schools were opened under NSCS in 2006-07 and four in 2007–08.[28]

Exhibit 1-1 (at the end of this chapter) summarizes the characteristics of these programs.

To date, the grants awarded under THSP have ranged from approximately 19 months (T-STEM Academy implementation) and 21 months (e.g., HSTW, Cycle 1, Year 2) to four years (e.g., ECHS), including a planning year in certain cases. The grants are intended to seed specific organizational restructuring or reform strategies that would be sustained at the schools beyond the life of the grants. In contrast to the relatively short grant duration, the reform goals imply changes that may take much longer to institutionalize. Changing how teachers and school leaders relate to students, raising school expectations for student learning, and improving instruction may be difficult—and in many cases slow.

The THSP Theory of Change

The THSP evaluation is driven by the theory of change that initially guided the THSP overall. (See Exhibit 1-2 for the THSP theory of change.) Under the THSP umbrella, the THSP alliance members fund grant programs that target different types of schools and students and pursue different missions. The various grant programs share the goal of increasing high school graduation rates and college enrollment among the state's disadvantaged youth. As depicted in the theory of change, THSP funders initiate and support networks that provide reform models and technical assistance (TA), as well as leadership development to schools engaged in reforms under THSP grants. Embedded within their local district policies and practices, THSP schools address characteristics that the theory of change identifies as instrumental in improving a variety of outcomes. Such characteristics, in particular, include effective school leadership, teachers' learning and collaboration, comprehensive academic and social supports for students, data-informed decision-making, and parent and community engagement as important characteristics of effective high schools. Students should also experience more rigorous, relevant, and data-informed instruction combined with other activities to prepare them for college and career, such as advanced and college-level coursework and internships. THSP funders believe that high schools need to create an overall school climate that is conducive to learning, including setting high expectations for achievement, building stronger relationships between students and teachers, and maintaining a safe environment. Other potential organizational structures and features listed in the theory of change include small learning communities (SLCs) at large comprehensive high schools. The anticipated outcomes include increased student engagement in

[27] In 2008–09, one school that previously participated opted out of the District Engagement program as its accountability rating improved.

[28] KIPP and Asia Society schools did not participate in original data collection (i.e., surveys and site visits) for this evaluation. They are included, however, in the student outcomes analysis using TEA data.

academics, aspirations to go to college, broader access to and success in advanced coursework, gains in student achievement and college preparatory exams, higher graduation rates, and postsecondary enrollment. This theory of change presents a comprehensive view of the factors that contribute to the desired student outcomes; however, the various grant programs emphasize different levers of change, which will be examined in depth in Chapter 6.

Overview of the THSP Evaluation

The THSP evaluation is contracted with SRI International and its subcontractors, Copia Consulting, the Public Policy Research Institute at Texas A&M University, the Texas Schools Project at the University of Texas, Dallas, and Triand Inc. It is funded by TEA, BMGF, and CFT.

The objective of the evaluation is to assess the implementation and effects of the various THSP grant programs over time. The current evaluation is funded for four years, likely the minimum number of years necessary to see any changes in student outcomes. In reality, the first years of implementation rarely produce changes in final student outcomes (see, for example, Rhodes et al., 2005). Indeed, schools' progress in implementation should be celebrated in the first few years, with expectations for seeing changes in student outcomes that may come later. In the Evaluation of BMGF's High School Grants Initiative, researchers found some evidence of improvements in reading achievement and mixed results in mathematics achievement among schools serving students for three years or less; they suggested that on the basis of prior research, five to six years would be realistic before seeing student achievement improvements (Rhodes et al., 2005).

TEA and other THSP funders have acknowledged this long-term perspective by building into the evaluation outcomes analyses over time. The study is designed to follow the first cohort of ninth-graders served by THSP schools for up to seven years[29] and to follow successive cohorts of students in subsequent years of implementation. This document is the first in a series of annual evaluation reports that will chart the implementation and impact of the THSP programs.

Data Sources and Methods

This report draws from multiple sources of data. In 2007–08, the evaluation team collected qualitative data by conducting site visits to THSP and non-THSP schools and by interviewing technical assistance (TA) providers, reform model network leaders, state policymakers, and THSP program officers. Quantitative data come from surveys administered to all THSP schools. In addition, the evaluation team completed a quantitative analysis comparing student outcomes at THSP schools beginning implementation in 2006–07 or 2007–08 with student outcomes at well-matched comparison schools.[30] This section briefly describes the data sources and methods. Methods are described in more detail in Appendix A.

[29] If evaluation extends beyond the funded four years.

[30] Schools were considered beginning implementation when they began serving ninth-graders. Schools were not included in the evaluation during their planning year.

Site Visits and Interviews

Evaluators conducted site visits in spring 2008 to a random sample of 15 THSP schools—drawn across grant programs—that began implementation in 2006–07 and to six non-THSP schools. The THSP site visit sample consisted of schools from the HSTW, T-STEM, and NSCS programs because only those programs had grantees beginning implementation in 2006-07.[31] At each site visited in spring 2008, the evaluation team collected interview data from multiple respondents representing different levels of the education system. At the school level, site visitors interviewed principals, assistant principals for instruction (or equivalent), instructional coaches (where applicable), guidance counselors, and teachers of ninth-grade English, mathematics, and science. Site visitors also interviewed the district administrators responsible for high school reform, curriculum, instruction, professional development (PD), and accountability (or their equivalents). In three urban districts funded for district-level initiatives (Dallas Independent School District [DISD]), HISD, and San Antonio Independent School District [SAISD]), the site visitors conducted more extensive district interviews with a broader base of administrators. Evaluators also conducted interviews with key TA providers and program officers associated with each THSP grant program, policymakers from TEA, the Governor's Office, and the legislative branch, and leaders of the education initiatives at the THSP funder organizations.

Surveys

Online surveys were administered in spring 2008 to principals and to a sample of teachers teaching ninth-grade English, mathematics, and science at THSP schools serving ninth-graders in 2007–08.[32] A sample of ninth-grade students at those THSP schools received paper surveys. Response rates were 78% for principals, 60% for teachers, and 71% for students.[33] Final sample sizes were 54 principals, 399 teachers, and 4,543 students. Closed-ended survey items measured components of the THSP theory of change described above, including perceptions of district and school leadership; teacher professional development, collaboration, and use of data; instructional approaches; and student supports.

TEA Data and Comparative Student Outcomes Analysis

TEA provided deidentified but unmasked campus-level and student-level datasets from the Academic Excellence Indicator System (AEIS) and the Public Education Information Management System (PEIMS). The datasets include school- and student-level unique identifiers that allow the data to be linked across years. The evaluation team used a rigorous approach to first identify appropriate comparison schools and then to analyze differences in key outcomes between THSP and matched non-THSP schools. This approach included matching on both school characteristics (e.g., enrollment size, overall student demographics) and student characteristics (e.g., prior achievement in eighth grade). Evaluators analyzed the THSP effect and

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[31] Although the site visits were conducted in the 2007–08 school year, the evaluation design called for site visits during THSP schools' second year of implementation. Thus we drew the site visit sample only from schools that began implementation in 2006–07. Although HSRD schools began implementation in 2006–07, five of them were added to the evaluation after it had begun and only principal interviews were conducted in those schools.

[32] HSRD schools were included in the evaluation after the study began and were not included in the spring 2008 surveys.

[33] Principals and teachers who completed the surveys received a gift certificate as a token of appreciation, and schools that completed the student surveys following the instructions received an honorarium.

individual grant program effects on ninth- and tenth-grade student outcomes including attendance, TAKS scores, and measures of being on track to graduate such as passing all four core courses under the state "four by four" curriculum policy.[34] The outcomes analyzed for this report come from the 2007–08 school year.

Report Overview

In addition to charting the progress of reform at the funded schools, the evaluation team examined the influences on high school reform throughout the system, including the role of state policy, external intermediaries such as reform networks and TA providers, districts, and charter management organizations (CMO). Thus, this report describes the multilayered system, with each level exerting influence on the schools at the center of THSP.

The next chapter explores how key school-level organizational attributes relate to certain teacher and student attitudes and behaviors that are integral to THSP reforms. Chapters 3 and 4 then describe in more detail aspects of organizational and instructional reform, respectively, in THSP schools. Then factors external to the schools that help explain the nature of reform implementation are discussed, including the role of districts/CMOs in Chapter 5 and the role of networks and external supports or TA providers in Chapter 6. Preliminary findings on early student outcomes are presented in Chapter 7. The report concludes with implications for THSP, high schools, and future evaluation activities. Because evaluation activities are ongoing, preliminary discussion of emerging analyses based on data collected during the 2008–09 school year are included in this report, as appropriate.

[34] Each model predicting student outcomes was estimated within an hierarchical framework, which accounts for students and teachers being nested in schools, described in Appendix A.

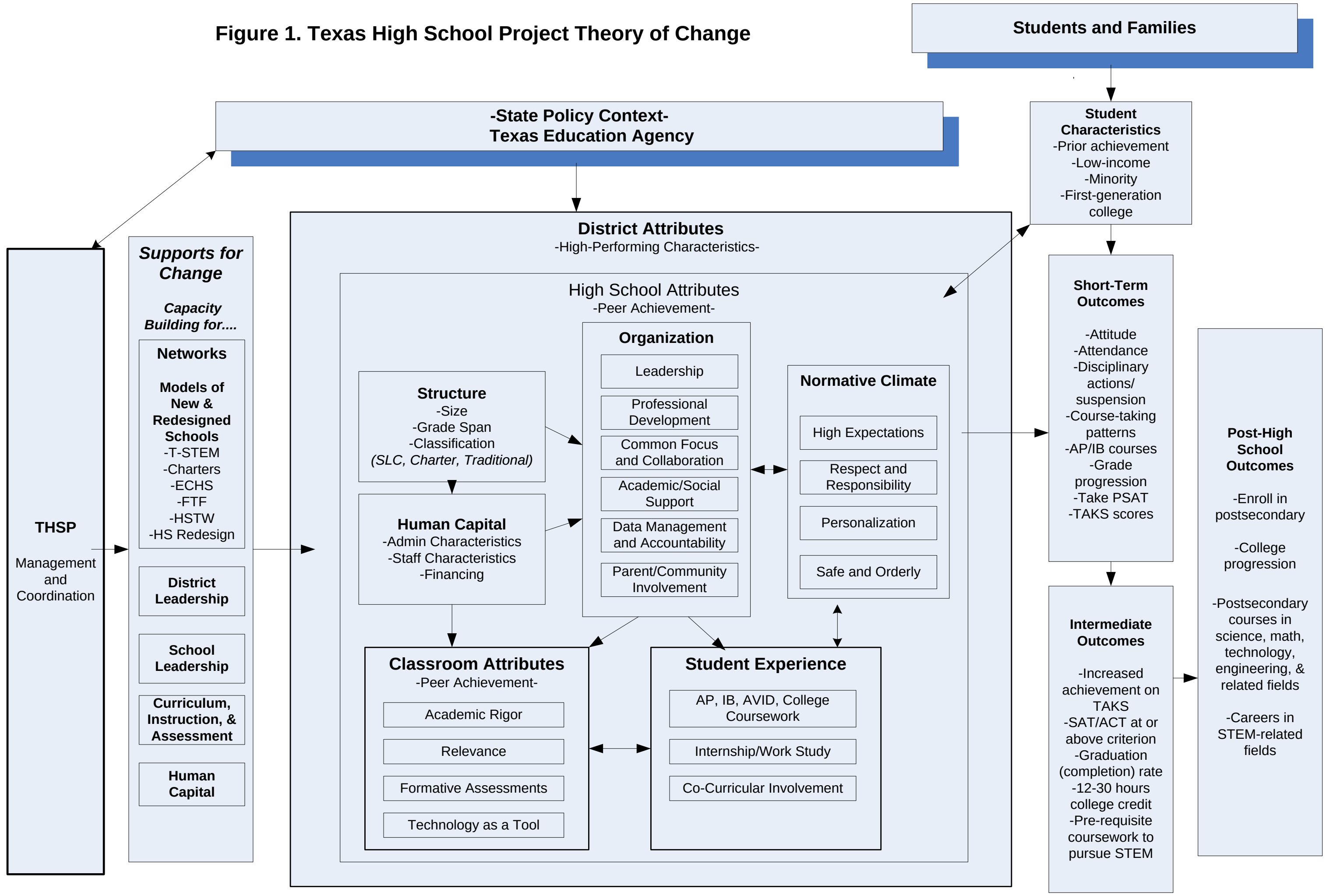
Exhibit 1-1
Summary of THSP Grant Programs

Agency	Program	Total Funding	Total Number of Schools	Geographic Focus	Target Population
TEA and CFT	T-STEM	$61 million for T-STEM Academies $9 million for T-STEM Centers	42 academies 8 centers	Texas-Mexico border; Inner cities	High-need, at-risk students, traditionally underrepresented in college
TEA and CFT	Early College High School (ECHS)	$24 million	29 open schools 7 in planning stage (2008–09) 5 rural/small (2008–09)	Statewide, with emphasis on small and rural areas, East Texas, and Texas-Mexico border	High school students at risk of dropping out or who want to accelerate high school completion
TEA	Texas High Schools that Work Enhanced Design Network (HSTW)	$2.5 million	20 open schools 10 additional schools to be funded from 2009 to 2011	Statewide	Campuses in a district with an Intervention Stage 3 or Stage 4 rating for career and technology education (CTE) or rated AU in 2005; or participated as official member of the HSTW statewide network during 2005–06 school year
TEA	High School Redesign and Restructuring (HSRR)	$24 million	64 grantees across five cycles (from 2005 to 2009)	Statewide	AU campuses
CFT	High School Redesign (HSRD) and District Engagement (DIEN)	$11 million	HSRD: 6 DIEN: 4	HSRD: Austin, Fort Worth, San Antonio, and Ysleta (El Paso) DIEN: Houston	Low-performing schools in targeted districts
CFT	New Schools and Charter Schools (NSCS)	$9 million	13	Primarily urban areas	High-need, at-risk students, traditionally underrepresented in college

Note: Program information as of May 2009. Findings in this report draw from data collected from 2006–07 and 2007–08 grantees only.

Source: Evaluation of the Texas High School Project Request for Proposal RFP No. 701-07-032, External Evaluation of the Texas High School Project

Exhibit 1-2
THSP Theory of Change



Chapter 2: Relationship Between Implementation Factors and Outcomes

Key Findings

- Based on data collected in spring 2008—after one to two years of THSP implementation—the following implementation factors emerged as significantly related to teacher and student attitudes and behaviors that support reform. These findings are based on analysis of all THSP schools responding to surveys and are not program-specific.
  - Teachers' and students' perceptions of higher levels of trust and respect between them were linked to both a higher sense of responsibility for student learning among teachers and more positive student attitudes toward school. Conversely, teachers' and students' perceptions of lower levels of trust and respect between them were linked to both a lower sense of responsibility for student learning among teachers and less positive student attitudes toward school.
  - Teachers' reports of greater opportunities to experience high-quality PD and collaborate with colleagues were related to more positive student attitudes about academics and high school graduation, and to greater frequency of teaching behaviors such as assigning rigorous class work requiring critical thinking skills. The converse was also true.
  - Students who reported receiving higher levels of postsecondary support and preparatory experiences also had more positive attitudes toward academic improvement, effort-based learning, and the importance of school. By contrast, students who reported receiving lower levels of those supports and experiences had less positive attitudes.
  - Teachers' beliefs about higher student engagement in learning were related to a higher sense of responsibility for student learning among teachers and higher frequency of teaching of advanced skills. The converse was also true.
  - Student reports of greater parental involvement were strongly related to more positive student attitudes about school, including attitudes toward academic improvement, effort-based learning, and the importance of school; aspirations to graduate from high school; and plans to attend college. Student reports of lower parental involvement were strongly related to less positive student attitudes about school in those same areas.

Introduction

The THSP theory of change encompasses a number of implementation factors—for example, organizational characteristics, school climate, and relationships—that are critical aspects of THSP reforms. This chapter addresses the following research question:

- Which implementation factors, if any, are related to intermediate outcomes such as teacher and student attitudes? (A preliminary analysis of the relationship between implementation factors and student outcomes is presented in chapter 7.)

Under its theory of change, THSP's goals of greater student achievement, graduation rates, and college readiness are realized through a series of changes within classrooms, schools, and districts. Together, the intended changes in organization and school climate lead to improved instruction and ultimately to improved student learning. Researchers have suggested that school structures and curriculum as well as the relationships between and among adults and students are critical for school success (Goddard, Tschannen-Moran, & Hoy, 2001; Langer, 2000). Thus the evaluation relied on data from the spring 2008 principal, teacher, and student surveys to better understand whether implementation factors measuring certain school organizational attributes influence teachers' expectations for student learning and their reported instructional practices, as well as students' attitudes toward learning and aspirations for higher education. This chapter first describes the methods and survey samples used in the analyses before turning to the findings.

Methods Overview

Data on implementation factors and intermediate outcomes such as attitudes and instructional practices come from the principal, teacher, and ninth-grade student surveys administered to all THSP schools serving ninth-graders in spring 2008. The school sample includes schools that began implementation in 2006-07 and those that began implementation in 2007-08, thus the spring 2008 survey captured results after one to two years of implementation. The survey items were designed to measure specific elements of the THSP theory of change. The evaluation team used factor analysis (Gorsuch, 1983) to construct factors at the school, teacher, and student levels that describe components of the theory of change. The factors measured district and school leadership, professional learning for teachers, student supports, data use, and school climate descriptors such as high expectations and respectful relationships.[35] The analysis examined whether these implementation factors were related to three teacher attitudes and practices factors derived from the teacher survey and five student attitudes and behaviors factors derived from the student survey. The teacher and student attitudes and behaviors used in the analysis as intermediate outcomes are elements depicted in the theory of change as potentially contributing to improved student achievement.[36] Exhibit 2-1 lists the specific teacher and student attitudes in this analysis.

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35 Section "Principal, Teacher, and Student Surveys" in Appendix A provides detailed information on survey development, administration, descriptive and factor analyses, and implementation model specifications and results.

36 Each model was estimated within an HLM framework, described in Appendix A.

Exhibit 2-1
Teacher and Student Intermediate Outcomes

Teacher Attitudes and Practices	Student Attitudes and Behaviors
Sense of responsibility for student learning Collaboration with colleagues Frequency of teaching advanced skills	Attitudes toward academic improvement Effort-based learning Belief in importance of school Aspirations to graduate high school Plans to attend college

Survey Samples

Online surveys were administered to all THSP principals (78% response rate) and a sample of ninth-grade English, mathematics, and science teachers (60% response rate). Ninth-grade student surveys with completed parental request forms were completed at 49 schools (71% response rate).[37]

The findings in this chapter must be considered exploratory as the survey and student samples were not completely random. The surveys were voluntary and the results therefore reflect respondent self-selection. Systematic differences between students who could and could not be matched with TEA outcomes data also exist (e.g., students matched to the TEA outcomes data and included in the analysis reported higher levels of parental involvement and more positive attitudes towards school).[38] The results reflect the perspectives and practices for each subsample of schools and students, but they do not necessarily reflect those for all THSP schools. Therefore, the results may not be generalizable to the larger population of THSP schools. Details on survey implementation and sampling issues are provided in Appendix A.

Relationships Between School Organizational Characteristics and Selected Teacher and Student Attitudes and Behaviors

All findings discussed below are statistically significant ($p < .05$), i.e., do not appear to result by chance, unless otherwise indicated. Exhibit 2-2 (at the end of the chapter) displays each implementation factor that is significantly related to at least one of the three measures of teacher attitudes and practices or five measures of student attitudes about education. The results for the full HLM models for each of these measures can be found in Appendix B. Although it is too early in the evaluation of THSP to draw conclusions about the most important attributes for attaining goals in THSP schools, the analysis can begin to identify patterns in the data that should be monitored as the evaluation progresses.

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[37] A total of 69 schools received student surveys. Ninth-grade English classes were sampled at THSP schools that began implementation in 2006–07 or 2007–08 and the survey was administered to all students in the sampled classes. Because the evaluation team did not have classroom rosters from the schools, a student response rate cannot be calculated. Principals and teachers who completed the surveys received a gift certificate as a token of appreciation, and schools that completed the student surveys following the instructions received an honorarium.

[38] See Appendix A for more information on analysis of the sources of bias.

Leadership

District and school leaders largely create the learning environments that teachers and students experience on a daily basis. These leaders are responsible for establishing the structures of the school and for setting the tone that influences a school's climate. Administrators determine the guidelines that promote a productive learning environment and generate opportunities for adults and students to interact and form meaningful relationships. District and school leaders are also responsible for fostering professionalism and skill development by creating opportunities for teachers to form collaborative working relationships (Deal & Peterson, 1999; Leithwood & Riehl, 2003; Marzano, Waters & McNulty, 2005).

After one to two years of implementation (as of the spring 2008 surveys), district leadership (as perceived by principals) and school leadership (as perceived by teachers) for THSP schools were not significantly related to the teacher outcomes examined (i.e., sense of responsibility for student learning, collaboration with colleagues, and frequency of teaching advanced skills). Furthermore, the relationships between school and district leadership and the student outcomes examined were mixed. For example, principal-reported district leadership for school effectiveness was positively associated with students' attitude towards the importance of school and plans to attend college. However, contrary to expectations, teacher reports of distributed leadership (e.g., teachers are involved in making important decisions, encouraged to express their opinions) was negatively associated with student attitudes toward academic improvement. Specifically, in schools where teachers reported opportunities for distributed leadership, students reported making fewer efforts to improve their academics (e.g., talked to a teacher about what they could do to get better grades, kept track of their own progress and improvement in class). Teacher reports of principal's overall school leadership (e.g., ensuring that the school runs smoothly, inspiring the very best in the job performance of all teachers, and setting high standards for teaching) was associated with poorer student attitudes towards the importance of school at marginal statistical significance ($p < .10$).[39] Turnover in leadership coupled with the time it takes for leadership efforts to be felt in the classroom may make it more difficult to identify meaningful links between leadership and student behaviors and performance. Additional analysis using data from surveys scheduled for the 2009–10 school year may shed light on the driving forces behind this unexpected finding.

School Climate

A number of studies have documented the links between successful schools and close, supportive communities with high expectations for student success and strong relationships between and among adults and students (Bryk & Schneider, 2002; Shear et al., 2005). The degree to which teachers reported a climate of trust at the school—that is, trust among and between the adults and students at a school—has been found to be associated with improving student achievement and creating successful schools (Bryk & Schneider, 2002; Goddard, Tschannen-Moran, & Hoy, 2001; Langer, 2000).

A school climate of mutual trust and respect and close personal connections was positively linked to teacher and student outcomes.

Consistent with these earlier findings, the THSP evaluation found based on spring 2008 data that a school

[39] The evaluation adheres to the research standard of statistical significance at $p < .05$. We also point out results that are marginally significant at $p < .10$ because at this early implementation stage, they suggest trends that may be important to follow.

climate of mutual respect and responsibility and close personal connections between students and teachers was, in general, positively linked to particular teacher and student attitudinal outcomes. Specifically, teachers who reported a climate of respect and trust at their school also reported they felt a strong sense of responsibility for helping students at their school to learn and do well academically. Moreover, students who reported a climate of respect between adults and students and felt that they had personal connections with teachers reported better attitudes toward academic improvement, effort-based learning, and the importance of school, as well as intentions to graduate from high school and attend college.[40] These findings underscore the potential importance of fostering trust and respect among teachers and students as an integral component to improving teacher and student attitudes that might facilitate reform implementation and over time, relate to higher achievement (findings from beginning analyses are in chapter 7).

Teacher perceptions of student engagement in learning (e.g., percentage of students who come to class on time, are prepared, actively participate, and care about their grades) were also significantly related to two teacher outcomes: their sense of responsibility for student learning and their reports of how frequently they teach more advanced skills (e.g., students evaluate/defend their own ideas, synthesize information from multiple sources, work on multidisciplinary projects). These findings reflect the literature (e.g., McLaughlin, 1993; Metz, 1993) that teachers' nearest context—their students—largely shape what they believe they are able to do in the classroom, the cognitive load they can place on their students, and the willingness to expend effort when their students do the same.

Teacher Professional Learning

Much research highlights the importance of providing teachers with opportunities to increase their skill and knowledge base and to participate in learning communities (Little, 1990; McLaughlin & Talbert, 2001; Wenger, 1998). Other studies also suggest that teachers engaged in using data for instructional purposes do so in teams, that such work is meaningful collaboration for them, and in the most sophisticated schools, joint work in examining data helps generate discussions about instructional improvement (Huffman & Kalnin, 2003; Young, 2006).

Although the spring 2008 survey results indicate that high quality PD was not strategically offered throughout the THSP schools (as discussed in the next chapter), teachers who reported greater access to PD and more use of data for instructional purposes also reported a greater sense of responsibility for student learning, more collaboration with colleagues, and more frequently offered student work requiring advanced (e.g., critical thinking) skills.

In contrast, teacher access to PD was related to certain student intermediate outcomes in unexpected ways. In particular, in THSP schools where teachers reported a higher level of access to PD, students were less likely to report that they expected to finish high school ($p < .10$). A good explanation for this result is not apparent from the spring 2008 survey data, but several interpretations are plausible. One possible interpretation is that the schools with the lowest performing students—and arguably therefore those with the lowest aspirations—may have been the schools that received the most PD as a consequence of their underperforming status. Another possible explanation may be that schools where teachers had greater participation in PD activities may have had stronger reform programs that increased students' awareness of what

[40] The relationship between student report of personal connections with teachers and aspiration to graduate from high school is significant at the $p < .10$ level.

it will take to graduate from high school, thereby tempering the aspirations of those students with poor academic records.

More promisingly, in THSP schools where teachers reported opportunities to collaborate with colleagues on instructionally meaningful activities, more students reported that they intended to graduate from high school ($p < .10$). Although not statistically significant, this relationship between teachers' instructionally focused collaboration and students' expectations to graduate high school may be a trend worth following in subsequent years of the evaluation.

Overall, while the specific ways teachers' professional learning experiences are related to students' attitudes remain unclear based on data through spring 2008, additional data collection on the nature of teachers' PD and collaboration may shed more light on this preliminary finding.

Student Supports

One of the key documented attributes of effective schools is a culture of high expectation—a shared belief among staff that all students can learn and succeed in an academically rigorous curriculum (AIR/SRI, 2004a). Moreover, it is critical to have in place the instructional and social supports to help students reach ambitious goals.

Having the supports in place for students to experience success was related to students' positive attitudes towards school.

Based on spring 2008 survey data, different types of student supports were related to positive student attitudes in THSP schools. As expected, students' reports of postsecondary support and preparatory experiences (e.g., career guidance, college entrance exam preparation, job shadowing) were positively linked with students' attitudes toward academic improvement, effort-based learning, and the importance of school. Also, schools where more students reported having access to social supports also had students with more positive attitudes toward academic improvement. In schools where principals reported having structures that provided students with more consistent contact with teachers (e.g., staying with the same teacher for two or more years), students reported more positive attitudes toward effort-based learning (e.g., when school work became difficult, they found a way to get help, they have spent enough time on a school assignment to understand it really well). Taken together, these findings suggest that supporting students and building closer relationships between adults and students as posited in the THSP theory of change are indeed related to students' attitudes about improvement and effort.

Other Important Factors

Also based on spring 2008 survey data, individual teachers' perceptions about student engagement in learning were related to teachers' sense of responsibility for student learning and the frequency with which they teach critical thinking skills. These relationships may reflect teachers' inclination to raise expectations if they perceive that students are willing to exert effort in their school work; however, one cannot assume that these relationships are causal.

Also, consistent with other research (Entwisle & Baker, 1983), students' reports of parents' expectation for college is positively related to all five student attitude outcomes examined.

Implications

The analysis presented in this chapter contributes to an understanding of how elements in school reform relate to teacher and student attitudes and behaviors that may ultimately lead to the desired increase in student achievement and other outcomes. The analysis looks across all of the THSP schools that began implementation in 2006–07 or 2007–08 and responded to spring 2008 surveys.

The results presented here provide some support to the THSP theory of change, namely, that school climates of respect and students' sense of connection with adults in the school influence their attitudes toward effort-based learning and academic improvement. Teachers' expectations of their students, too, may condition the extent to which they engage their students with advanced skills instruction and assume a sense of responsibility for student learning, underscoring the importance of high expectations identified in the theory of change. Another element of the theory of change, opportunities for professional learning, was related to teachers' collaboration, attitudes, and advanced skills instruction. Although it is the case that the content of PD is critical, it is also the case that simply having access to PD may provide teachers with some time to reflect on their instruction and to rejuvenate their commitment to their students. Finally, student supports are crucial to their positive attitudes toward schooling, reinforcing that aspect of the THSP theory of change.

Overall, then, this preliminary analysis linking reform implementation to various teacher and student intermediate outcomes provides narrow support for specific elements of the THSP theory of change, but also raises some puzzling results contrary to expectations. Although the reforms may be in their infancy and although patterns may, and almost certainly will, change as additional years of data become available and reform efforts move forward, the data presented here will provide a foundation on which to build our knowledge of THSP implementation. The following chapters turn to how schools are going about implementation, and their successes and challenges in implementation.

Exhibit 2-2
Relationship Between Implementation Factors and Teacher and Student Intermediate Outcomes

Predictors	Intermediate Teacher Outcomes (Attitudes and Practices)			Intermediate Student Outcomes (Attitudes and Behaviors)				
	Sense of Responsibility for Student Learning	Collaboration with Colleagues	Frequency of Teaching Advanced Skills	Attitudes towards Academic Improvement	Attitudes towards Effort-Based Learning	Attitudes towards the Importance of School	Aspiration to Graduate from High School	Plans to Attend College
Leadership								
Principal perception of district leadership for school effectiveness	-0.16 (0.16)	-0.17 (0.22)	-0.34 (0.26)	0.04 (0.06)	0.05 (0.06)	0.08* (0.03)	0.62 (0.40)	0.64* (0.27)
Teacher-reported distributed leadership	--	--	--	-0.19* (0.07)	-0.05 (0.08)	-0.01 (0.03)	0.18 (0.51)	-0.26 (0.34)
Teacher-reported overall school leadership	--	--	--	-0.05 (0.12)	0.05 (0.13)	-0.11◊ (0.06)	0.82 (0.78)	0.23 (0.53)
Schoolwide use of data	--	--	--	0.14* (0.06)	0.10 (0.07)	0.01 (0.03)	-0.66 (0.42)	0.37 (0.28)
School climate								
Teacher perception of a school climate of respect and trust	0.64* (0.21)	0.13 (0.30)	-0.06 (0.35)	--	--	--	--	--
Student-reported respect between adults and students	--	--	--	0.23* (0.03)	0.45* (0.03)	0.37* (0.02)	1.45* (0.21)	0.83* (0.13)
Student-reported personal connections with teachers	--	--	--	0.47* (0.02)	0.27* (0.02)	0.06* (0.01)	.26◊ (0.15)	0.27* (0.09)
Teacher perception of student engagement in learning	0.13* (0.05)	-0.02 (0.08)	0.29* (0.09)	--	--	--	--	--
Teacher expectations for student success	--	--	--	-0.23 (0.19)	-.39◊ (0.21)	-0.11 (0.10)	-1.45 (1.54)	0.12 (0.91)
Teacher-reported familiarity with school's students	--	--	--	0.09 (0.17)	-0.22 (0.19)	-0.04 (0.08)	-2.35* (1.06)	-0.68 (0.77)

Note. Coefficients and standard deviations (in parentheses) are presented for each model.

*p < .05, ◊p <.10.

Exhibit 2-2 (concluded)
Relationship Between Implementation Factors and Teacher and Student Intermediate Outcomes

Predictors	Intermediate Teacher Outcomes (Attitudes and Practices)			Intermediate Student Outcomes (Attitudes and Behaviors)				
	Sense of Responsibility for Student Learning	Collaboration with Colleagues	Frequency of Teaching Advanced Skills	Attitudes towards Academic Improvement	Attitudes towards Effort-Based Learning	Attitudes towards the Importance of School	Aspiration to Graduate from High School	Plans to Attend College
Teacher professional learning								
Teacher access to professional development	0 .12* (0.05)	0.45* (0.08)	0.36* (0.09)	-0.07 (0.22)	-0.04 (0.24)	0.15 (0.11)	-2.81◊ (1.59)	-1.02 (1.03)
Teacher use of data for instructional purposes	0 .10* (0.04)	0.31 (0.07)	0.40* (0.08)	--	--	--	--	--
Teacher-reported opportunities to collaborate with colleagues	--	--	--	0.07 (0.09)	0.10 (0.10)	-0.04 (0.04)	1.28◊ (0.72)	0.08 (0.41)
Student supports								
Student-reported postsecondary support and preparatory experiences	--	--	--	0.32* (0.06)	0.29* (0.06)	0.16* (0.04)	-1.07* (0.37)	0.12 (0.27)
Student-reported access to social supports	--	--	--	0.97* (0.40)	0.37 (0.43)	-0.01 (0.20)	-2.16 (2.67)	1.29 (1.72)
Principal-reported students remain with same teacher for 2 or more years	--	--	--	-0.01 (0.05)	0.13* (0.06)	0.01 (0.03)	-0.13 (0.40)	-0.24 (0.26)
Principal-reported schools divided into small groups	-0.07 (0.08)	-.24* (0.11)	-0.04 (0.12)	--	--	--	--	--
Other important factors								
Student-reported parental involvement	--	--	--	0.16* (0.01)	0.22* (0.01)	0.11* (0.01)	.35* (0.07)	0.30* (0.04)

Note. Coefficients and standard deviations (in parentheses) are presented for each model.
**p* < .05, ◊*p* <.10.

Chapter 3. High School Reform as Organizational Change

Key Findings

- Based on spring 2008 data—after one to two years of implementation—most THSP schools have pursued strategies aimed at fostering a school climate of high expectations and respect. They have also made structural changes intended to support teachers' instructional practice.

School Climate

- Most THSP teachers (more than 70%) and leaders (more than 85%) espoused high expectations for student learning, as well as commitment to developing strong relationships with students.
- Most students (77%), too, reported that they felt that they were treated with respect by the adults at the school.
- However, challenges remain to developing a positive and supportive school climate at all THSP schools.
  - A substantial proportion of teachers believed that their students were not able to perform college-level work at that time (62%) and that student success or failure was beyond teachers' control (55%).
  - A large minority of teachers (37%) reported knowing about the academic background and home life of few of the school's students.
  - Approximately a third of students disagreed that teachers tried to be fair or that they cared about students' opinions, and about a third of students reported that teachers never worked one-on-one with them when they had difficulties in class or talked to them about college or career.

School Leadership

- Leaders in THSP schools placed a priority on instruction-related activities, although follow-through such as observing instruction or monitoring the progress of specific instructional reform activities was inconsistent.
- A large majority of THSP school leaders (over 90%), though, reported using data to evaluate their school programs, student learning, and teacher performance.
- In evaluating the school leadership, a smaller proportion of teachers rated school leadership effective compared to principals' ratings of their own effectiveness, raising questions about the extent to which leaders communicate reform goals and strategies and adequately support teachers to undertake specific reforms.

Teacher Professional Learning

- Teachers in THSP schools received significant time to collaborate with their colleagues and appreciated the opportunity to plan lessons and share ideas.
- However, teacher collaboration and PD opportunities in general were not guided by explicit teacher learning goals.

Introduction

Under the overarching umbrella of the THSP initiative, the seven grant programs described in Chapter 1—T-STEM, ECHS, HSRR, HSTW, HSRD, DIEN, and NSCS—stand for a common goal of promoting college and work readiness for all students. The reform strategies promoted by these programs or school models differ in specifics, but they nevertheless take shape within the Texas state policy context and reflect the national high school reform movement. This chapter sets out to describe the reform efforts across THSP schools, their early implementation successes, and the challenges they face going forward. This chapter and the next address the following question:

- What is the nature of reform in THSP schools with respect to key implementation factors?

This chapter focuses on many of the organizational and structural changes that THSP schools have put in place; the next chapter concentrates on the instructional reforms taking place at THSP schools. In future data collection and analysis, the evaluation will relate implementation data to "blueprints" that articulate the expected school reforms under specific THSP grant programs.

To reiterate, two key sources of evaluation data underpin the analysis of high school reform: (1) spring 2008 site visits to a stratified random sample of THSP schools beginning reform implementation in 2006–07 and to a stratified random sample of matched non-THSP schools, and (2) principal, teacher, and student surveys fielded in spring 2008 in all THSP schools serving ninth-grade students in 2007–08 (i.e., schools beginning implementation in 2006-07 or 2007–08).[41] Because not every THSP grant program had grantees in 2006–07, the spring 2008 site visit sample consisted of schools participating in the HSTW, T-STEM, and NSCS programs. Survey responses came from schools in the T-STEM, ECHS, HSRR, HSTW, DIEN, and NSCS programs.[42] The spring 2008 survey data provide an overview on a broad range of reform dimensions and school characteristics and permit some comparisons between principals, teachers, and students. Emerging themes in terms of successes and challenges, examples and details of potentially promising practices, and an illustration of the range in practices come from the spring 2008 site visit data.

Reform at THSP Schools

At THSP schools, improvement strategies addressed organizational aspects that supported teachers' work, such as the school climate, leadership, access to data, and professional development, as well as instruction and supports for students. Below, key organizational or structural characteristics related to instructional improvement are described. The characteristics discussed here are derived from multiple perspectives—they are acknowledged as components of THSP's theory of change; they are consonant with other national efforts at high school reform and supported by research to varying degrees; our own analyses suggest that these

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41 The survey data presented here are the same as those described in Chapter 2. As previously mentioned, there are sources of bias in these surveys, particularly the student survey. As a result, the findings should be interpreted with caution and should not be generalized beyond the population of students that completed the survey.

42 HSRD schools were included in the evaluation after the study began and were not included in the spring 2008 surveys.

implementation factors are related to selected intermediate teacher and student outcomes. At the organizational level, these factors fall under school climate, leadership, and opportunities for teachers' professional learning as the contexts influencing teachers' instruction.

School Climate

THSP—and indeed the thrust of state policy—explicitly call for higher expectations for all high school students in Texas. In taking up the challenge of preparing traditionally underrepresented students for college and for work, THSP schools must accelerate many students who enter high school behind in one or more subjects and who possibly are contending with home lives that detract from their ability to concentrate on their education. In aiming to improve the climate, staff at THSP schools in the spring 2008 site visit sample expressed an imperative to believe that the students, with enough encouragement, assistance, and support, can do work at a high academic level, and to find innovative ways to reach these students. In a school climate conducive to learning, student-adult relationships of respect and caring reinforce high expectations. This section discusses the ways in which THSP schools were fostering a positive school climate in terms of high expectations for all students and respectful and caring relationships in schools.

High Expectations

In THSP schools, principals and teachers responding to the spring 2008 surveys expressed strong convictions about their students' potential and commitment to their students. The majority of THSP principals and teachers surveyed in spring 2008, agreed or strongly agreed that teachers set high standards for teaching (92% among principals and 85% among teachers), that most teachers worked hard to make sure all students are learning (94% of principals and 86% of teachers), that teachers believed it is part of their job to help students succeed both in high school and after graduation (89% of principals and of teachers), that teachers continually sought new ideas about teaching and learning in the classroom (85% of principals and 88% of teachers), and that teachers can usually get through to the most difficult students (88% of principals and 73% of teachers).[43] Teachers at charter schools[44] reported greater agreement with statements about holding high expectations for their students.[45]

THSP school staff espoused high expectations but some reservations reflected the difficulties of putting high expectations into practice.

In addition to holding high standards for themselves, teachers must similarly hold high expectations for student learning and academic excellence. Educators argue that setting high expectations motivates students to rise to those expectations. According to the spring 2008 surveys, principals and teachers in THSP schools generally espoused high expectations for students' academic achievement and college aspirations. The majority of the teachers (74%) and principals (90%) agreed that most teachers believed all

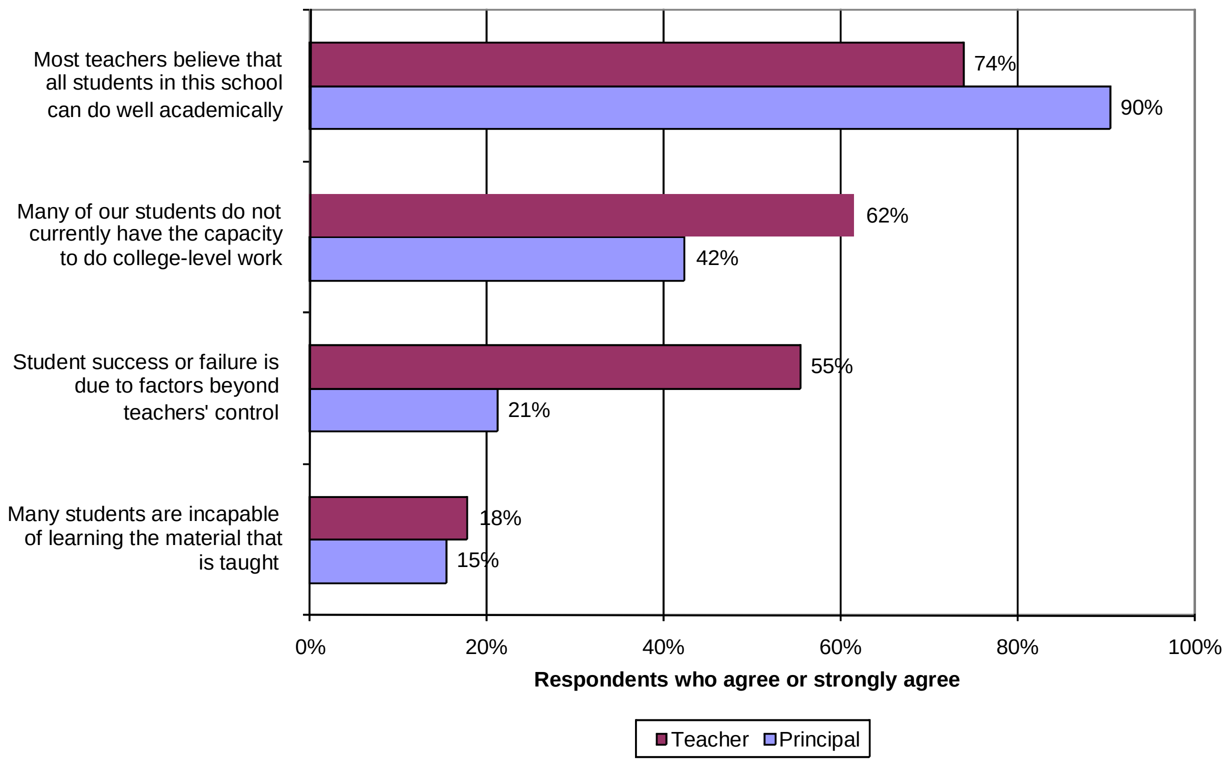
43 See Appendix C, Exhibit C-1.

44 In both survey and site visit data, certain implementation factors operated differently depending on whether the school was a large or small school or a charter or traditional non-charter school. To conduct the survey analysis, small schools were defined as those with enrollments of fewer than 100 students per grade, consistent with the literature on small high schools. Charter schools cut across multiple THSP grant programs, namely NSCS, T-STEM, and ECHS.

45 Means on 4-point scales (where 1=strongly disagree and 4=strongly agree) measuring high expectations for students were greater for charter school than non-charter schools teachers by 0.21 points, $p < .05$.

students in their school can do well academically (Exhibit 3-1). High expectations variously meant preparing students for college, voiced most strongly among the charter schools—"Our goal is not just university admission but Ivy league admission for all our students," as one charter school staff member put it—as well as fostering general post-secondary aspirations, whether to work or attend a two-year higher education institution. Teachers pointed out that college may not be for everyone, and suggested that their job is to prepare students also for some type of post-secondary education and/or for work in the 21st century. However, although the majority of teachers did express high expectations for students, there were also some teachers who expressed reservations about students' ability to achieve and frustration about their ability to help students. For example, a minority on the spring 2008 surveys—15% of principals and 18% of teachers—agreed that many students are incapable of learning the materials that are taught. And a majority of the THSP teachers surveyed (62%) felt their students do not currently have the capacity to do college-level work. Further, at several schools that evaluators visited in spring 2008, teachers expressed concern over the ability of students with limited English proficiency to do rigorous course work. Thus, despite the strong beliefs in student learning reported by a majority of THSP principals and teachers, the dissenting voices were a reminder of the daily battle teachers feel they are engaged in to boost student learning. The challenge they faced is reflected by the fact that slightly more than half of the THSP teachers (55%) felt that student success or failure was beyond teachers' control.

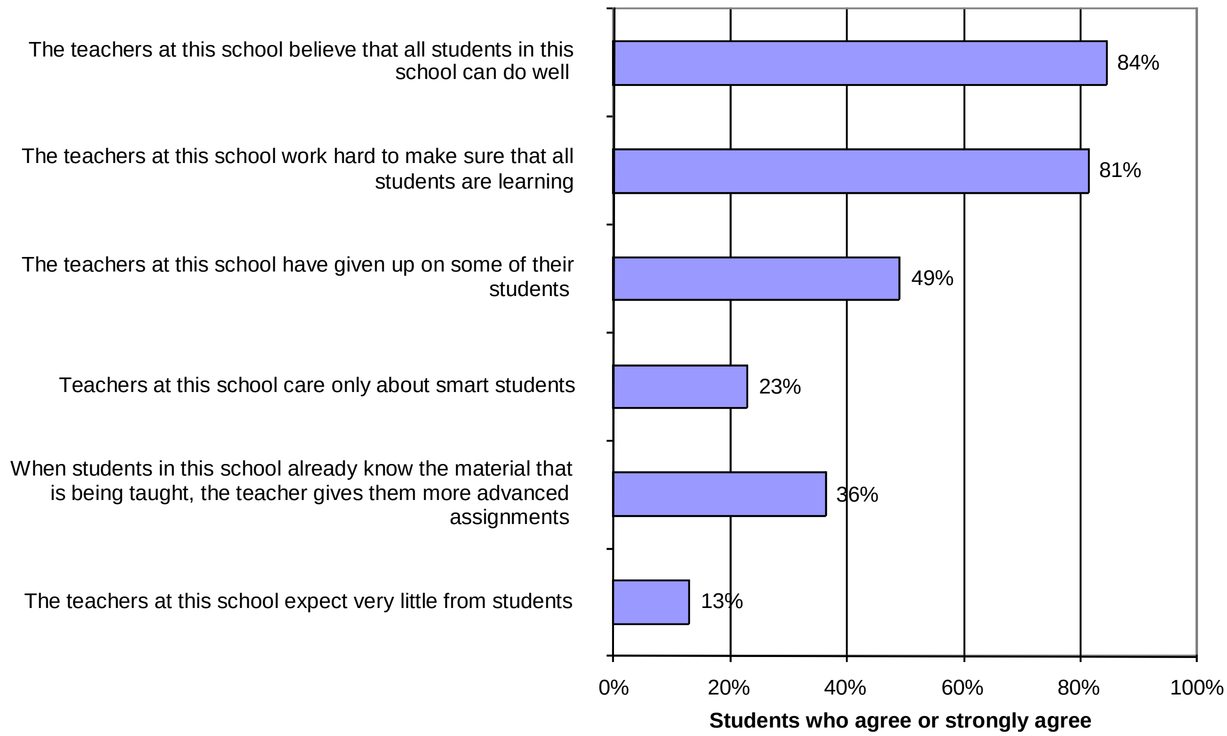
Exhibit 3-1
Teacher and Principal Perceptions of Student Ability



Note: Survey items used a 4-point scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree.
Original survey items offered both positive and negative statements related to a given concept (e.g., student ability) to improve reliability. Note that the first item in exhibit is worded positively, while the remaining items are worded negatively.
Source: Evaluation of the Texas High School Project principal and teacher surveys, spring 2008.

With efforts to set high standards for all, how did students view the demands placed on them? The ninth-grade THSP students surveyed in spring 2008 generally perceived that teachers held high expectations for them, but also noted different expectations for different types of students. A large majority agreed that teachers believed that all students can do well (85%) and that they worked hard to make sure that all students were learning (81%). Nonetheless, almost half of the students believed that teachers at their school had given up on some students (49%) and about one quarter believed that teachers only cared about “smart” students (23%) (Exhibit 3-2).

Exhibit 3-2
Student Perceptions of Teachers' Expectations



Note: Survey items used a 4-point scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree.
Source: Evaluation of the Texas High School Project ninth-grade student survey, spring 2008.

Among THSP schools, students in charter schools or small schools responding to the spring 2008 survey tended on average to perceive that the faculty had slightly higher expectations for them.[46] Charter school students also reported a slightly stronger academic orientation among friends and peers than non-charter school students.[47] Moreover, charter school teachers perceived much higher engagement in learning (e.g. come to class on time, attend class regularly, and regularly pay attention in class) and attitudes towards academics (e.g., most students believe that they can do well in school) among their students than non-charter

46 Means on 4-point scales (where 1 = Strongly disagree and 4 = Strongly agree) measuring high expectations for students were greater for charter school students than non-charter school students by 0.18 points, $p < .05$. Students at small schools reported slightly higher means than students in large schools on the same scales by 0.24, $p < .05$.

47 Mean difference between charter and non-charter students on measures of friends' attitudes towards academics was 0.12 points, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree, and on measures of peer attitudes towards academics in English and math classes was 0.13 points, $p < .05$, on a 5-point scale where 1 = None and 5 = Nearly all.

schools teachers did.[48] Similarly, students in small schools reported more positive attitudes towards academics among their friends and peers compared to students in large schools.[49] Students in small schools also reported more positive attitudes towards effort-based learning and a higher degree of parental involvement than did students in large schools.[50] Although it is not possible to distinguish with these data, the differences among students in charter schools and small schools compared to other schools may have reflected the motivation of students and parents in choosing to go to the charter school or small school. However, charter schools and small schools may have also been able to develop closer ties between teachers and students and to attend to school culture, factors which in turn may have fostered a higher academic orientation among students.

Respectful and Caring Relationships

Virtually all THSP schools visited in spring 2008 expressed building stronger student and teacher relationships as a goal toward improved teacher and student outcomes. Fostering respectful and caring relationships among staff and between students and teachers was seen as inherent to creating a safe environment for the students, an environment in which they would wish to belong and one that would motivate them to succeed. Principals among spring 2008 site visit schools also reported that respect among the staff was necessary for increasing meaningful collaboration, where, for example, teachers compared each others' student work and assessment results to discuss curricular objectives and the rigor of assignments.

THSP schools are characterized by respectful relationships.

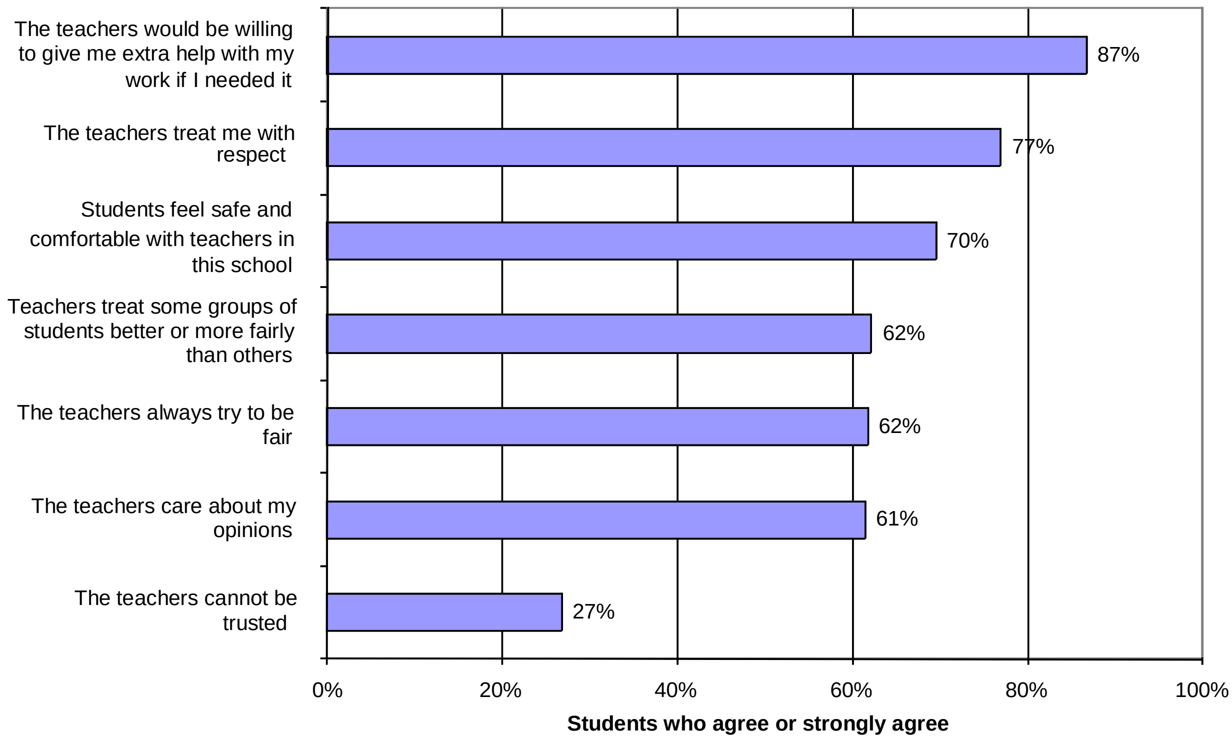
Based on spring 2008 survey data, THSP schools overall exhibited a high sense of respect in the school and had a recognized goal of improving relationships between teachers and students. For example, a majority of surveyed teachers agreed that they trusted and respected each other (84%), that most teachers in the school were committed to developing strong relationships with students (84%), and that the relationship between students and teachers was based on mutual trust and respect (78%). Students, too, generally reported that teachers were willing to give them extra help (87%) and treated them with respect (77%), and a majority of students felt safe and comfortable with teachers in their school (70%) and believed teachers could be trusted (73%) (Exhibit 3-3). Nevertheless, a sizeable proportion of students also disagreed that teachers tried to be fair (38%) and that they cared about students' opinions (39%). It is these perceptions that potentially disaffect students and impede THSP schools' ability to engage students in school life.

48 Mean differences between charter and non-charter school teachers for engagement in learning was 0.43 points, $p < .05$, on a 5-point scale where 1= None and 5= Nearly all. Mean differences for attitudes towards academics was 0.42 points, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree.

49 Mean difference between students in small and large schools of friends' attitudes towards academics was 0.15, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree. Mean differences between students in small and large schools of peers attitudes towards academics in English and math classes was 0.22, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree.

50 Mean difference between students in small and large schools was 0.17 on measures of attitudes reflecting effort-based learning, $p < .05$, on a 5-point scale where 1 = Never and 5 = Almost everyday. Mean difference between students in small and large schools was 0.21 on measures of parental involvement, $p < .05$, on a 5-point scale where 1 = Never and 5 = Almost every day.

Exhibit 3-3
Student Perceptions of Teacher Respect and Rapport



Note: Survey items used a 4-point scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree.
Source: Evaluation of the Texas High School Project ninth-grade student survey, spring 2008.

Despite the acknowledgement that positive relationships with students are desirable, fairly significant proportions of THSP teachers responding to spring 2008 surveys reported little knowledge of the academic history and personal lives of students in their school. For example, 37% of surveyed teachers reported that they knew the prior academic background for only a few or no students. Roughly the same percentage (37%) knew about the home lives of only a few or no students and roughly 20% reported knowing this information about three-quarters or more of students. In some ways, these results may not be surprising—in comprehensive high schools, a typical teacher load of 120 to 150 students each day provides little opportunity for teachers to get to know their own students well, let alone other students. Yet a situation where almost 40% of teachers knew so little about any students underscores how easily high school students can remain strangers to the faculty.

Small school settings were generally perceived as more conducive to close ties between teachers and students, with statistically significant differences on spring survey 2008 responses in the following aspects. Students in small schools tended to rate measures of respect between adults and students, and their personal connection with teachers higher than students in large schools did.[51] Teachers surveyed in the THSP charter schools, all of which were small schools, also rated respect between adults and students higher than teachers in non-charter schools.[52] Charter school students similarly expressed a stronger sense of respect and connection with staff than did students in non-charter schools, although the differences were smaller.[53] Teachers in small schools and in charter schools reported much greater knowledge of their students than teachers in large schools and in non-charter schools.[54] In rural communities,[55] where staff and families were more enmeshed than in non-rural areas, teachers also reported higher ratings on their knowledge of students than teachers in non-rural communities.[56] Paradoxically, rural teachers also rated general climate of respect lower than non-rural teachers.[57]

Efforts to Improve Relationships Within Schools

THSP schools visited in spring 2008 pursued a variety of strategies to improve relationships between students and teachers, including advisory (a dedicated class for teachers to learn about their students' interests and lives, thereby enabling them to better support students), SLCs, and other activities. Advisory in particular was a common mechanism for building student-teacher interactions among THSP schools. Beyond keeping tabs on students' academic progress, advisories may give teachers an opportunity to get to know their students and give students a potential avenue for confiding to an adult their concerns outside of school. Site visit schools varied widely in how frequently and consistently advisory periods occurred, ranging from daily to once every three or four weeks, and in how students were assigned to teachers. In a relatively strategic example, one THSP school assigned students to teachers based on their common interests and used books that students chose to read as conversation starters. In light of the increasing prevalence of advisory, teachers in the THSP schools visited expressed a need for more guidance on how to use the advisory period effectively. The general assumption among school leaders and teachers interviewed through spring 2008 site visits was that—in the absence of specific training—certain teachers had the ability to connect with youth and others did not. Being more prescriptive created a tension, however. One district that did provide a curriculum for advisory faced a dilemma between directing how teachers used the time in order to improve

51 Students in small schools rated measures of respect between adults and teachers and teachers' knowledge of students 0.18 and 0.20 points higher than students in larger schools did, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree.

52 Mean difference between teachers in charter and non-charter schools was 0.29, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree.

53 Mean difference between students in charter and non-charter schools was 0.09 on respect between students and adults , $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree. The mean difference was 0.15 on measures of personal connection with teacher, $p < .05$, on a 5-point scale where 1 = Never and 5= Almost every day.

54 Mean difference between teachers in charter and non-charter schools was 0.71 points and between teachers in small and large schools = 1.26 points, $p < .05$ in both cases, on a 6-point scale where 1 = None and 6 = Nearly all.

55 In both survey and site visit data, certain implementation factors operated differently depending on whether the school is in rural or non-rural areas. Rural schools are coded using geographic information systems (GIS) software and are all schools that are not within an urban area greater than 40 square miles or within a 4-mile buffer of said urban area (based on 2000 census data).

56 Mean difference between rural and non-rural teachers was 0.47, $p < .05$, on a 6-point scale where 1 = None and 6 = Nearly all.

57 Mean difference between rural and non-rural teachers was -0.16, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree.

the effectiveness of advisory and allowing teachers enough flexibility to meet students' individual needs. Notwithstanding such dilemmas, relying on teachers' individual experiences and wherewithal to build those relationships will not yield a schoolwide, systematic approach to improving students' connection to school.

Restructuring into SLCs, as numerous schools under the HSRD, HSTW, and HSRR did, was also partly intended to foster closer ties between a manageable number of students and the teachers who share students. Each SLC within the school could organize its curricular program around a career theme. In general, the career themes were designed to create connections between school and occupations in the real world and to offer students choices that might pique their interest and engage them in academics. Within SLCs, teachers might be assigned to teach the same students and have opportunities to discuss strategies for reaching them. At one HSRD school, for example, the principal placed great emphasis on creating a distinct identity for each SLC that would engender belonging and community among its students. She explained, "[O]ne of my goals is… that the identity of each academy will be very clear and that the ability to follow a major in terms of class choices will also be very distinctive from one academy to another." She saw this strategy as integral to the school's efforts to reach students who traditionally have not been academically oriented and successful.

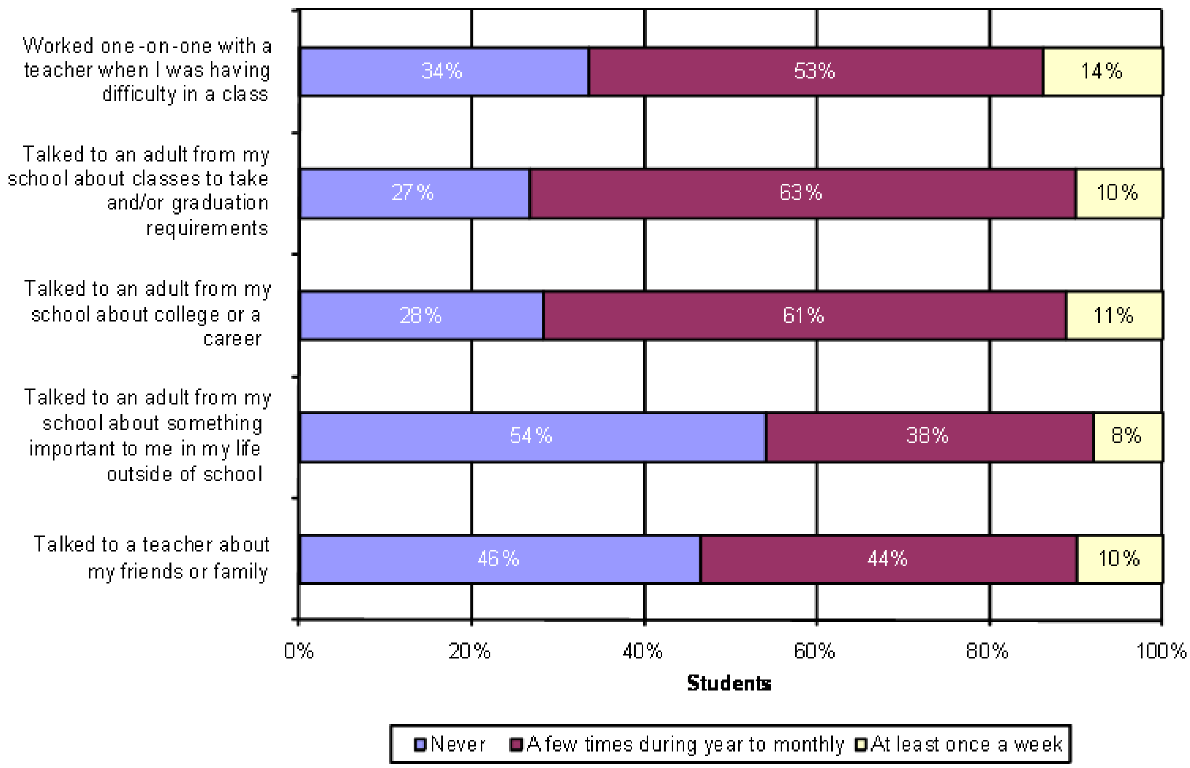
A wide range of other activities were also targeted at improving relationships between teachers and students, as in the following examples:

- One rural HSTW school was committed to hiring teachers who loved to teach and hired teachers only to teach. The teachers had no supervision duties and were expected to focus on working with students.
- Several charter schools routinely conducted home visits and teachers were available by cell phone each evening in case students needed extra help.
- Certain schools have explicit disciplinary codes designed to maintain and reward respectful behavior among students, which they argued were necessary for respectful relationships in the schools.

Notwithstanding these efforts, the spring 2008 survey results suggest that THSP schools may have further opportunities to strengthen relationships between students and teachers (Exhibit 3-4). A majority of ninth-grade THSP students surveyed reported working with teachers one-on-one (67%), and talking to an adult from the school about classes and graduation requirements (73%), and about college or career (70%) at least a few times during the year. Yet 27 to 34% of the ninth-graders reported never talking to teachers or other adults from the school about these issues or never working with teachers one-on-one. Moreover, 46 and 54% of students, respectively, reported never talking to an adult in school about something important in their lives outside of school or about friends or family. Although ninth-graders might have felt less comfortable in their high school surroundings in general and therefore were less likely to approach their teachers, these data indicate nevertheless that a fairly large segment of the ninth-grade students surveyed did not appear to have a strong connection with their teachers, either around academics or their personal lives.

THSP schools pursued a variety of strategies to build stronger relationships with students but a sizable minority of students reported little connection with teachers.

Exhibit 3-4
Frequency of Student Discussions with Teachers



Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project ninth-grade student survey, spring 2008.

Fostering Relationships among Students

Respect among students perhaps posed another significant challenge to schools. Principals, teachers, and students responding to the spring 2008 surveys differed widely in their perceptions of respect among students. While 94% of THSP principals surveyed agreed that students treat one another with respect, only 62% of teachers and 35% of students agreed with this statement. Doing well in school continued to carry some stigma among today's youth. Twenty-five percent of principals and 39% of teachers agreed that students got teased if they took academics seriously and half of the students (50%) agreed that many students tried to act like they were "not smart" to fit in.

In summary, principals and teachers had strong intentions and commitment to foster learning for all students. Students generally perceived high expectations for their learning and academic achievement. However, some teachers expressed reservations about students' ability to achieve and frustration about their ability to help students, highlighting the difficulty of putting high expectations into practice and suggesting that teachers may need additional support in reaching students. At the same time, respectful and personal relationships between students and teachers as well as among students—relationships that might help draw students into their schooling—were uneven. THSP schools were implementing a number of strategies to improve relationships, but teachers needed more support in doing so. Teachers' idiosyncratic efforts will not likely amount to schoolwide approaches in reducing the sizeable percentage of students who reported little or no contact with teachers around their academic progress and personal lives, and who feel social pressure to hide any interest in academics.

Leadership in THSP Schools

School leaders do much to set high expectations for their staff and students and can confer much towards altering the normative climate of schools, as discussed above. Crucially, however, school leaders need to translate positive relationships and expectations for academic accomplishment into concrete actions. School leaders can articulate goals and rationale, marshal resources, and establish new procedures and practices to improve teaching and learning.

THSP schools are diverse in size, mission, and in most cases, the types of students they serve. Principals at THSP schools therefore operate in a variety of school contexts. At the comprehensive high schools, many of which are rated AU under the Texas accountability system, school leaders are tasked with managing and leading complex organizations. The leadership structure at those schools is more elaborate, often featuring a broad-based leadership team and departmental hierarchies. At large high schools, leaders undertake a complicated mission. They are responsible for driving a consistent strategy of change through multiple departments with total teaching staff numbering over a hundred. They are required to do this while also maintaining daily operational routines. At the small, newly opened THSP schools, organizing around a common mission is more manageable, but leaders there face other challenges, such as establishing procedures and practices for the first time and undergoing rounds of trial and error. Even with this diversity, THSP school leadership can be understood in terms of specific dimensions identified in the THSP theory of change, and by drawing on prior literature reviewed for this study (Padilla et al., 2007).

The priorities for a school and the momentum behind reform are often linked to the school leadership. Turnover among principals can stall improvement strategies as new leadership sets new direction for the schools. Among THSP principals surveyed in spring 2008, the average tenure at their current school was 2.8 years; 67% of the respondents had been at their school for two years or less. Although a short tenure is expected for the new schools started under T-STEM, ECHS, and NSCS, the schools funded under HSRR and HSTW were not newly opened. Frequent change in school leadership can threaten sustainability of any reforms because new leadership may or may not support, or even be familiar with, initiatives underway. Equally problematic, teachers may anticipate a short life expectancy for any new initiative and make a calculated judgment about whether to invest time and energy in it. Indeed, slightly less than half of the principals surveyed (47%) and almost three-quarters of the teachers surveyed (71%) agreed that new programs or reforms were introduced before previous ones were fully implemented or had time to improve student learning. Perhaps partly for that reason, 40% of teachers surveyed agreed that teachers in their school did not believe that the reforms would improve student learning.

Leading teachers through organizational and instructional change, then, requires winning teacher buy-in to clear goals and doable strategies aimed squarely at improving student learning and persisting long enough to support teachers through the changes. This section discusses THSP school leaders' role in supporting school reform through specific elements of effective leadership such as creating structures to support distributed leadership, propelling instructional improvement, and supporting and modeling data use.

Building Reform Leadership and Shared Common Vision

The leadership challenges to initiate and persevere through organizational change are strenuous. They may include articulating the goals and course for change, persuading enough teachers to believe in and put in the effort to change, creating a safe environment for teachers to experiment with change, and managing skepticism about whether the school is on the right course. Building a common vision for the school's strategic direction, and building the capacity and buy-in to follow that direction, arose in the literature review as critical dimensions of effective leadership necessary for any school or district to implement and sustain reform (Padilla et al., 2007).

A school with a common vision is characterized by administrators and teachers sharing a mutual understanding of the goals for teaching and learning. A shared vision creates a foundation for broad instructional and administrative decisions at the school level, and may also help guide teachers' practices. Within THSP schools, most principals and teachers surveyed reported that they and other teachers shared beliefs and values about the central mission of the school (92% of principals and 82% of teachers) and a common vision specifically for student learning (85% of principals and 76% of teachers).

Spreading responsibility and authority broadly across school staff provides teachers opportunities for input into important decisions and in the context of school reform efforts, meaningful involvement in initiating reforms can create buy-in, as well as build the understanding of reform concepts (Padilla et al., 2008). This initial involvement in turn can influence the degree to which teachers implement reform practices. Buy-in among a broad range of staff also helps ensure that the success of a particular initiative or reform is not dependent on one leader or champion, but could withstand possible leadership turnover.

Based on spring 2008 site visits, THSP schools ranged in terms of leadership styles from top-down centralized leadership to balanced inclusion of teachers, to decentralized decision-making affording teachers greater autonomy. No patterns were evident by reform model or type of school (e.g., large or small, charter or non-charter). The spring 2008 site visit data suggested that leadership style was contingent on individual school leaders and the local district or CMO context in which the school operated. For example, in two cases, CMOs offered explicit guidelines for decision-making over which teachers had relatively little influence, whereas a third CMO offered more latitude to their school leaders, who in turn provided their teachers with opportunities "to take as much responsibility as [they] want to." Many of the comprehensive high schools visited in spring 2008, which primarily fall in the HSTW and HSRD programs, had leadership teams that typically included the assistant principals and instructional coaches (as applicable). But these schools varied in whether they included teachers such as department chairs and special education representatives. In one case of a balanced decision-making structure at an HSTW school, teachers participated in a variety of committees and teams, including a site-based governance committee, a finance committee, and a future campus design team. Teachers at this school addressed concerns or requests by approaching their site-based committee, department heads, or principal. Staff members at another HSTW site were involved in decisions for some areas such as scheduling, PD, and department chairs, but not for others such as the nature of reforms, budget, and staffing.

This range in leadership approaches at THSP schools was reflected in teachers' and principals' spring 2008 survey responses. Whereas the majority of principals reported that teachers had a fair to great influence across a range of decisions at the school, especially in PD (84%) and instructional materials decisions (87%), a sizeable minority of teachers reported not having significant input into school decisions. Forty percent of teachers surveyed disagreed that they were involved in important decisions in the school, had informal opportunities to influence what happened at the school (39%), and were encouraged to express their opinions (39%). Teachers in rural THSP schools also perceived less involvement in decision-making than those in non-rural THSP schools.[58] The differences between principal and teacher perceptions regarding teacher influence may simply reflect the different vantage points inherent in their respective roles. However, to the extent that teacher voice and involvement in schoolwide decisions affect morale, turnover, reform implementation, and sustainability, these data may highlight an opportunity for THSP school leaders to improve communication and cohesion between leaders and other staff.

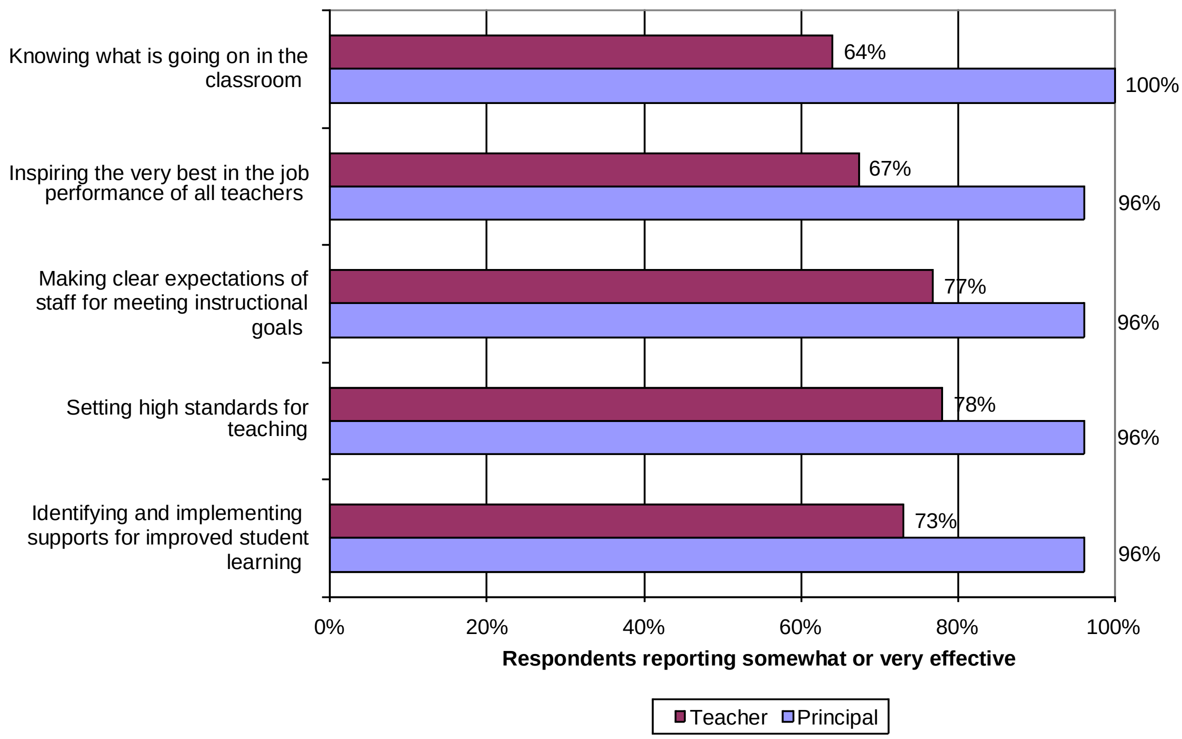
Instructional Leadership

School-level organizational changes in some way target improved instruction or improved student experiences as the means to greater achievement and educational attainment because improved student learning will not occur without changes in the classroom. School leaders must grapple with how they promote instructional improvement. Instructional leadership encompasses a range of activities that focus, direct, and bolster strong curriculum and instruction within a school. School leaders cannot be content experts for every subject area; they can, however, set expectations for rigorous instruction and improvement, identify content experts whose role it is to support teachers, and establish structures for teachers' continued professional learning.

Overall, THSP principals and teachers surveyed in spring 2008 reported that instruction-related functions were high priorities for school leadership. Among those surveyed, a majority reported as leadership priorities inspiring the very best job performance among teachers (89% among principals and 80% among teachers), setting high standards for teaching (91% among principals and 84% among teachers), making clear the expectations of staff for meeting instructional goals (83% among principals and 76% among teachers), knowing what's going on in the classroom (85% among principals and 70% among teachers), and identifying and implementing supports for improved student learning (81% among principals and 79% among teachers). However, consistent with the 15 percentage point difference between principals and teachers who agreed that knowing what was going on in the classroom is a priority for the principal, a smaller percentage of teachers rated school leadership as somewhat or very effective in each of these instructional leadership dimensions compared to principals' self-ratings (differences of 18 to 36 percentage points; see Exhibit 3-5).

[58] Mean difference between rural and non-rural teachers on measure of distributed leadership was 0.20, $p < .05$, on a 4-point scale where 1 = Strongly disagree and 4 = Strongly agree.

Exhibit 3-5
Perceptions of School Leaders' Effectiveness in Instructional Leadership



Note: Survey items used a 4-point scale, where 1 = Not at all, 2 = A little, 3 = Somewhat, and 4 = Very [effective].

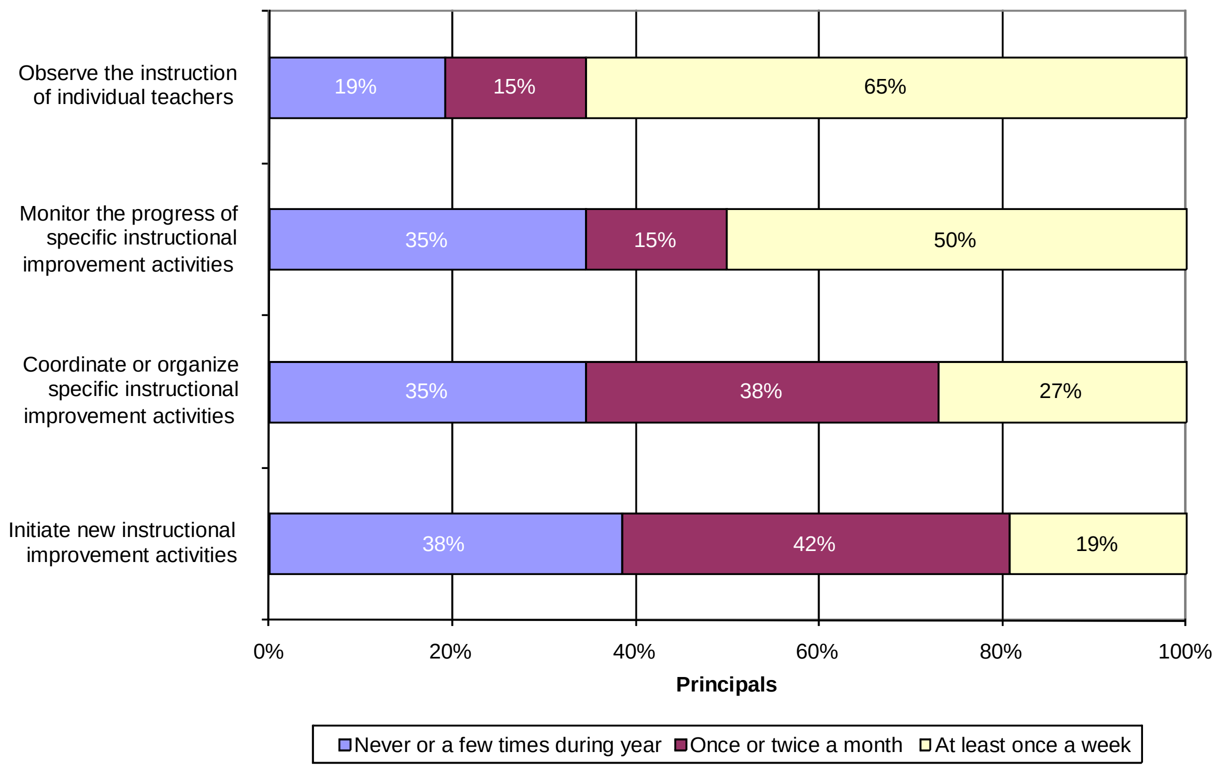
Source: Evaluation of the Texas High School Project principal and teacher surveys, spring 2008.

Despite the best of intentions, THSP school leaders varied in how frequently they were able to follow up on these instruction-related priorities (Exhibit 3-6). For example, 65% of THSP principals reported in spring 2008 surveys that school leaders observed individual teachers' instruction and 50% monitored specific instructional practices at least weekly. But a sizeable minority of the principals reported that school leaders never or only a few times during the year observed teachers' instruction (19%) or monitored improvement processes (35%), suggesting that some proportion of principals may need more support in orienting their leadership towards instruction. Although it is unclear why, teachers in rural schools rated school leadership effectiveness lower than teachers in non-rural schools,[59] suggesting a potential need for additional leadership support in rural schools.

> *School leaders prioritized instruction-related activities but follow through was uneven.*

[59] Mean difference between teachers in rural and non-rural schools was 0.25, $p < .05$, on a 4-point scale where 1 = Not at all and 4 = Very.

Exhibit 3-6
Frequency of Instructional Leadership Activities



Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project principal survey, spring 2008.

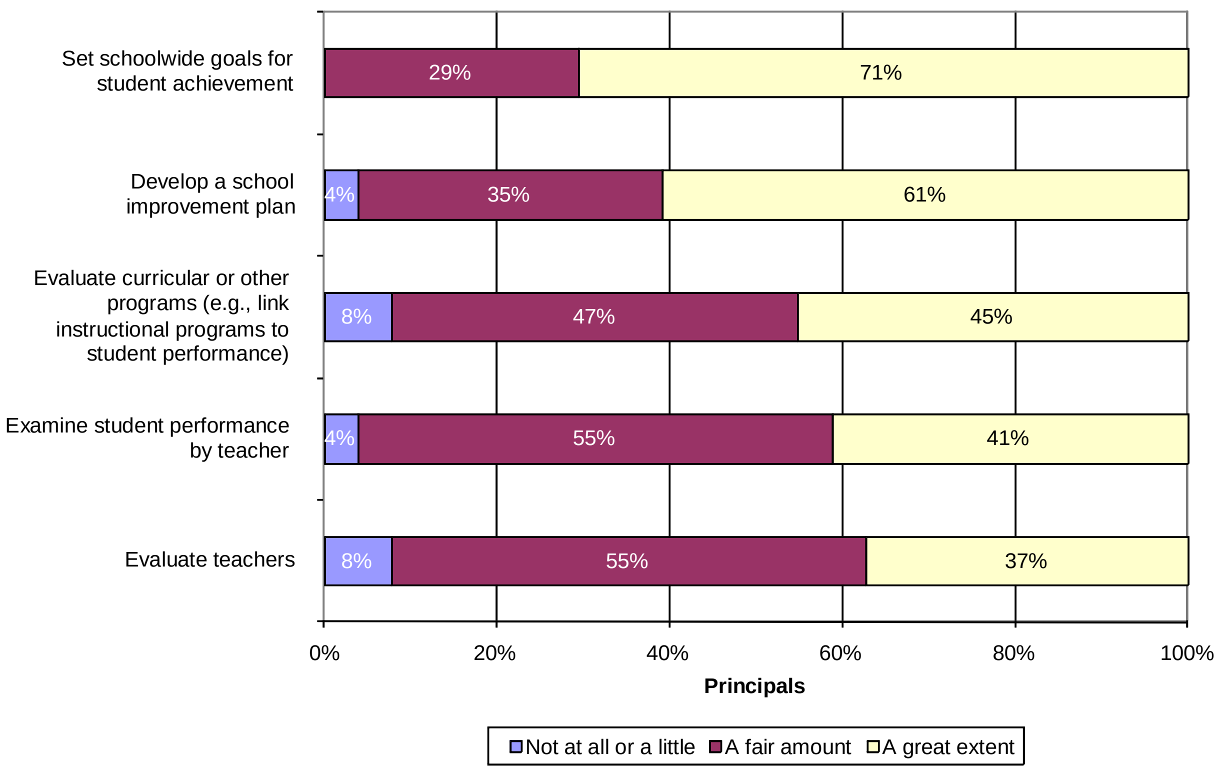
Data-Informed Decision-Making

As a strategy to identify improvement goals, instructional strategies, and supports for specific teachers and students, data-driven decision-making is increasingly a reform goal in itself. Much momentum nationally lies behind using data for instructional and programmatic improvement. It is a strategy that is integral to the THSP theory of change in two specific ways: (1) to inform schools' improvement planning, PD, and other schoolwide concerns and decisions, and (2) to inform teachers' instructional decisions. School leadership use of data is discussed here and teachers' use of data will be presented in Chapter 5, where instructional reform is discussed.

Almost all THSP principals reported engaging in data-informed practices.

A large majority of THSP principals reported on spring 2008 surveys that school staff incorporated data into multiple types of decisions or functions and drew on a wide range of available data. All principals reported using data at least a fair amount for setting student achievement goals, and a large majority used data a fair amount or more for developing school improvement plans (96%), and evaluating curricular programming (92%), student performance by teacher(96%), and teachers themselves (92%; see Exhibit 3-7).

Exhibit 3-7
Principals' Use of Data



Note: Survey items used a 4-point scale, where 1 = Not at all, 2 = A little, 3 = A fair amount, and 4 = A great extent.

Source: Evaluation of the Texas High School Project principal survey, spring 2008.

THSP principals commonly drew on readily available data, much but not all of which was collected as a matter of course for TEA. Not surprisingly, all principals reported using standardized test scores, with 65% doing so to a great extent. Other formal assessments, walkthroughs, and classroom observations were also important to a majority of principals, with 31 to 52% using them to a great extent. Certain types of data also reflected principals' awareness of the 4-year graduation rates and college readiness goals, although fewer principals reported relying on them. For example, 40% of principals surveyed reported that they used data about whether students were on track to graduate to a great extent, and about a third reported the same with respect to AP course (32%) and dual credit enrollments (37%).[60] Data use as reported by THSP principals appeared to be an integral part of certain key functions, as envisioned in the THSP theory of change.

[60] See Appendix C, Exhibit C-2.

To summarize the findings on school leadership, instruction-related functions were priorities in THSP schools. However, teachers rated leadership effectiveness lower than principals rated themselves, especially on instructional leadership such as knowing what is going in the classroom. This discrepancy in views on school leadership raise concerns about how consistently reform initiatives can be pursued and sustained.

Professional Learning

Expectations and opportunities for teachers' professional learning constitute an integral component of instructional leadership and are necessary to support teachers in implementing any changes in practice. At schools participating in well-specified reform models (e.g., reform models with blueprints or other documents that clearly define the expected reform strategies), teachers need to understand the key principles of the reforms; in schools with changing student demographics and needs, teachers need to adapt their strategies for different students; and all schools face demanding expectations for increased rigor in curriculum and instruction. This section addresses how teacher PD and collaboration with their colleagues were implemented at THSP schools.

Teacher Professional Development

Overall, based on spring 2008 site visits, THSP schools' approaches to PD appeared opportunistic rather than strategic. PD in THSP high schools was fairly traditional and similar to PD in other high schools: individual teachers attended workshops offered by district or national conferences, some of which were available through the schools' participation in particular reform models such as the HSTW conference, and novice teachers received mentoring or coaching. For rural schools, THSP participation provided funds for PD and access to conferences that the schools otherwise would not have had.

Schools also provided several days before the beginning of the school year for some PD sessions, orientation for new teachers, and planning time. The charter schools visited offered from 10 days to three weeks of training before the school year, typically organized by their home office or CMO. This time included reviewing rules, procedures, and classroom management for new teachers; setting performance expectations and building school culture with all staff; and training in select instructional strategies such as differentiation, project-based learning, and approaches for special needs students. Other notable PD included conferences related to CSCOPE®, a curriculum and support system that helps schools align their instruction and pacing with the state standards and provides a content sequence upon which districts can develop unit and benchmark assessments.

The primary exceptions to such approaches to PD were among schools that had a formal initiative, where PD activities were defined from the outset as integral to the effort. For example, one urban district initiated several simultaneous reform efforts that provided PD related to its district goals of improving math achievement, literacy for learners of English as a second language, and literacy across the curriculum to support low-achieving students. These broader approaches to PD, however, were uncommon among the THSP schools visited.

Novice teachers posed a particular PD need for schools. Among THSP schools visited in spring 2008, three schools, one HSTW and two charters, had mentors for novice teachers. In other cases, veteran teachers working on the same subject area team supported novices through their planning meetings. The mentor teachers provided nuts and bolts information as well as instructional tips; they shared lessons and materials as applicable. The two charter schools, however, had larger proportions of new teachers and had difficulty matching experienced teachers in the same discipline as mentors. One of the CMOs drew mentors from across all of its campuses, which improved matches based on subject area, but decreased opportunities for in-person meetings and frequency of interactions due to the distance between campuses.

Frequency and Quality of Teacher PD

Consistent with the loosely coupled nature of PD offered at THSP sites and the goals of THSP-related reforms found among the THSP schools visited in spring 2008, it is not surprising that a majority of THSP teachers surveyed reported sporadic PD opportunities. A majority nonetheless did have access to some PD that reflected characteristics identified in other literature as high quality (Corcoran et al., 1998; Garet et al., 1999). For example, teachers surveyed in spring 2008 reported that they attended a few times during the year PD that was sustained and coherent (58%), closely connected to their schools' improvement plans (64%), and subject-matter specific (67%). Another 23 to 24% reported they attended such PD at least once or twice a month.[61]

Some teachers reported, however, that the PD they received did not consistently help them. Although 71% agreed that what they learned in PD directly addressed their students' academic needs, the other 29%—close to one-third of surveyed teachers—disagreed with that statement, indicating an area of improvement for schools' PD strategies.

The THSP schools visited used data to better target their PD offerings. Primarily, schools used student achievement results to identify weaknesses in academic performance, which then became topic areas for PD. The student achievement results tell schools the areas in which to work, but do not provide information on specific instructional strategies—which ones to invest in and whether teachers are implementing them. To monitor instruction, a few THSP schools visited in spring 2008 provided examples of using teaching data such as classroom observations or walkthroughs and student work. At one HSTW school, for example, school leaders and instructional coaches used feedback from walkthroughs in teachers' classrooms to understand teachers' instructional styles, teacher-student interaction, and student engagement to inform their work with teachers. Several charter schools also used classroom observations to shape their instructional coaches' work, especially with novice teachers, and one charter school system used formative and summative teacher evaluations to determine PD for the schools. For the most part, however, determining PD opportunities for THSP teachers was not systematic, related to clear instructional goals, or informed by relevant data.

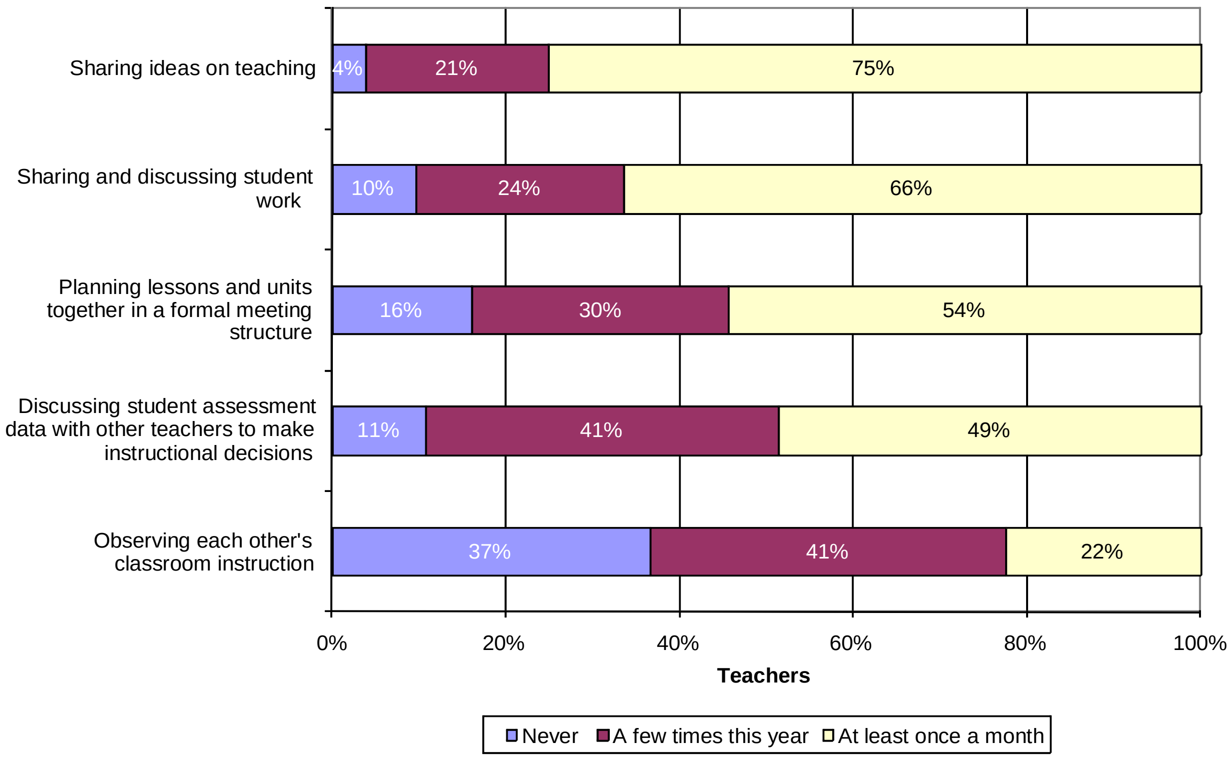
Teacher Collaboration

In contrast to formal PD, school leaders and teachers interviewed during spring 2008 site visits reported greater value from planned collaboration time. The majority of those THSP schools provided teachers with regularly scheduled common planning time, although the frequency varied from one day each semester to weekly or to daily. Across the THSP schools surveyed in spring 2008, teachers reported relatively high levels of collaboration with their colleagues (Exhibit 3-8). A majority of teachers surveyed (75%) reported that they shared ideas on teaching with their colleagues at least once a month. Roughly two-thirds (66%) also shared and discussed student work at least once a month. Examining data collaboratively was less common: 49% reported discussing student assessment data with other teachers to make

[61] See Appendix C, Exhibit C-3.

instructional decisions at least once a month. Another 41% did so a few times a year, likely as annual and benchmark assessment results were released. However, 11% of teachers reported never working with their colleagues to examine assessment results for instructional decision-making. Observing each other was the least common form of collaboration, with 37% reporting that they never did so, and 41% reporting a few times during the year.

Exhibit 3-8
Frequency of Teacher Collaboration Activities



Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

Teachers' professional learning was supported through collaboration and PD but their learning opportunities could have been more strategic.

Teachers who had this time to collaborate simply appreciated the ability to discuss particular students with another teacher, or to share tips for given lessons. At the schools visited in spring 2008, school leaders generally tasked teacher teams to stay relatively close in pacing, so teachers also used their collaboration time to plan activities for the quarter, semester, and year. Providing teachers with common planning times to facilitate such collaboration can be a scheduling feat at the high school level. As much effort as such scheduling might require, however, simply providing teachers with collaboration time was nonetheless insufficient for ensuring that teachers profit from this time.

Where teacher collaboration was an explicit reform strategy, schools attempted to use the time to build professional learning communities (PLCs). In those cases, the school leaders provided objectives and tools for using the time, as well as some facilitation. At one HSTW school, teachers were given weekly PLC periods led by an instructional coach, where they discussed specific instructional strategies for more effective lesson delivery, and analyzed formal and informal performance data to refocus instruction on areas of high need. In contrast, infrequent meetings and the lack of explicit goals, activities, or facilitation appeared to weaken potential teacher collaboration in a significant number of sites. Although teachers at many schools reported that they were given some time to collaborate, very few were able to articulate the structure, objectives, or intended outcomes of these meetings. At a few schools—both traditional high schools and charter schools, teachers had no time for any formal collaboration, but discussed lessons and students "in the hallways." Rural schools appeared to have the fewest resources for teacher collaboration, whereas urban districts were able to provide additional preparation time, and urban schools had somewhat broader school leadership teams to help facilitate teacher team meetings.

In summary, overall, PD opportunities in THSP schools were uneven and lacked a strategic focus. Novice teachers did receive more support from mentors and instructional coaches, but those activities were geared towards the general and individual needs of new teachers rather than clearly articulated to a vision of instructional quality. Teachers valued their collaborative planning time. That time was often focused on practical, short-term demands necessary to prepare for instruction, and not necessarily aimed at specific long-range learning objectives for teachers.

Conclusions

The structural and organizational characteristics—school climate, leadership and professional development—discussed in this chapter form the contexts around teacher practice and student learning at THSP schools. The THSP theory of change posits that these implementation factors matter for instituting reform and while THSP schools have had some success in building the environment needed, some areas remain for further development.

Based on spring 2008 data, THSP schools were generally characterized by respect and high expectations. Yet teachers needed more support in reaching all students. Although a number of THSP schools had put structures in place such as SLCs and advisories to support relationship development, teachers reported knowing the academic and personal background of only a few of their schools' students, and they did not always feel prepared for taking on this combined role as teacher, advisor, and counselor. The implication then is that THSP schools need to continue to focus efforts on strengthening the teacher-student relationship, including providing more supports for teachers.

Teachers at THSP schools reported participating in some PD reflective of high quality characteristics. However, in few cases did PD opportunities and collaboration time explicitly serve defined learning goals for teachers. In general, opportunities for teacher learning at THSP schools appeared to be opportunistic, not strategic. And while teachers valued their collaborative planning time, that time was often focused on practical demands to prepare for instruction, and not necessarily aimed at specific long-range learning objectives for teachers. Professional learning for teachers can serve to foster organizational and instructional change, but THSP schools have the opportunity to use these avenues to a greater extent to advance their reform goals.

As with teacher learning, fostering strong leadership at THSP schools represents both promise and opportunities for deepening high school reform. While THSP programs include leadership development, supports for school leaders tended to focus on immediate concerns—a pragmatic and useful approach, but the programs do not necessarily have an explicit vision of the role of school leadership that is shared across the THSP reform models.

Overall, reforms at THSP schools aimed to raise expectations, foster a culture of respect, articulate instruction-related leadership priorities, and put in place some important structural and organizational changes to support relationship-building and professional learning. Yet prior national studies indicate that instructional reform cannot be realized without explicit and concerted effort to specify what the vision of effective instruction is and to provide adequate teacher support to experiment with those changes, in addition to organizational changes (Smylie & Wenzel, 2003). How teachers, then, understand instructional improvement and the nature of their instruction within the context of these organizational changes is the topic of the next chapter.

Chapter 4. Instructional Reform and Supports for Student Success

Key Findings

- Based on spring 2008 data, THSP schools placed greater priority on structural and organizational changes than on changes in instructional strategies or approaches. Schools struggled with clear definitions of rigor and relevance for classroom instruction and providing a comprehensive suite of student supports to address myriad academic and social challenges.

Instruction

- Most THSP schools attempted to improve the overall rigor of the curriculum they offered through increasing access to pre-AP and AP courses, reflecting the state policy emphasis on college readiness.
- Nonetheless, improving instructional rigor and creating connections between coursework and students' lives depended largely on individual teacher efforts, and therefore varied in priority and effectiveness within any given school.
- Although most teachers (94%) reported that they related instructional content to real-life situations at least a fair amount, more than half of the students surveyed said that they did not see the connection between the classroom and the outside world. Instead, relevance in the curriculum was assumed to occur in electives and CTE courses, rather than in core academic classes, even where schools had defined academies with career-related themes.
- To improve instruction and monitor student progress, data use was a priority at most THSP schools, but teachers and students did not generally have the supports necessary to effectively use this data and establish a mindset of improvement.

Student Supports

- Supports for students at most THSP schools were overwhelmingly academic in focus, and most commonly geared toward increasing students' chances of passing TAKS rather than toward advanced academics.
- Few schools conceived of student supports broadly enough to establish comprehensive strategies—not only to provide students with academic supports—but also counseling, internships, post-secondary preparatory experiences, and knowledge of college selection and application processes.
- Although schools offered tutorials and other academic supports, student participation is low. Students most in need were not accessing academic supports.

Introduction

The goals of THSP—to improve instructional rigor, curricular relevance, student engagement, and ultimately, student learning, graduation, and college-going—cannot be achieved through organizational changes alone. Those goals can be attained only by also incorporating sustained attention to instruction and student supports. What strategies do schools employ to strengthen rigor? How do they make connections between academic curricula and students' present and future worlds? How are schools tackling the challenge of moving the least prepared of students toward high school graduation with prospects for postsecondary education? In the context of Texas state policy, schools attempt to balance the college readiness drive of more recent state policy with the long-standing pragmatics of the accountability system, which weights most heavily the schools' passing rates on the basic skills TAKS tests. Changes are underway, with EOC exams in development. In the meantime, tremendous energy, time, and resources at THSP schools are devoted to boosting students over the TAKS standard. This chapter continues to address the question:

What is the nature of reform in THSP schools with respect to key implementation factors?

The chapter discusses how schools and teachers pursued instructional rigor, created curricular relevance, used formative data to monitor student progress and inform classroom instruction, and bolstered students academically and otherwise within this state accountability context.

Instructional Rigor

Instructional rigor includes notions of students' building on prior knowledge to explore new ideas rather than memorizing facts and processes, emphasis on conceptual understanding, opportunities requiring students to organize, analyze, and synthesize data, and feedback for students to revise their work (Mitchell et al., 2005). Among THSP schools visited in spring 2008, principals and teachers alike acknowledged the need to improve instructional rigor, and schools attempted to do so most commonly on a programmatic basis. That is, school leaders strived to make the overall course offerings more rigorous for students and to prepare a larger number for college through increasing enrollment in higher-level academic courses such as AP. Examples of improving program rigor include the following:

> *Like reforming schools across the nation, THSP schools struggled to define instructional rigor in the classroom.*

- Schools with a strong emphasis on pre-AP and AP enrollment identified academically capable students who previously had not had such opportunities because the students were unaware of their options or because they did not necessarily see themselves as college-goers.
- One charter school systematically identified students ready for pre-AP courses and required each student to take at least one AP class in their upper years.
- An HSTW high school put in place stringent promotion requirements whereby students needed to complete six credits in core academic courses successfully each year.

- Another charter school accelerated the curriculum for students by pushing Algebra I down into the middle school grades, which the school also served, to allow for more advanced math at the high school level.
- An HSTW school reviewed the vertical and horizontal alignment of their curricula to align with standards and to ensure expectations are building grade by grade.

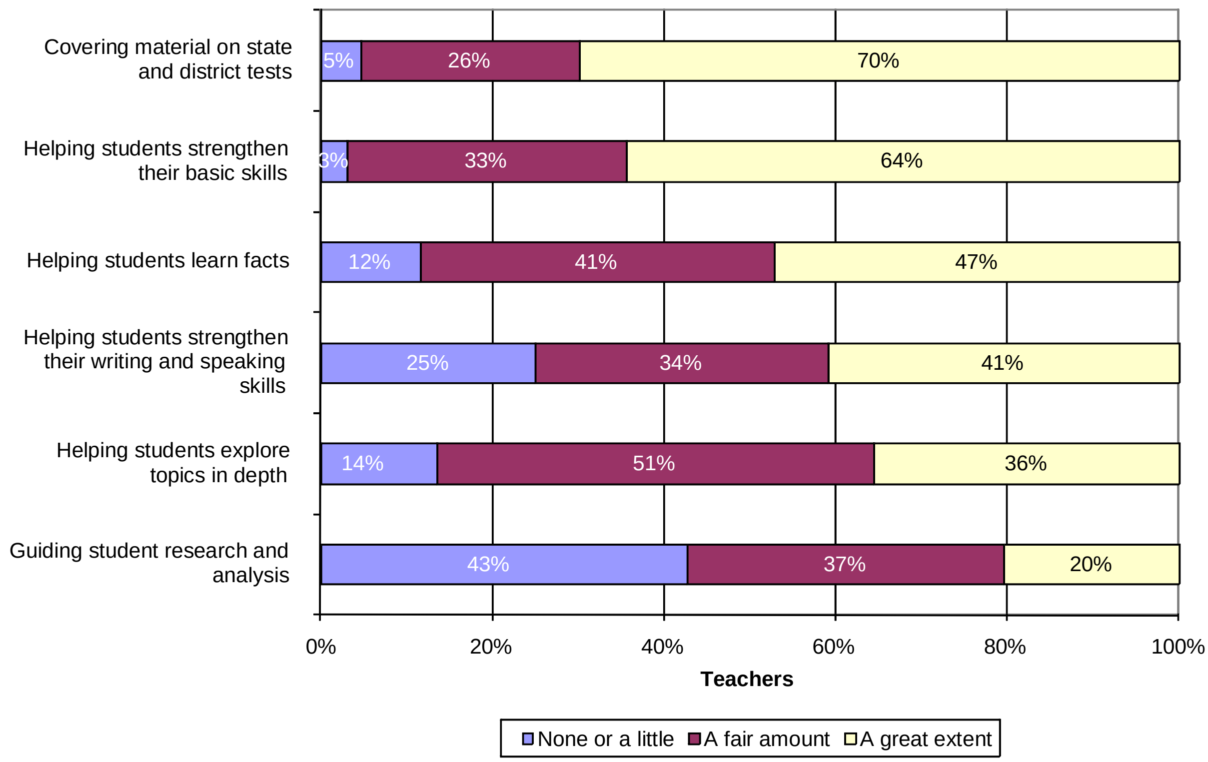
School leaders also saw the state's "four by four" policy—whereby students beginning with the ninth-graders in 2007–08 are required to take four years of English, mathematics, science, and social studies in high school—as a programmatic strategy to improve the rigor of students' overall education. However, school staff expressed concerns about identifying fourth-year math and science courses that weaker students could successfully take.

Improving instructional rigor in the classroom was ill-defined across all of the THSP schools visited in spring 2008. The comprehensive high schools in particular, however, did not have a clear vision of high-quality instruction around which they marshaled resources and targeted PD, teacher collaboration, and student supports. "Rigorous instruction" was most often left to individual teachers to define. Teachers interviewed variously gave examples of project-based learning, applying concepts to real-world problems, focusing on critical thinking skills, or using different questioning techniques as the meaning of instructional rigor. With these individual approaches, teachers' understanding of rigor varied within departments and within schools. There were some exceptions to this general view, however. One HSRD school tasked teacher teams to review the rigor evident in their unit assessments and then to map their lessons to the unit assessment. The principal expressed a need for the teachers "to understand the difference between a knowledge question and a synthesis question." In another example, a charter school system convened its teachers in an iterative process to develop common quarterly assessments and to align curricular expectations. They also asked teachers to do "objective tracking"—to track individual students by learning objectives that they assess—to identify tutorial needs.

The approaches to instructional rigor at THSP schools did not appear distinct from those in non-THSP schools. Non-THSP schools demonstrated a similar range in their approaches to improving rigor. For example, several non-THSP schools followed district initiatives or policies intended to address rigor, focusing on higher pre-AP and AP enrollment as a way to improve college readiness for more students. One large urban district developed PLCs for teacher teams in THSP and non-THSP schools alike, with specific goals and tools for conducting classroom walkthroughs to examine rigor across content areas. Most of the non-THSP schools, however, like the THSP schools visited, left the definition of rigor up to individual teachers.

Because teachers' individual classroom practices seemed to account for a large share of how instructional rigor was enacted, it is worthwhile to understand teachers' main instructional activities. Among those surveyed in spring 2008, THSP teachers teaching ninth grade tried to strike a balanced between a focus on fundamental skills and more in-depth approaches (Exhibit 4-1). For example, while a large majority reported covering material on state and district tests (96%) and helping students strengthen their basic skills (97%) at least a fair amount, a smaller but still significant proportion of teachers also reported helping students explore topics in depth (87%) and emphasizing guiding student research and analysis at least a fair amount (57%).

Exhibit 4-1
Teachers' Reports of Instructional Focus

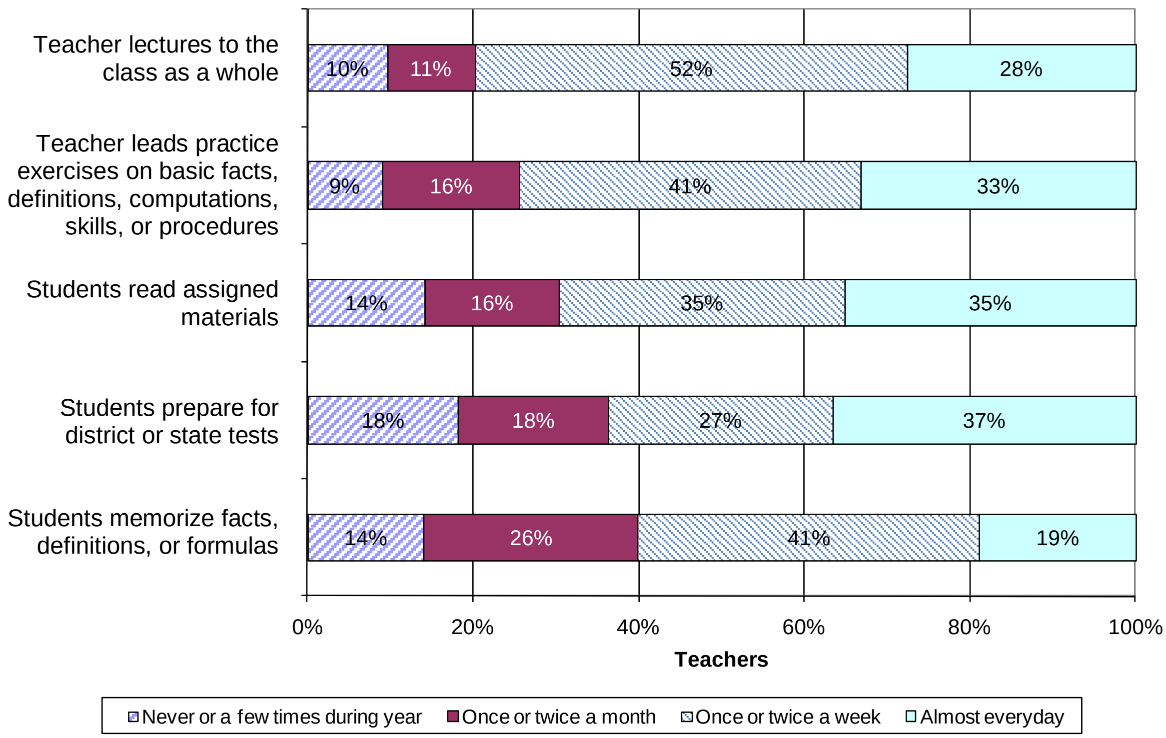


Note: Survey items used a 4-point scale, where 1 = Not at all, 2 = A little, 3 = A fair amount, and 4 = A great extent.

Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

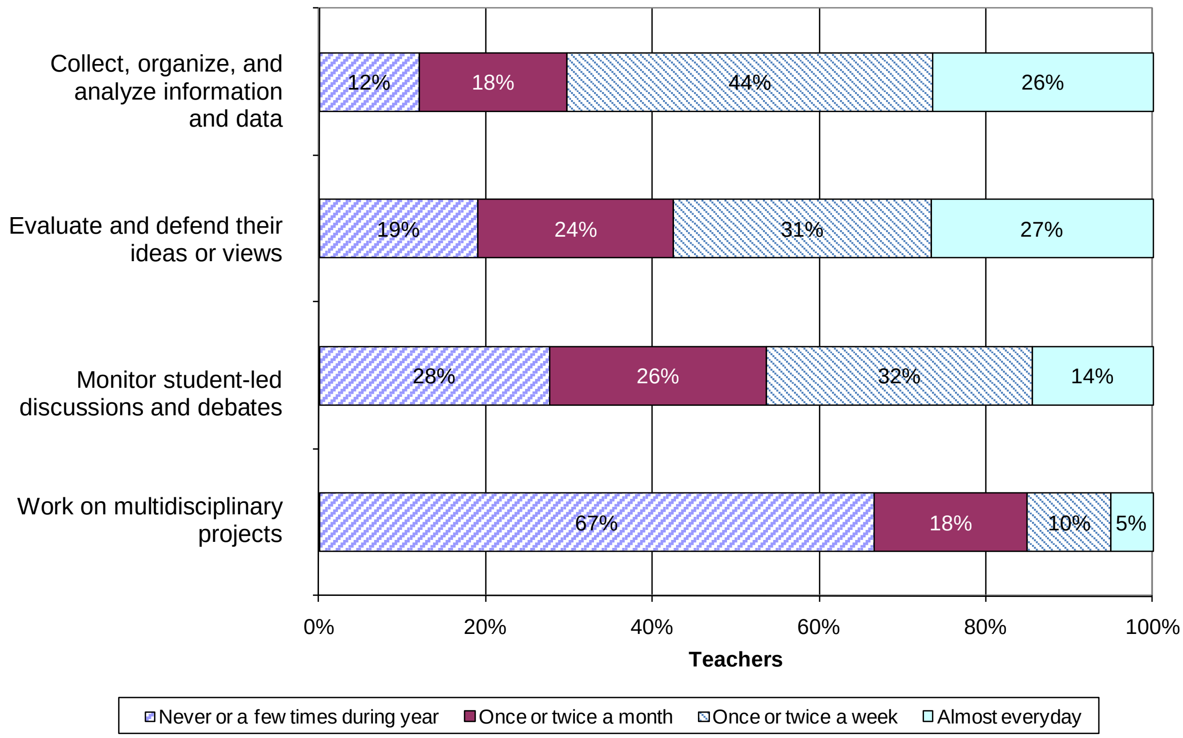
THSP teachers reported on spring 2008 surveys that their instruction blended traditional and progressive approaches. A majority of teachers reported traditional instructional strategies such as lecturing to the whole class (80%), leading practice exercises in basic facts, definitions, computations, skills, or procedures (74%), preparing for district or state tests (64%), and asking students to memorize facts, definitions, or formulas (60%) at least once a week (Exhibit 4-2). At the same time, most teachers reported that their strategies included rigorous activities like having students collect, organize, and analyze information and data (70%), and evaluate and defend their ideas or views at least once a week (58%, see Exhibit 4-3). The other 30 to 42% of teachers surveyed, however, reported using these more rigorous activities in their instruction once a month or less, and only a third of the teachers (31%) asked students to work on multidisciplinary programs more than a few times a year. These data underscore the variation in the demands teachers made of their students both to bolster basic skills and foster critical thinking.

Exhibit 4-2
Frequency of Traditional Instructional Activities



Note:
Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

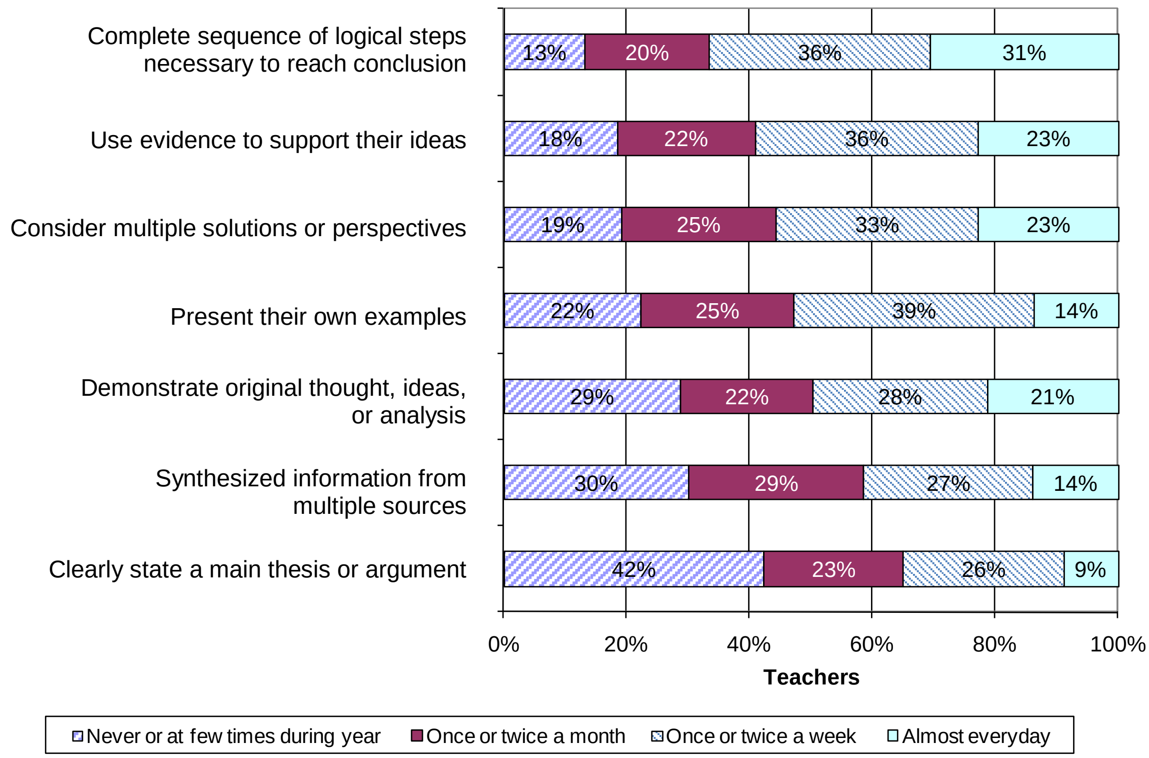
Exhibit 4-3
Frequency of Rigorous Instructional Activities



Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

Beyond how teachers deliver instruction and what students implicitly do, the assignments that teachers set for students also offer a lens on instructional rigor, in terms of whether activities challenge students, require them to apply concepts they learned, or require them to demonstrate in some other way that they understand the concepts. More than half the THSP teachers surveyed in spring 2008 reported giving frequent assignments to students with relatively rigorous demands, such as completing a sequence of logical steps necessary to reach a conclusion, using evidence to support ideas, considering multiple solutions, and presenting their own examples at least weekly (Exhibit 4-4). A smaller proportion, however, gave assignments at least once a week that required students to synthesize information from multiple sources (41%) or clearly state a main thesis or argument (35%), and about a third of the teachers (30% to 42%) reported that they never did so or did so only a few times a year.

Exhibit 4-4
Frequency of Rigorous Assignment Requirements



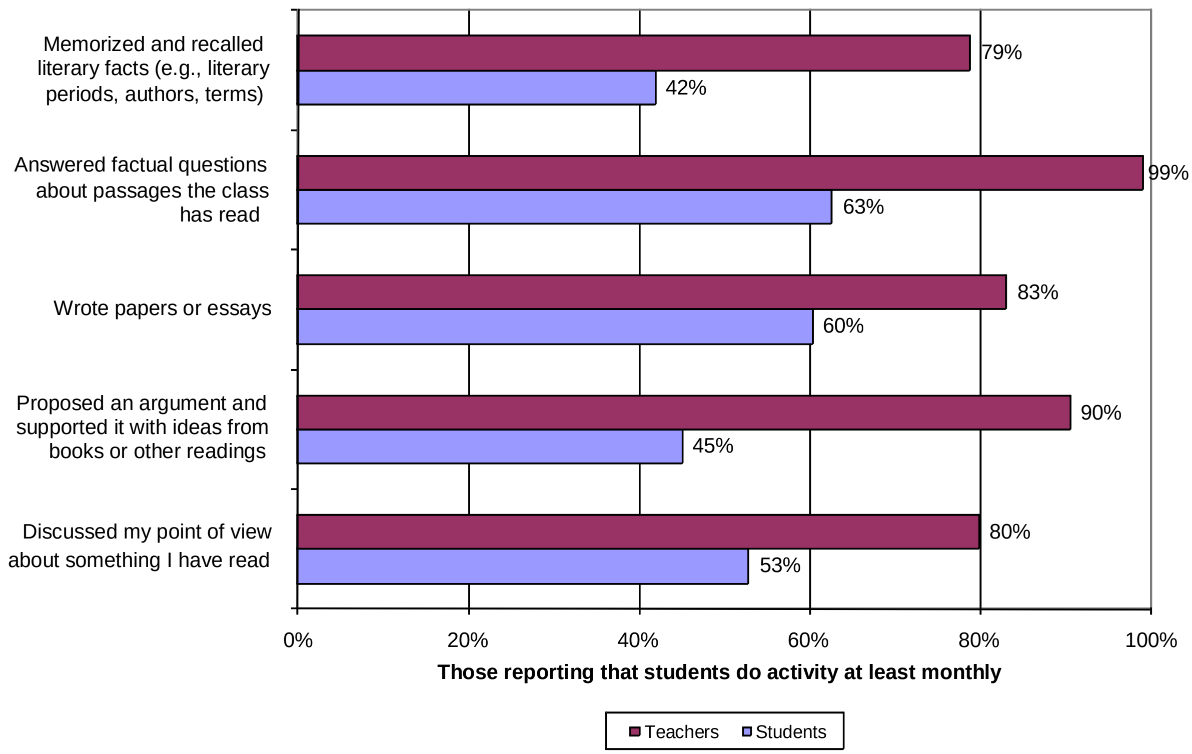
Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

This overview of teachers' instructional activities as reported on spring 2008 surveys illustrates their efforts to provide the necessary practice in basic skills while incorporating activities and assignments that potentially provide students with more challenge. In general, however, a smaller proportion of students than teachers perceived their schoolwork as demanding. In comparing teacher and student responses on the frequency of specific types of instructional activities in their English, algebra, and science classes, teachers consistently reported greater frequency than students do on a majority of activities. Items with the greatest discrepancy suggest that students did not recognize or attend to the demands teachers placed on them. For example, in English, a much higher percentage of teachers than students reported that students did the following at least once a month (Exhibit 4-5):

- Answered factual questions about passages the class had read (36 percentage points more among teachers than students)
- Memorized and recalled literary facts (37 percentage points more among teachers than students)
- Wrote papers or essays (23 percentage points more among teachers than students)

- Proposed an argument and supported it with ideas from books or other readings (45 percentage points more among teachers than students)

Exhibit 4-5
Student Activities in Ninth-Grade English Classes Occurring at Least Monthly



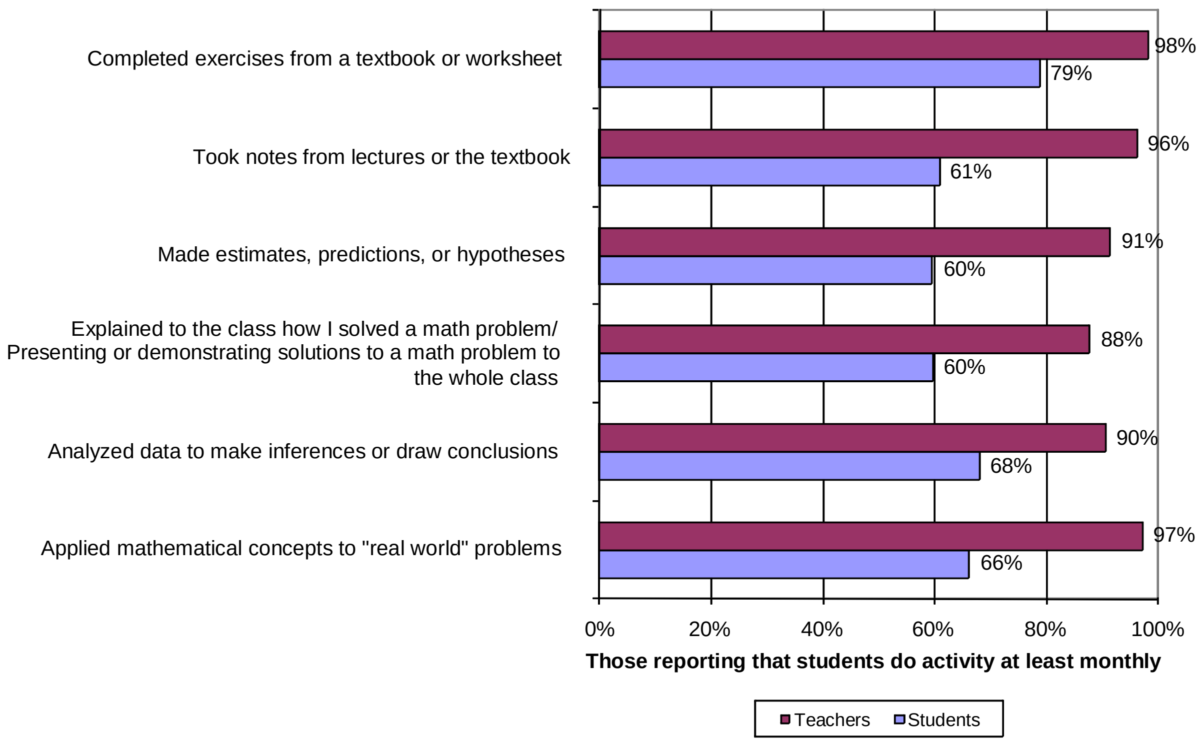
Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project teacher and ninth-grade student surveys, spring 2008.

Similarly, in Algebra I, a greater percentage of teachers than students reported that students attended to basic schoolwork, such as taking notes from lectures or textbooks and completing exercises from a textbook or worksheet (Exhibit 4-6). In examining arguably more non-traditional math instruction activities, some key discrepancies between teacher and student responses stand out. More teachers than students reported doing the following at least once a month:

- Applying mathematical concepts to "real-world" problems (31 percentage points more among teachers than students)
- Analyzing data to make inferences or draw conclusions (22 percentage points more among teachers than students)
- Explaining or demonstrating solutions to a math problem to the whole class (28 percentage points more among teachers than students)

- Making estimates, predictions, or hypotheses (31 percentage points more among teachers than students)

Exhibit 4-6
Student Activities in Algebra I Classes Occurring at Least Monthly



Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

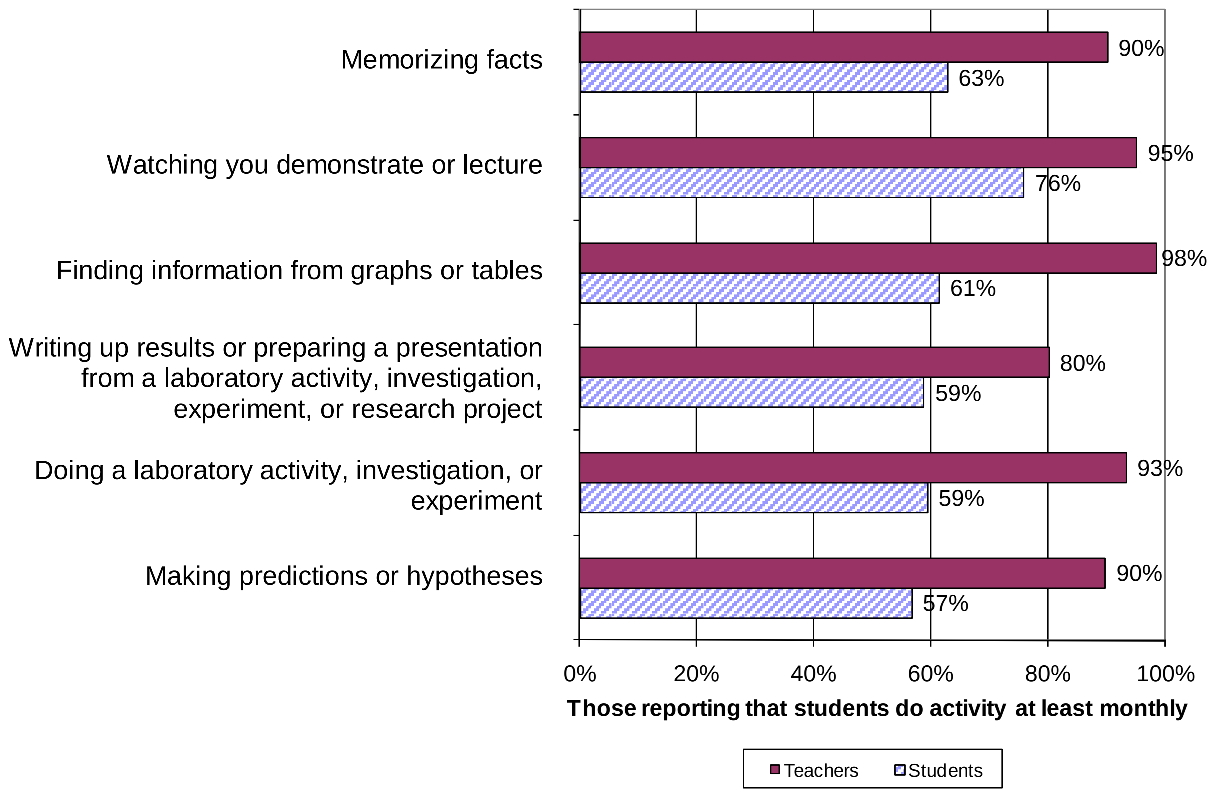
Source: Evaluation of the Texas High School Project teacher and ninth-grade student surveys, spring 2008.

The story is similar in science, with one-fifth to one-third more teachers than students reporting that students did the following at least once a month (Exhibit 4-7):

- Memorized facts (27 percentage points more among teachers than students)
- Made predictions or hypotheses (33 percentage points more among teachers than students)
- Did a laboratory activity, investigation, or experiment (34 percentage points more among teachers than students)
- Wrote up results or prepared a presentation from a laboratory activity, investigation, experiment, or research project (21 percentage points more among teachers than students)

Although neither teachers nor students can be expected to be entirely accurate in their estimates of how frequently they perform any of the items on the survey, they likely did answer according to their perceptions of how frequently they perform one activity compared to another. These data suggest that teachers believed they provided opportunities for critical thinking as frequently as those for more basic skills development, whereas students perceived that they did not actually engage in those opportunities. This disparity in perceptions was evident even regarding concrete activities such as writing papers and conducting experiments. If students indeed did not recognize and take advantage of the learning opportunities they had in class—particularly ones intended to develop high order thinking skills—it may be that they did not see the importance or relevance of such approaches to their learning.

Exhibit 4-7
Student Activities in Ninth-Grade Science Classes Occurring at Least Monthly



Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

Source: Evaluation of the Texas High School Project teacher and ninth-grade student surveys, spring 2008.

Some differences also appeared in the types of instructional activities emphasized at the THSP schools. Students in charter schools under THSP, for example, reported engaging in advanced instructional activities in English and science more frequently than non-charter school students, while students in small schools reported higher emphases on advanced instructional activities in English, math and science compared to the large comprehensive high schools. Although follow up with subsequent data collection is necessary, these differences among charter schools under THSP, which also comprise many (but not all) of the THSP small schools, suggests that students in charter schools and in small schools perceived their academic instruction differently— that more academic demands were evident in their classrooms—than their peers in traditional, large high schools. This finding is consistent with other research noting that assignments given in new high schools were more rigorous and tended to incorporate real-world settings more so than assignments given in traditional comprehensive high schools (Mitchell et al., 2005).

It is also worth noting that the THSP charter schools had extended instructional days that potentially allowed for consistent skills practice as well as activities requiring more in-depth exploration by students. Therefore, students in both charter and small schools also reported frequently engaging in more basic instructional activities in math, science, and English that focus on practicing more basic skills, such as editing text for grammar or completing exercises from a textbook or worksheets.

To summarize the findings on instructional rigor in THSP schools and classrooms, schools' main strategies to improve rigor were programmatic, identifying an increasing number of students for pre-AP and AP courses. THSP schools visited in spring 2008 generally did not have well-articulated visions of high-quality, rigorous instruction; teachers enacted their personal definition of rigor. On balance, teachers strove to bolster basic skills, much of which is tested on TAKS, and to integrate some non-traditional activities into what they asked of students. The differences in responses between teachers and students suggest that students may not have been engaging in or recognizing the more in-depth opportunities that build critical thinking skills that teachers believed they were providing. It is important to bear in mind that student respondents were ninth-graders who were likely not generally reflective or analytic about their classroom experiences—school is just school. Nevertheless, these spring 2008 survey data are consistent with our site visit data, which underscored schools' lack of a clear and consistent definition of instructional rigor.

Engaging Students Through Curricular Relevance

Along with instructional rigor, national perspectives on high school reform place a primacy on improving curricular relevance. Reformers argue that relevance ought to be an inherent quality of the high school curriculum; relevance is also seen as a means of engaging students who otherwise question why they need to learn abstract academic concepts that they perceive have little bearing on their world.

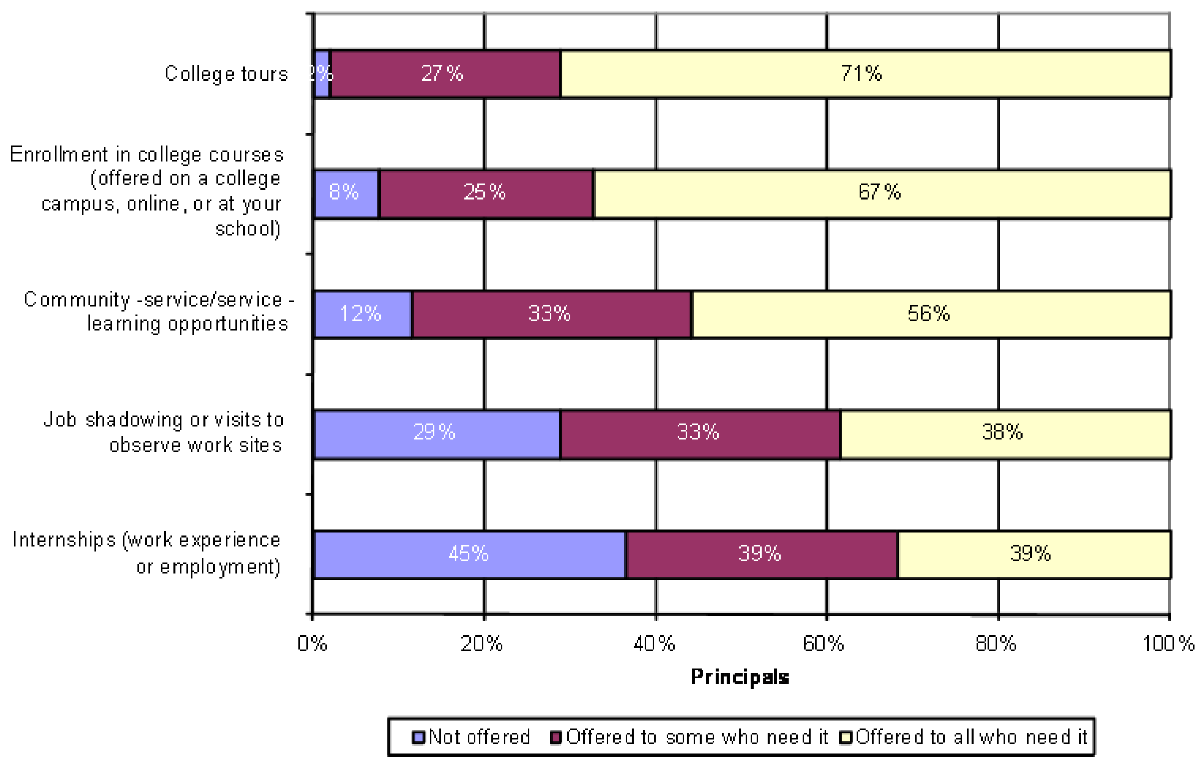
Conceptually, relevance is ill-defined in the field. It variously means work opportunities such as internships, classroom assignments referencing real-world problems, courses or entire programs of study with a career or technical skills focus, or students' personal interests. Correspondingly, creating curricular relevance for students proved a challenge for THSP schools and teachers. THSP schools attempted to achieve curricular relevance in part through career themes associated with academies or SLCs. Schools also offered CTE courses as electives. Some of the THSP schools also provided college-related experiences to help students see that their high school work is fundamental to their futures at college.

The work- and college-related experiences that THSP schools offered can help students discover career interests, understand the educational requirements for certain careers, and convey the importance and relevance of a college education. THSP schools provided such experiences to varying degrees (Exhibit 4-8). Roughly two-thirds of principals surveyed in spring 2008 reported that enrollment in college courses (67%) and college tours (71%) are offered to all students who need it.[62] A small percentage of principals (8%), however, reported not offering college courses at all. Although the spring 2008 survey data do not indicate why, these schools

[62] The surveys asked whether specific types of student supports are not offered, offered to some students who need it, or offered to all students who need it to understand the adequacy of the supports. This scale sought to inform whether the supports that were offered matched the scale of the need, given limited resources.

may have faced challenges in meeting the requirement under HB1 (79th Legislature, Third Called Session, 2006) that calls for districts to provide all high school students with the opportunity to earn 12 semester credit hours of college credit. Also, the opportunities that were least available to students were those that allowed students to explore career interests and build 21st century work skills, such as job shadowing, visits to observe work sites, and internships. Only 39% of schools apparently offered internships for those students who needed it, and 45% did not offer them at all. On average, 10% more students in charter schools than in non-charter schools and 15% more students in small schools than in larger schools reported receiving a range of post-secondary supports and preparatory experiences.[63] This differentiation by school type was consistent with our spring 2008 site visit data, which indicated that the charter schools pursued a bolder college-readiness mission and took seriously that developing students' knowledge of college and exposure to college-level work needed to be actively planned for. These schools did not assume that families would be able to provide those experiences.

Exhibit 4-8
Work- and College-Related Experiences Offered to Students



Source: Evaluation of the Texas High School Project principal survey, spring 2008.

63 Mean difference between charter and non-charter school students was 0.10 and between students at small and large schools was 0.15, $p < .05$ in both cases.

Beyond these offerings, spring 2008 site visit data indicated that teachers were on their own to forge links between what they taught and what students cared about. Consistent with the site visit findings, a vast majority of the THSP teachers surveyed in spring 2008 reported relating instructional content to real-life situations at least a fair amount (94%), but fewer pursued topics of interest to students or used individual students' learning plans at least a fair amount.[64] Despite these efforts, students perceived only modest efforts by their teachers to make coursework relevant. More than half of the surveyed students reported that their teachers made little or no connections between what they were learning in class to life outside the classroom (56%), to other classes (61%), and to what they plan to do in life (55%).[65] Even though a majority of students (64% in English and 60% in math) agreed that teachers presented the material in interesting ways, they did not necessarily see the material as relevant to them. In contrast, students at charter schools and small schools in THSP reported perceiving greater curricular relevance in their studies than students at other schools do.[66] Although the differences in charter and non-charter students' views on relevance may have reflected charters students' (or their families') active choice to join a school with a college-going culture—so that those students already believed in the relevance of a college preparatory program—the greater disengagement of students in traditional high schools illustrates the magnitude of the challenge. Based on the spring 2008 survey data, the high school curriculum lost the interest of more than half of its ninth-grade THSP students, potentially creating further roadblocks for teachers to reach them.

Students did not perceive the relevance of their coursework despite teachers' efforts to create real-world connections.

Using Data to Inform Instruction

As the state increases requirements and standards, and as schools and teachers collectively and individually work towards more rigorous and relevant instruction, monitoring student progress through the use of formative assessments is intended to help teachers tailor their instruction and potentially gauge rigor and student engagement. Teachers' formative use of data to support instructional decisions figures prominently in the THSP theory of change. Chapter 4 discussed the role of school leadership in setting expectations for teachers' use of data and in modeling the use of data in school-level decisions. This section discusses whether and how those expectations translate into THSP teachers' instructional uses of data in particular.

THSP teachers surveyed in spring 2008 reported using data to identify students' areas of weakness. A large majority of teachers reported using data a fair amount or to a great extent to modify instructional strategies (88%), track students' academic progress (83%), and arrange for remediation, tutoring, or special instruction for students (82%). Sixty-eight percent reported that they asked students at least weekly to improve their work based on teachers' feedback. A majority of teachers also reported diagnostic efforts: more than two-thirds attempted to assess students' problem-solving processes (68%), not just answers, at least once a week. Teachers, however, did not generally chart students' progress against individual learning plans, with 58% reporting that they did so a few times during the year or not at all. Teachers in small schools

64 See Appendix D, Exhibit D-1.

65 See Appendix D, Exhibit D-2.

66 Mean difference between charter and non-charter students was 0.29 and between students in small and large schools was 0.28, $p < .05$ in both cases, on a 4-point scale where 1 = Not at all and 4 = A lot.

under THSP tended to report greater use of data for instructional purposes compared with teachers in larger schools.[67]

Like principals, teachers reported using various tests as the most common forms of data to improve curriculum and instruction. A majority of teachers reported relying a fair amount on standardized test scores such as TAKS results (83%), teacher-made tests and other informal assessments (89%), and other formal assessments such as benchmark tests and EOC tests (83%). A smaller majority of teachers reported relying on attendance (67%), rubric-based scoring (66%), and letter grades or grade point averages (GPAs) (70%) as well.[68]

Multiple studies, however, indicate that simply having access does not automatically lead to productive uses of data by school leaders or by teachers (Kerr et al., 2006; Means et al., 2009; Young, 2008). The supports that school leaders provide include setting the expectation that specific types of data should be considered in school-, department-, and classroom-level decision-making; modeling the use of data; and providing teachers with access to expertise or coaching in analyzing data. These supports play a significant role in whether and how teachers use data for instructional purposes (Halverson et al., 2005; Young, 2006). As with other aspects of school leadership, THSP principals and teachers differed in the degree to which they perceived supports for using data. A larger percentage of THSP principals compared to teachers indicated that supporting the regular use of student assessment data was a leadership priority (87% of principals compared to 63% of teachers), that school leaders followed up about instructional or programmatic changes related to data analysis (96% of principals compared to 64% of teachers), and that time was built into the school schedule to discuss data (86% of principals compared to 62% of teachers). Based on site visit data, some principals or other leaders shouldered the responsibility for sifting through data reports and preparing selected data for teachers to review. For example, in one school, the guidance counselors "[we]re continually updating student performance data for teachers so [teachers] [we]re aware of where students [we]re failing and excelling" and distributed weekly updates on student performance, attendance, and special needs to teachers.

> *A majority of teachers use data to identify student needs and to modify their instruction, but supports for teachers to use data are uneven.*

The differences in perceptions and effort may reflect differences in principals' and teachers' inclination, preparation, and beliefs about the adequacy of supports. Teachers may not have fully subscribed to the usefulness of analyzing the particular data they had access to, they may not have seen the connection between certain types of data and their instruction, and they may have needed more time and more direct conversations about how they might alter their teaching based on an analysis of data. Teachers may have possibly needed more PD in specific instructional strategies if they were indeed asked to teach differently on the basis of a given analysis. Where teachers reported clear examples of data use, principals had given teachers clear guidelines and expectations. For example, in one school, teachers were asked to examine the results from common assessments and to compare how they had taught the three objectives on which students performed best and the seven objectives on which students had performed worst.

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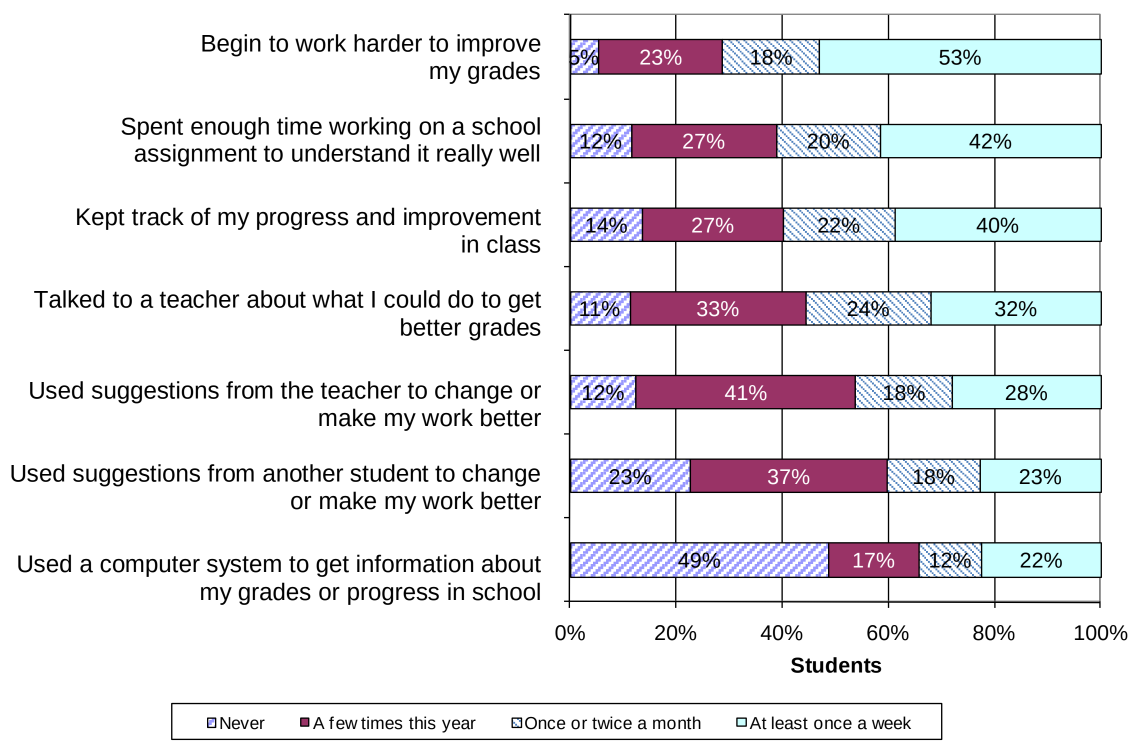
67 Mean difference between teachers in small and large schools was 0.14, $p < .05$, on a 4-point scale where 1 = Not at all and 4 = A lot.

68 See Appendix D, Exhibit D-3.

Along the continuum of data-informed instruction, some argue that students should play an active role in monitoring their own progress (e.g., Stiggins et al., 1986), thereby internalizing the expectations for their learning. Relatively few ninth-grade THSP students surveyed in spring 2008 reported that kind of involvement (Exhibit 4-9). More than a third (40%) of students reported keeping track of their progress and improvement in class at least weekly and another one-fifth (22%) did so once or twice a month; however, 39% reported that they never did so or only did so a few times during the year. Students talked to teachers about what they could do to get better grades in roughly similar proportions. Fewer, though, seemed to take the advice, with more than half (53%) reporting that they never or only a few times during the year used suggestions from the teacher to change or make their work better, and only about half of the students (53%) reported that they consistently worked harder to improve their grades or that at least once each week, they spent enough time working on a school assignment to understand it really well (42%). The other students (47 to 58%) did not report such efforts at continuous improvement. Overall, then, the high expectations that THSP schools espoused and the teachers' individual efforts to improve rigor in their classrooms fell somewhat short of inculcating a broad mindset of improvement among ninth-grade students.

Significant proportions of students lacked an orientation towards improvement.

Exhibit 4-9
Students' Self-Monitoring in Learning and Improvement



Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

Source: Evaluation of the Texas High School Project ninth-grade student survey, spring 2008.

To summarize, using data for instruction improvement was a priority for teachers and principals alike, and teachers reported access to a variety of data types. However, they also reported insufficient supports for using that data. The relative lack of teacher support and the need for more student-centered uses of data for monitoring progress and improving instruction highlight areas of weakness for the THSP schools. Putting in place stronger structures and supports for using data may stimulate a more robust culture of improvement among both students and teachers in THSP schools.

Supports for Students

Reflecting the THSP mission, students served by THSP schools on average come from economically disadvantaged backgrounds compared to students in non-THSP schools. Principals and teachers interviewed during spring 2008 site visits described their students as coming from impoverished circumstances where they may need to work to support other members of their family, they may need to take care of siblings while their parents work, or they may not have a family history of college-going. THSP schools described their challenge as not only to create an environment where students feel engaged and invested in their education, but to build tangible supports that many middle class families provide for their children outside of school. For THSP schools, the question becomes what level of effort is necessary and possible to help their students achieve true college and work readiness.

Reinforced by the state accountability system predicated on TAKS passing rates, the supports offered by THSP schools were predominantly academic and geared towards TAKS preparation. Although schools offered a range of student supports, few schools had comprehensive supports across the range of what underrepresented students likely need, including study skills, academics, knowledge of college, application process and career options, and socio-emotional counseling.

Across all THSP schools surveyed in spring 2008, tutoring, academic counseling, and career guidance were the most common student support activities provided to all students in need of them, according to a majority of teachers surveyed (Exhibit 4-10). Despite providing these supports, however, and despite principals and teachers in spring 2008 site visit schools reporting that a majority of students need the supports, students did not appear to access them. For example, only 41% of surveyed students reported using tutoring services. Smaller percentages of students reported accessing college and career-related supports such as college exam preparation (14%), and career guidance services (21%). Notably, 39% of teachers reported that academic remediation and socio-emotional supports were provided only to some who need it, likely reflecting the limits of time and energy of the school staff, and only a small percentage of students reported receiving such supports (9% and 20% respectively). Findings from site visits corroborated these survey findings, with teachers reporting that a significant proportion of students they recommended for tutoring did not attend. These results suggest that more work is needed to identify students' needs and craft supports that are accessible to the students who most need them and who likely are the least engaged in the school community.

Exhibit 4-10
Supports Provided to Students Compared to Those Used by Students

	Teacher Reported Support		
	Provided to Some Who Need It	Provided to All Who Need It	Supports Used by Students
Formal tutoring	18%	77%	41%
Academic classes and/or seminars	26%	50%	35%
Social/emotional support (e.g., classes, seminars, and/or counseling)	39%	48%	20%
Academic counseling	24%	65%	17%
Academic remediation	39%	51%	9%
College entrance exam preparation	34%	37%	14%
Career guidance services	30%	53%	21%

Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

Student supports were primarily academic with an emphasis on TAKS preparation.

Academic supports were most common and in most cases were dedicated to supporting students in passing TAKS. Even in THSP schools where students performed somewhat better, such as at some of the T-STEM schools, academic supports emphasized improved test scores on TAKS and other exams. TAKS support included tutorials before and after school and on Saturdays. Students at risk of failing TAKS may have had an extra "TAKS class" in a particular subject, and some schools implemented short-term plans that pulled students out of electives for targeted drill leading up to TAKS administration. Aside from the TAKS-related supports, some schools offered Advancement Via Individual Determination (AVID) to students identified for pre-AP courses but not previously on that track. This kind of support matched to higher expectations, however, was not consistent among THSP schools.

Offering student supports constitutes only one side of the equation, however. In the majority of THSP schools visited in spring 2008, tutoring was not compulsory and as stated above, staff reported that the majority of identified students did not attend. Students needing tutoring and other assistance may have lacked engagement or a sense of affiliation to the school; however, they often also faced hurdles that prohibited their participation in before- or after-school tutoring, such as needing to take care of siblings or hold down a job to help their families. Our survey and site visit data suggest that simply offering the supports is insufficient. Schools need to find creative ways of making it possible for the neediest students to gain access to those supports and to be motivated to attend.

Few schools had a comprehensive approach to helping students and their families prepare for all facets of college, which includes not only shoring up academic skills, but also—as reported by some THSP schools—addressing the multitude of demands and dilemmas first-generation college-goers and their families face. The dimensions of a comprehensive approach—exceptions rather than the rule among THSP schools—included bolstering study skills and spreading out academic safety nets; addressing emotional supports for families sending their children to higher education for the first time; extracurricular activities that make students attractive college candidates; and exploration of careers that require college education to name a few. For example, one school system recognized the importance of that broader support, particularly for disadvantaged students or first-generation college-goers. They explicitly set expectations for college early, helped families plan and save for when the student leaves home for college, mandated experiences during high school such as work internships or summer programs to strengthen their college applications, and tutored students through college and scholarship applications (see Exhibit 4-11). This more strategic approach targeted at concrete experiences for disadvantaged students highlights the intensity of a comprehensive approach. Although uncommon among the THSP schools visited, this example illustrates that systematic supports to help students prepare for college extend beyond traditional counseling, address social supports with outreach to students and their families, and may also integrate extracurricular experiences with their school-based academic program.

Exhibit 4-11
Example of Comprehensive Student Supports

One CMO has invested in a comprehensive student and family support strategy to promote college readiness. All students follow a college preparatory curriculum and receive support services and remediation geared to their particular needs. Ninth- and tenth-grade students participate in advisory, which is led by counselors and other selected teachers following specific curricular units. All juniors receive SAT preparation in their year-long seminar and take the SAT, and are guided through college exploration and prepare draft personal statements in anticipation of applying to college. The CMO has also identified extracurricular experiences such as internships and service work—enjoyed by more advantaged students—that college applicants need to be competitive. Service internships are now required for all students.

Before they graduate, all students must visit 10 colleges on tours arranged by the CMO, apply for 10 scholarships, and be accepted by one 4-year university. For students who have not been accepted by a university, "they have stayed another half semester or full year," according to one CMO administrator. He explained as follows:

> We do whatever it takes. We tell them no one cares if you start college at 18 or 19. We make sure you're ready to go and…[that the] college says you're ready to go. [While students reapply to college] they satisfy more credits, [because] usually they reenroll or enroll in dual enrolment courses [in their extra time at high school].

Recognizing the vital role families play in preparing children for college, the schools engage in various activities to support students' families. Teachers conduct home visits with every incoming student, and families, students, and teachers sign a commitment contract. Early on in the students' high school careers, the CMO advises parents on the financial and familial implications of their children going to college. CMO staff advocate for students and dialogue with families when students want to go away for college and teach parents how to send care packages once their children are away at college. Finally, the CMO offers mentoring by alumni and has partnered with colleges to build a network of freshman coming from its network of schools to ease the transition to postsecondary life.

In summary of THSP schools' approaches to supporting students, most support activities offered at THSP schools were overwhelmingly academic and predominantly geared towards students' passing TAKS. Schools offered a somewhat piecemeal mix of tutorial and counseling activities that unevenly reached those students in need of them. With few exceptions, THSP schools need more systematic supports for students to match their high academic expectations if they are to fulfill their mission of promoting college and career readiness among underrepresented students.

Conclusions

The national high school reform movement and certainly the THSP theory of change both drive towards challenging classroom demands as the means by which students will meet higher standards and thus prepare for college and career. At the same time, THSP schools—like many schools in Texas—devote significant energy to improving their TAKS passing rates in response to the state and federal accountability systems. Simply improving TAKS passing rates, however, falls short of achieving true college readiness since college readiness standards are set at a higher score on the TAKS scale and since college readiness encompasses experiences and accomplishments beyond achievement in just the core subjects.

Across THSP schools visited in spring 2008, the most challenging reform elements to implement were related to improving instruction—increasing rigor and making the curriculum more relevant. Although changes in organizational structure such as SLCs, PLCs, and common planning time for teacher teams were in varying stages of implementation, they had little impact on teachers' classroom practices without explicit expectations and support for instructional change. School leaders' and teachers' uneven and unshared meaning of rigor led to inconsistent demands on students as enacted in classroom activities and assignments. Conversations among teachers and school leaders leading to an explicit and common definition of instructional rigor may do much to focus teacher learning on instructional improvement. Relevance as a reform objective—why curricular relevance is important and how it relates to instructional rigor—also needs more delineation before schools can devise targeted strategies. Working on such delineation might be appropriate roles for THSP leaders, reform model leaders, and TA providers, as well as for school and district personnel. Clear statements about what instructional rigor and curricular relevance means in different contexts could then be the focus of more strategic PD, an area of improvement highlighted in the previous chapter. It might also broaden teachers' use of data for instructional purposes, which currently relies on traditional assessment information.

Students' sufficient engagement in their education to monitor their own progress and strive for improvement was closely related to the supports that schools were able to offer to raise the proficiency of those in greatest need. Narrowly focused on passing TAKS for the most part, the supports lacked comprehensiveness in reach, as well as in the range of college and work preparatory experiences and socio-emotional attention that students coming from families without traditions of college going might need.

This report has thus far described the broad themes and some of the nuance in THSP schools' efforts to become effective high schools. Not surprisingly after fewer than two years of implementation, certain reform strategies have taken hold, while other areas need attention. The next two chapters of this report discuss the roles of districts and CMOs (in the cases of charter schools), and of reform networks to help explain the reforms seen on the front lines.

Chapter 5. Support and Capacity for School Reform Among Districts and Charter Management Organizations

Key Findings

Districts and CMOs as Contexts for School Reform

- THSP schools implemented reforms within broader district and CMO contexts, which included multiple initiatives that supported or impeded the THSP reforms.
- Many schools had difficulty managing the multiple reform efforts and creating a coherent plan for reform.
- Schools often felt pulled in many directions and districts and CMOs struggled with articulating a clear vision for reform at the school level or developing sufficient capacity to support the schools.
- Districts had implemented some strategies that supported THSP reforms, however, including making curricular changes to increase expectations, providing teachers with data to improve their instruction, and offering extended PD focused on instruction.
- CMOs seemed to employ stricter accountability mechanisms than districts to ensure schools implemented key elements of the school model. Overall, more teachers at charter schools rated CMO leadership as effective than non-charter teachers rated their districts as effective.

District Leadership Program

- The District Leadership program funded three urban districts and provided supports that aligned with each district's level of readiness to implement reforms.
- The three districts made progress in developing a vision and theory of action for high school reform, and formed to some extent comprehensive strategies for instructional improvement.
- Like other districts, these three districts struggled to align schools' reform strategies, experienced tensions between central control and local decision-making, and were threatened by high leadership turnover.

Introduction

Schools operate within contexts shaped significantly by district or CMO policies and practices. Although the majority of THSP grants are awarded at the school level, districts and CMOs can both facilitate and impede changes that schools are attempting to implement. In the case of charter schools, the CMO plays a similar role to that of a district.[69] CMOs, like districts, centralize certain functions for economies of scale, standardization, and quality, and hold individual campuses accountable for key school features. CMOs also have the organizational authority to set goals and strategies for all of their campuses and to initiate CMO-wide changes. District and CMO leaders can bridge broader education reform initiatives and specific strategies designed to improve student learning. They can do so by setting the vision for reform that becomes the core mission of all staff, supporting the professional learning of staff to increase capacity and improve instructional practice, and creating continuous improvement processes.

This chapter addresses the questions:

- What role do districts and CMOs play in schools' efforts to implement THSP-related reforms?
- How do leadership attributes of districts and CMOs enhance successful THSP reform implementation? What challenges do districts and CMOs face that inhibit both systemwide change in general and the achievement of THSP goals in particular?

This chapter first presents the roles that districts and CMOs played as their respective schools implemented THSP-related reforms, including the challenges that circumscribed districts' and CMOs' efforts to support school improvement. The chapter then focuses specifically on the District Leadership Program, an investment by THSP in three urban districts to build their capacity to support districtwide reform implementation.

District and CMO Roles in Reform Implementation

District leadership has become a central theme in research on improving K-12 education. Districts have moved from being a "bureaucratic backwater"—imposing rules and regulations that schools perceived as barriers to improvement—to a potential catalyst for school change and a site of reform in itself (Hightower et al., 2002). The role of district leaders then includes how they orient central office functions to support schools in meeting diverse student needs and ensuring all students learn. The evaluation team identified eight key attributes of effective district leadership in an earlier literature review conducted for this evaluation (Padilla et al., 2008):

1. Uniform or shared vision of improved student learning and achievement
2. A clear theory of action on how to achieve the shared vision for reform
3. A comprehensive, coherent set of strategies that apply a systemwide approach to reform
4. Ongoing data collection and data-informed decision-making
5. Support for staff capacity building at all levels of the system

[69] Three main CMOs fall under the New Schools and Charter Schools program supported by CFT, and one falls under the T-STEM program.

6. Shared responsibility and accountability that holds all individuals in the system accountable for student learning and actively involves a broad set of stakeholders in the reform process
7. Equitable planning and resource allocation
8. Sustained implementation of the district vision for reform

Several of these attributes emerged as particularly important in the site visit data. Specifically, consistent with THSP goals, districts and CMOs demonstrated leadership by engaging in reforms that have a clear vision of high standards for all students. Further, they built staff capacity through PD to achieve enhanced student performance and engaged in ongoing data collection to make instructional decisions and hold schools accountable for school improvement. The examples below illustrate how districts and CMOs are poised to lead reform implementation.

District Leadership and Support for Reform

The evaluation team visited 12 independent school districts with THSP schools in spring 2008 that ranged in size from very large urban districts to small rural districts. These districts varied widely in the types and amount of reform underway, and schools' implementation of THSP-related reforms gained traction or were constrained by the foundation that districts laid.

Commitment to High Standards

District leaders in the sites visited in spring 2008 demonstrated a shared vision to make every student college ready by the time they leave high school through a commitment to high standards. In practice, this commitment often translated into enhancing course offerings and eliminating some of the barriers to entering college. Many districts were offering and encouraging broader student participation in higher-level academic courses such as AP, while others had already begun implementing the "four by four" curriculum prior to its requirement. One district eliminated all low-level courses; all remaining courses were geared toward college preparation. Several districts were explicitly encouraging students to enroll in dual credit courses to give them an early start in earning college credits and to increase their chances of attending and graduating from a postsecondary institution. For example, one of these districts paid all of the related dual credit expenses including the often prohibitive book purchases. Other districts encouraged or required all students to take the SAT or ACT, and one covered the costs of taking the Preliminary SAT (PSAT) and AP exams to increase the number of test-takers.

Data-Informed Decision-Making

Beyond a commitment to high standards, districts also held schools accountable for effectively implementing the policies and procedures supporting district reform priorities, typically through school performance data. For example, one medium-sized district was working with the local university to adopt a teaching assessment tool to identify and chart the level of instruction in each classroom, including the variety of teaching strategies in use. Several district respondents from spring 2008 site visits mentioned training school leaders in classroom walkthroughs to assess the extent to which new instructional strategies are being adopted. After each walkthrough, the teacher received feedback about strengths and areas that need attention. Districts also used TAKS and district benchmark scores to track

Districts hold schools accountable for implementing district reform priorities that are consistent with THSP goals.

student and, in some cases, teacher performance. Several districts adopted indicator systems that measure school effectiveness, and one district developed a college readiness indicator based on TAKS exit level student scores. Some district respondents also reported using multiple data sources (e.g., student achievement, at-risk indicators, satisfaction surveys of teachers and students, and observation data) to measure program effectiveness.

Supporting Staff Capacity Building

Spring 2008 site visit districts supported a variety of professional learning opportunities for principals and teachers, many of which were aligned with district reform goals. As noted earlier, school leaders played a significant role in setting both high expectations for their staff and students and in setting the tone for the school's climate. Thus, preparing principals to effectively lead their schools in implementing reform initiatives has increasingly become a concern of district administrators. Several districts visited instituted administrator academies or ongoing meetings of principals and district administrators to discuss best practices in instructional leadership and other leadership issues. One urban district also instituted an Aspiring Administrators Academy to provide support to new and aspiring principals. Training potential school leaders from within provided a "jump start" to increasing the number of qualified applicants for school leadership positions.

Many district respondents also discussed the importance of building teacher capacity to implement high-quality instruction. A number of examples of district-supported PD activities focused on improving instructional practices that will translate into improved student outcomes. For example, a rural district trained all teachers on Marzano's instructional strategies (Marzano et al., 2001) before the 2007–08 school year. A larger urban district was working with an external center focused on leadership development to "call on everyone to provide high-content, engaging work for students that results in students learning what schools, parents, and the community want them to learn to be considered well-educated." Professional learning focused on developing engaging lessons that challenge and motivate students to persist in school. District administrators reported trying to select principals and assistant principals who bought into this vision, requiring all candidates to prepare a project based on the standards espoused by the leadership center. Two other urban districts asked groups of teachers to redesign the district curriculum or to develop curriculum pacing guides; this process served as a PD mechanism (enhancing teachers' knowledge of the curriculum) and promoted teacher buy-in to the curriculum. Another urban district required every new teacher to complete 63 hours of training on instructional content, classroom management, and the district's mission and initiatives.

Replication as Reform and the Role of CMOs

Like districts, CMOs are engaged in implementing school models that focus on a vision of high standards for all students, promoting the PD of staff to achieve improved student performance, and holding schools accountable through the use of data. Through the NSCS program, THSP supported three CMOs to replicate successful campuses in new locations: IDEA Public Schools, YES Prep Public Schools, and Uplift Education.[70]

Replication as a reform strategy is radically different from layering on incremental reforms at existing high schools. Research has documented that implementing a specific school model is easier starting from scratch than trying to turn around struggling schools (AIR/SRI, 2006). Yet

[70] For confidentiality, specific examples in this report drawing on IDEA, Uplift, and YES Prep use pseudonyms.

replication is far from a sure bet—it is an experiment in whether a model can be distilled down to essential characteristics and processes and transplanted to new geographic locations with students who may or may not resemble students at the original campuses. Replication also creates capacity-building needs at the "home" office to support an increasing number of schools at various stages of development. At a certain size, the CMOs are as large as moderately sized districts in Texas and face the dilemma of establishing systems and procedures much as traditional districts do, which may seemingly contradict the school-level latitude that serves as the defining characteristic of charter schools. Nonetheless, because replication is the goal, CMOs' holding schools accountable for fidelity to the model can be paramount. Thus, evaluators found tighter coupling between the activities of individual campuses and CMO strategies than was common in the traditional school districts they visited.

CMOs exercised stronger accountability mechanisms than districts to ensure fidelity in model implementation.

Commitment to High Standards

The CMOs funded through NSCS have similar missions that align well with the THSP goals and reveal a commitment to high standards for students. Motion campuses strive to prepare underserved students for college and citizenship and promote rigor, relevance, relationships and respect, responsibility, reflection, results, and real time as their unifying principles. Drive schools are concentrated in a major urban area and seek to prepare low-income students, first-generation college-goers, and other underrepresented students for success in college and the global marketplace. Finally, Aim schools in another major metropolitan area focus on helping underachieving students and first-generation college-goers graduate from high school and selective colleges, and then continue to engage in lifelong learning. The CMOs attempt to achieve these goals by providing, to various extents, rigorous curricula, student supports, and school leader and teacher development, and by engaging in data-based continuous improvement efforts.

Data-Informed Decision-Making

Consistent with replication objectives, CMOs must ensure that their new schools are faithful to their respective overarching model. As such, at the time of the site visits the CMOs had relatively strong accountability and support measures for developing and implementing their school models. The CMOs used data as a window into how well individual campuses are replicating the model and to track teacher and student performance. All three CMOs required their schools to administer regular benchmark testing, but some CMOs were farther along in their use of data than others.

Using data was a key strategy among CMOs to track model implementation, as well as teacher and student performance.

Aim worked directly with teachers to use and interpret data. The CMO had three coaches who worked with all of the schools in the network; they helped teachers create assessments that will produce data useful for improving their instruction. Over time, Aim has made it a priority to generate more real-time data and to centralize its technology systems at the CMO level.

Drive developed systemwide assessments in mathematics, science, social studies, and Spanish (with plans to add English at the time of the spring 2008 site visits). The CMO has begun generating common data across campuses based on these assessments and using the results to stimulate conversations among teachers about whether their lessons were helping students reach specific curricular objectives. Early in the implementation of the new assessments, the director of curriculum and assessment analyzed and summarized data for school leaders, eventually stepping back to support teachers in analyzing their own data as part of cross-campus departmental team meetings. Beyond assessment results, Drive also tracked alumni data to understand how successfully they prepared their students to succeed in college. Feedback from alumni has informed their curriculum—for example, they strengthened their science program based on former students' sense that they were less prepared for college-level science compared with other subjects. The CMO also reported relying on qualitative data—the head of Drive schools met with each school director and toured the campus classrooms weekly to discuss the priorities for each school. The school directors also participated in walkthroughs at other campuses to learn from each other and to gain a common understanding of how the Drive model is operating and serving students.

Motion has created a comprehensive "continuous improvement environment" based on data collection and analysis. The CMO reported holding individual campuses accountable for providing instruction that will prepare its students for college and citizenship. The CMO staff set performance goals and strategies for school leaders, monitored TAKS results, regularly visited the schools and observed classrooms, met quarterly with principals to review data, and used peer-led principal observations at each campus during which principal teams rotate from campus to campus to evaluate the schools. Benchmark test scores were analyzed by individual students and teachers to ensure that deficiencies would be addressed directly and swiftly.

Supporting Staff Capacity Building

In addition to accountability measures, CMOs have also recognized the link among hiring, PD, and successful replication. Both Drive and Motion articulated hiring and staff development strategies to help ensure that teachers and leaders are a good fit for the model. Drive chooses its leaders from within the network based on traits they have found successful Drive staff possess, student performance, and a track record of holding leadership roles within the school. At the time of the site visit, it had partnerships with two universities to help its staff earn administrative credentials. The CMO reported planning development purposefully and opening schools only when prospective leaders are ready. One home office leader reflected:

> I think we've learned that on the program side, you have to be intentional about being innovative. If you're not intentional about it, it's easy to get complacent when you've had success. Developing leadership from within needs to be intentional; either modeling it for folks or throwing them in the fire is not the best way to do things; and providing folks with the right training is key.

Once a leader is chosen, CMO staff specializing in opening schools work full-time at the new campus with the leader to ensure a smooth start-up. Central office leaders hold bimonthly meetings and weekly phone calls with school directors. In a similar vein, Motion used a teacher selection tool for hiring. When the tool is not used, the CMO reported that teachers are hired who are not suited for the school. For example, one school whose principal did not use the tool eventually did not hire back a large number of teachers. Both Drive and Motion had their staff visit other campuses and engaged principals in leaders' groups so they could share and collaborate with their peers.

Teacher development was a focus of all three CMOs. They all experienced challenges in hiring and retaining high quality teachers, which they attributed to less competitive salaries. As a result, all reported high numbers of novice teachers who need considerable support. Drive articulated a clear plan for PD from the time teachers are hired; this strategy stems from the CMO's belief that teacher turnover is inevitable and that hiring and training a bright teacher for two years is preferable to hiring a mediocre teacher who is willing to stay longer. At Drive schools, novices participated in a 40-hour induction program prior to the start of the school year, received coaching throughout the year, and were assigned a mentor teacher. Many teachers hired at Drive come from alternative certification routes and the trainings at the beginning of the year are essential to those teachers' ability to start the school year productively. For example, during Drive training, teachers watched videos of lessons and "do mock situations where they need to assert authority with students so they come in with their teacher face and persona on day one."

At Aim schools, instructional coaches reported defining and changing their supports to reflect teacher and school needs. As an example, one coach observed:

> Some teachers aren't comfortable writing assessments. I write the assessments for them until they get comfortable writing their own. For other teachers, it's my kids and their kids taking the same assessment and comparing the results across schools and seeing if it's a matter of the curriculum or a problem with how the teacher is teaching the kids.

The Aim instructional coaches are not meant to evaluate teachers, but rather they are there to help support teachers in establishing practices that reflect their respective school models. Aim was considering moving toward an "evidence-based coaching practice" where coaches have and use "more quantifiable data, but still do not evaluate teachers." At Drive schools, the role of coaches has incorporated more accountability through communication between coaches and principals regarding teachers' performance. These conversations with principals help the coaches target their work and provide a measure of accountability for teachers to respond to their coaches' feedback.

Motion has focused attention on teacher development. The CMO has a clear vision for indoctrinating their new staff to make sure that major components of their model are replicated at each site, including behavioral expectations for students, a rigorous curriculum, and college-readiness for all students. However, school leaders reported a need to focus more on execution, with an increased emphasis on teacher training. Despite having no formal instructional coaches, the CMO attempted to increase opportunities for teachers to visit successful campuses. Motion has also tried to create more formalized networks between peers for communication and collaboration.

Challenges to Effective Reform Leadership

Although it is clear that the districts and CMOs visited have instituted promising practices that can help support reform implementation, site visit and school survey data from spring 2008 illustrated various challenges that can inhibit the implementation of school-level reforms in general and THSP-supported reforms in particular. These barriers emerged from school-level perspectives of district and CMO leadership efforts and the multiple district demands that schools must meet, necessitating leaders to prioritize reform and improvement efforts. Further, although the spring 2008 data suggest that traditional districts face more challenges than CMOs, CMOs often encountered their own unique challenges.

Views of District Leadership

Survey data[71] from spring 2008 indicate that one prominent challenge facing district and CMO leadership was how school staff members perceived their efforts. A discrepancy existed between principals' and teachers' view of district and CMO leadership and the extent to which they felt supported by it. THSP principal responses about the leadership attributes of their districts or CMOs generally were more positive than teacher responses (Exhibit 6-1). In other words, those staff members who needed to implement the reforms at the ground level did not have as much confidence in district leadership. The lack of confidence can have implications for the implementation and sustainability of the reforms. Further, when disaggregated, spring 2008 survey data revealed that charter school staff members had more positive views of their leadership than did staff at schools in traditional school districts.

> *In the eyes of school staff, both districts and CMOs can improve in communicating a coherent vision of reform and developing strategies for achieving that vision*

As was true in examining school leadership in Chapter 4, a lower proportion of teachers than principals surveyed in THSP schools in spring 2008 agreed with statements about the effectiveness of their district and CMO leadership (Exhibit 5-1). Although over 80% of principals and teachers agreed that their respective district or CMO supported the school's reform efforts, was committed to high quality implementation, demonstrated commitment to high standards for all students, had priorities consistent with those of the school, and respected school-based decision-making, principals and teachers both perceived less district and CMO direction on school reform. The lowest proportions of principals reported agreement that their districts and CMOs articulated a coherent vision for reform at the school level and developed strategies for achieving that vision at the school level.[72] Fewer teachers agreed that districts and CMOs exhibited these attributes. Additionally, 34% of teachers felt that their voice was not sought out by central office administrators and 35% said that resource allocation was not equitable. Again, the different perspectives of principals and teachers likely reflect their different vantage points, roles and responsibilities, and opportunities to interact with central office administrators.

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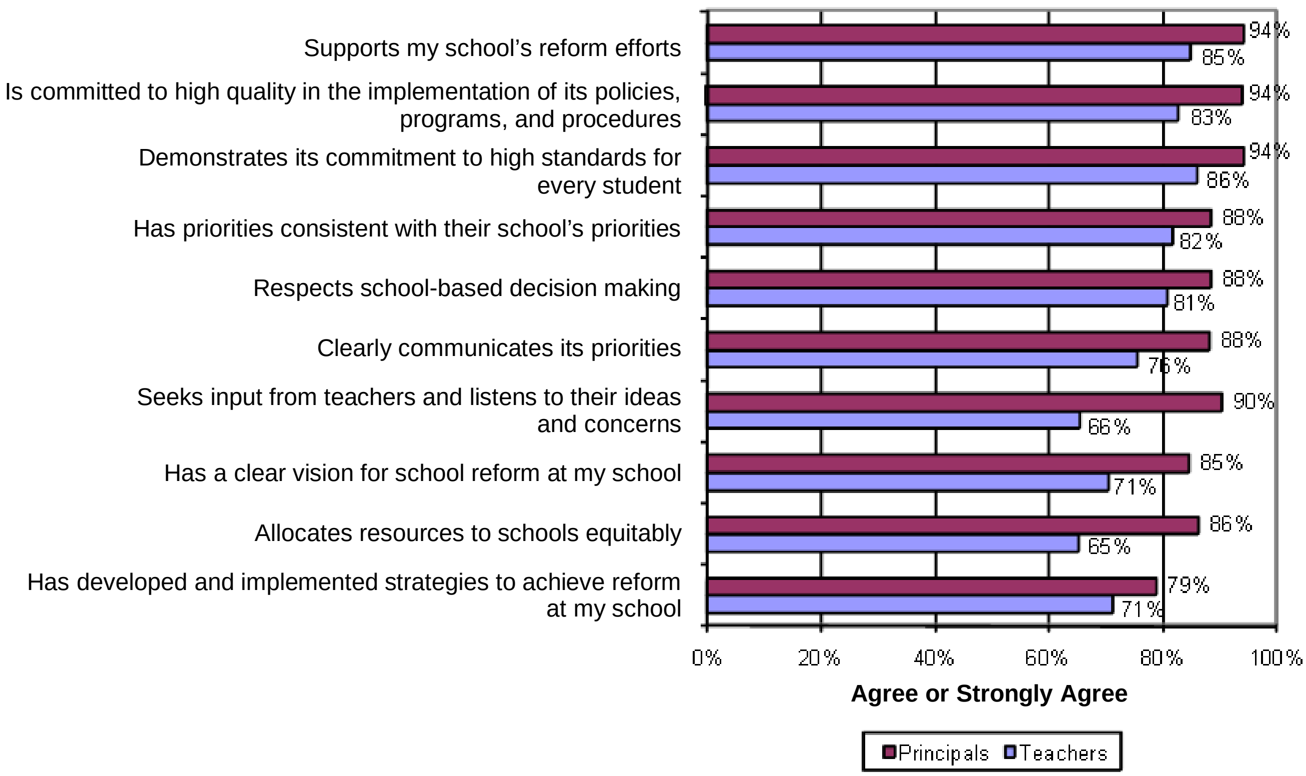
71 This discussion of the spring 2008 survey data refers to both districts and CMOs because principals and teachers responded to items in reference to their central office—traditional districts in the cases of traditional high schools and CMOs in the cases of charter schools. For purposes of the spring 2008 survey, CMOs include all charter schools funded by THSP, not just NSCS. Charter schools are also funded under T-STEM and ECHS.

72 Interestingly, these are also the leadership priorities that principals identified as ones they least focused on at their own schools.

Exhibit 5-1
Principal and Teacher Reports of District and CMO Support for Reform

Central office leadership…



Notes: The survey items used a 4-point scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree. Differences between principal and teacher means for all items displayed are statistically significant at $p < .05$.

Source: Evaluation of THSP principal and teacher surveys, spring 2008.

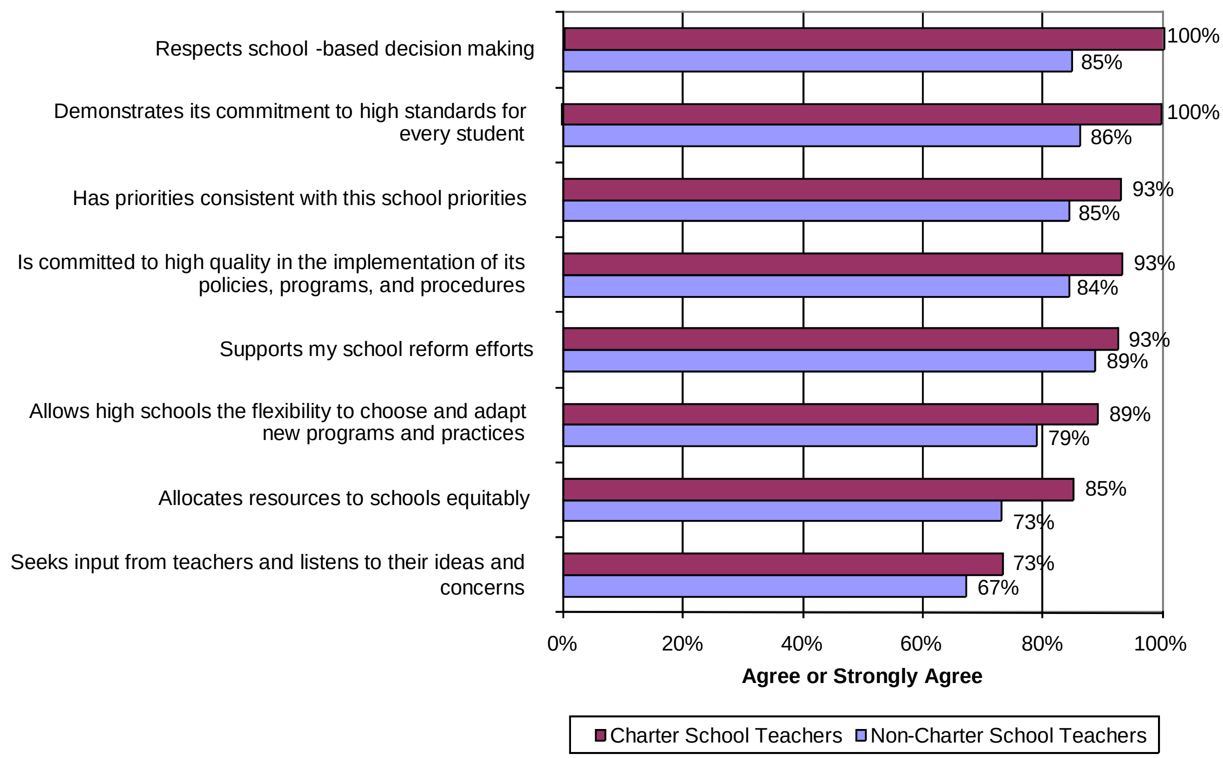
While teachers across the board had lower ratings for district and CMO leadership (regardless of the THSP grant program) than principals, teachers at charter schools rated the CMO leadership higher than teachers at non-charter schools rated their district leadership on most elements (Exhibit 5-2). For example, 100% of all charter school teachers surveyed in spring 2008 agreed or strongly agreed that their CMO office demonstrated its commitment to high standards for every student and respected school-based decision-making, compared to 86% and 85% of non-charter teachers.[73] Interestingly, a slightly higher proportion of teachers at charter schools than at non-charter reported that their central office allowed high schools the flexibility to choose and adapt new

Greater percentages of charter school teachers perceived support from their CMOs compared to non-charter school teachers' views of traditional districts.

[73] These differences were statistically significant at the $p < .05$ level. Mean difference between charter and non-charter teachers on a 4-point scale where 1 = strongly disagree and 4 = strongly agree is .48 for demonstrates its commitment to high standards for every students and .38 for respects school-based decision-making,

programs and practices, despite relatively stronger accountability mechanisms at CMOs to ensure that their charter schools were replicating the key elements of the charter school model. Both charter and non-charter school teachers reported that they lacked voice with their central office administrators, true for 27% of charter school teachers and 33% of non-charter school teachers. Although principals at charter schools generally rated their leadership higher than principals at non-charter schools, most of the differences were not statistically significant, likely due to a smaller sample size.[74]

Exhibit 5-2
Perceptions of Central Office Leadership, Charter and Non-Charter School Teachers



Notes: The survey items used a4- point scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree. Differences between principal and teacher means for all items displayed are statistically significant at $p < .05$.

Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

The relatively lower rates of agreement on items related to school reform suggest that district leadership has room for improvement in terms of showing school personnel, particularly teachers, its support for reform at the school-level. Because staff at charter schools generally had

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74 The only statistically significant differences were on principals' perceptions of whether the district/CMO office demonstrates its commitment to high standards for all and ensures that student learning is the primary focus of the school.

more positive perceptions overall than staff at non-charter schools, non-charter districts may need to place particular attention on how they support reform in their schools.

School Prioritization of Reforms

District administrators generally did not leverage THSP activities at the specific schools to achieve goals districtwide or at non-THSP schools within the district. However, the THSP-related reforms that found traction in a school were often those that were aligned with and supported by the local district context—the districts' goals, improvement strategies, and resources. The corresponding challenge for THSP, then, is that THSP reforms were less likely to take hold when THSP-related reforms were not aligned with district priorities. (CMOs did not face the same challenge, as their models were chosen to be replicated for THSP and thus had tighter alignment.)

THSP reforms were more likely to take hold in schools when they were aligned with district reform initiatives.

The spring 2008 site visit data suggested that where multiple reform agendas existed, schools had a greater sense of accountability for meeting the goals of the district than for implementing the THSP reforms. This phenomenon may be attributed in part to weak mechanisms to monitor fidelity to the models or to hold non-charter THSP schools accountable for implementing THSP reforms. For example, when asked how the district held THSP-funded schools accountable, district staff responded that their primary responsibility was ensuring that the funds were expended in accordance with the grant guidelines. But perhaps of greater influence were the pressures from district and state accountability measures. As noted above, districts used data to monitor school implementation of district priorities and programs, and both districts and schools were (and continue to be) held accountable for and measured by TAKS performance.

The spring 2008 site visit data also indicated that often districts viewed THSP reforms as school-level initiatives even though some schools were encouraged to adopt THSP models by their districts. There was little evidence that districts sought buy-in for the THSP initiative at all levels—among district administrators, school principals, and teachers—and that knowledge of THSP initiatives was widespread. In one case, even when the district with an HSRD school expanded elements of the THSP reform, district and other school administrators gave little acknowledgement that the program contributed the concept of SLCs. District staff considered their district-wide SLC initiative an outgrowth of teacher PLCs and not a replication of elements of the HSRD initiative. Other examples, however, illustrate how some districts explicitly supported the adoption of THSP models (see Exhibit 5-3).

Exhibit 5-3
Notable District Support for THSP Reforms

Three smaller rural school districts illustrate district leadership support for THSP reforms.

- One district was implementing the HSTW model broadly, with several HSTW concepts implemented in the middle school and efforts to vertically align goals and curriculum across the elementary, middle, and high schools. At the time of the site visit, the district planned to open a new ninth-grade center in the 2008-09 school year that would replicate the HSTW model (and eventually become a separate grade 9-12 high school). High school teachers that were currently participating in the grant were poised to move to the ninth-grade center to ensure implementation fidelity. The district provided substantial support for expanding the HSTW model—the local board of education included the former high school principal, who helped adopt the HSTW model from the beginning.
- A second district also extended concepts of the HSTW model into the lower grades, and made resource allocation and grant-writing decisions based on the extent to which they aligned with the HSTW model. The district administration fully supported the reforms embedded within the HSTW model. For example, the superintendent, who was the high school principal during the grant application period, initiated town meetings where he explained what the district was trying to accomplish through the reform effort and responded to questions from the community. He was hopeful that the reforms would become institutionalized and remain beyond his tenure.
- In a third rural district, district leaders supplemented the THSP grant funds to support HSTW implementation based on the positive outcomes they perceived over the years. The Superintendent and Board members participated in the HSTW workshop to gain a better understanding of the program.

Given the role of districts in influencing school activities, it is not surprising that the THSP-related reforms that have taken hold in schools thus far are those that were aligned with district initiatives. Nearly all districts with THSP site visit schools in spring 2008 cited one or more of the following goals: college or postsecondary readiness, increased rigor, and high(er) expectations for all students. More THSP site visit respondents than not reported that their priorities and reforms were consistent with those of their district—a finding consistent with the survey data. Because the goals were similar, district priorities tended to subsume THSP-supported initiatives. As an example, a superintendent explained:

> HSTW is a key element, but we're doing it because HSTW is consistent and aligned with our beliefs. …We're working with people who are consistent with our views. We associate ourselves with ideas, with works, with people that are aligned with what we are doing and thinking.

The district did not emphasize HSTW as one of their primary strategies. And even though there was an HSTW coordinator at the district level, principals were not held accountable by the district for implementing the key HSTW practices because in the district's viewpoint, the school volunteered to participate in the THSP initiative; it was not required to do so by the district.

Having district support for THSP initiatives only when they fall under a district's existing priorities raises concerns when district leadership support is weak or district leadership turnover exists. Superintendent turnover is often the norm in many large districts and unstable leadership can result in changing reform priorities that affect the degree to which THSP reform models continue to receive support. For example, among the TEA and CFT-supported HSTW schools, the superintendent has turned over in all but one district. These observations have prompted THSP grant staff to broaden the involvement of midlevel district administrators in some cases, particularly in the larger districts where central office support for reforms is more critical, and thus hoping to build what CFT referred to as an "ecosystem of support."

Challenges Arising in Charter Schools

Although less discrepancy existed among charter school staff in their perceptions of CMO leadership and CMO models and THSP goals are often tightly aligned, CMOs experienced their own implementation barriers. Based on spring 2008 site visit data, difficulties included having enough human and financial capacity to replicate the model and balancing unified practices and adequate supports with school autonomy.

In some cases, the CMOs' capacity to support schools was taxed by the rapid expansion of their networks. At the time of the site visits, all CMOs were struggling with finding and hiring quality staff; many of the staff they hired were inexperienced and needed considerable support. Motion's strategy involved transferring its successful school leaders to work at the central office, but that left holes at school campuses. None of the CMOs had a sufficient number of instructional coaches to provide the necessary supports to teachers. For example, Drive hired part-time released teachers to be curriculum specialists and grade-level leaders who led collaborative department discussions, and used instructional coaches to support new teachers. At Aim, three coaches were serving five schools, leading the CMO to establish site-based coaches at each school to increase teacher support. Although Motion provided PD opportunities across the organization on an annual basis, CMO staff reported that the PD lacked the depth sufficient to meet the individual PD needs of its teachers. As a result, the CMO was not able to invest in individual development plans for each teacher, even if they had remedial needs.

CMOs struggled with providing adequate supports and issues of control as they expanded.

Additionally, financial capacity is an ongoing issue for the CMOs because charter schools in Texas do not receive state funding for facilities. The lack of facilities funding influenced the CMOs' decisions about where and when to start new schools (and external fundraising was and continues to be unavoidable). To streamline the cost of new facilities, Drive planned to open two new campuses on one incubation site[75] in summer 2009. This approach would allow the CMO to reduce the cost of facilities because it would need to dedicate to one school an entire building that would be too large in the first few years. It also would allow the CMO to have one person oversee the two schools and to develop the new school leaders. The schools would then move out to the communities they intended to serve once several cohorts of students had been enrolled in those schools. In fall 2008, the new Texas Charter Schools Association was founded

75 An incubation site is one in which multiple schools are started in the same building. The schools and new leaders are developed and nurtured under the supervision of an experienced leader (i.e., they are "incubated"). Once the schools are large enough, they move into their own buildings.

and in its first year, it lobbied the state legislature for charter school facilities funding equal to what traditional public schools receive.

As the number of campuses and staff members increase, a CMO may need to be more intentional about maintaining a unified vision and culture and accountability measures. For example, various leaders and teachers reported that, as it has expanded, Aim has had difficulty communicating its mission to its schools and creating a unified network. Weak communication across schools has inhibited the development of a strong CMO-wide culture. According to one staff member, the biggest opportunity that Aim is missing is not taking advantage of having a network of five schools. There has not been enough sharing of expertise across the schools. Autonomy is great but there needs to be some shared understanding about our goals and about what is going on.

Autonomy has also made accountability more difficult. Although schools are accountable for using the curriculum and associated benchmark tests, each school can decide when they benchmark, making it difficult for Aim to compare scores across schools. The CMO recognized the need to be more systematic in their approaches or, as one CMO administrator said, their "growth will be crippling." Accordingly, Aim began taking steps to standardize procedures, documentation, PD plans, and curricular priorities.

By contrast, Drive already had some centralized programs for all of its campuses, such as writing the Drive standards, convening teachers to create the common assessments, maintaining an alumni network and alumni tracking, developing service requirements for rising juniors and seniors, coordinating college visits, and establishing partnerships with colleges. Yet implementing more centralized supports for their network of schools poses a dilemma for CMOs. Without some central structures and systems in place, the CMOs may not have the capacity to replicate or to sustain the schools they have already opened. But as one program officer pointed out, more centralization contends with the original purpose of charter schools to exercise autonomy from central office policies to better serve their particular students' needs.

The preceding sections describe how districts and CMOs exhibit some attributes of effective leadership that can help push implementation efforts along, particularly being committed to a vision of success for all students, providing staff development opportunities, and using data to identify areas in need of improvement. The challenges experienced by both districts and CMOs, however, highlight the areas in which districts and CMO offices could use support to achieve systemwide change. To help schools implement reforms, districts and CMOs need to ensure that their strategies for change are clearly communicated and understood by all staff and that the THSP reforms in particular fit within their district priorities. THSP recognized the role of district leadership in initiating and sustaining reforms in funding the District Leadership Development (DLD) program, discussed next.

THSP District Leadership Development Program

Recognizing the critical role that effective leaders play in the success of school reform efforts targeting high-need students, THSP launched a multifaceted leadership initiative in 2007. The $3.6 million Education Leadership Initiative was jointly funded by the BMGF and the Wallace Foundation and conducted as a partnership between CFT and TEA. The initiative sought to strengthen the links among leadership development, a focused learning environment, and increased student performance through pilot high school principal certification programs, meaningful leadership training for principals and teacher leaders in struggling schools, and training and support for district leaders.[76] The DLD program falls under the Education Leadership Initiative.

The focus on strengthening the district leadership capacity was born out of lessons learned from CFT's earlier strategy of identifying specific schools at which to initiate school reform. They concluded that revamping schools one-by-one ignored district policies and practices that formed the fundamental context for schools and influenced the reform process. This approach to create "islands of excellence" was not achieving CFT's desired goals. CFT shifted instead to an approach to change schools through a comprehensive program that engaged district support and provided assistance to district leaders.[77] CFT district capacity-building activities were also influenced by the concept of a "cohesive leadership system," embraced by the Wallace Foundation (2006). According to the program vision, state and district policies and practices affecting the standards for leadership training and the conditions of leadership must be well-coordinated to achieve widespread, sustainable improvement in the quality of district and school leadership.

CFT selected three districts[78] to participate in the DLD program—Houston ISD (HISD), Dallas ISD, (DISD) and San Antonio ISD (SAISD)—based on the degree to which it believed it could build on the districts' capacity for "transformation" and leverage existing grant funding in the districts. According to CFT, districts ready for transformation were those poised to undertake systemic change in their approach to leading or supporting school-level teaching and learning reforms. These districts would be willing to address the necessary conditions for principal and teacher leaders, as well as central office staff, to be effective. Detailed profiles of these districts are included at the end of this chapter.[79]

Types of Leadership Supports

Key readiness indicators guided CFT's district selection: a vision for reform, self-assessment of needs to achieve goals, community and board involvement, and stable leadership. These readiness criteria reflect several of the leadership attributes described in the beginning of this chapter and in this study's district leadership literature review (Padilla et al., 2008). The three districts received tiered leadership support based on the capacity of district leaders to move forward with reform activities. Supports for districts included district staff mentorships, school board training, reviews by outside consultants, and facilitation of meetings to discuss reform topics. At the time of the spring 2008 site visits, HISD was receiving the most support under the leadership initiative, followed by DISD; leadership support in SAISD was in its infancy because of turnover in upper management.

An additional activity under the Education Leadership Initiative was convening the Big 8 Urban Superintendents Council (Big 8 Council), which brought together superintendents and

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76 Much of the grant funding went to support five grants awarded to develop new pilot principal certification programs.

77 The Carnegie Corporation took a similar approach in its Schools for a New Society initiative—a six-year effort to launch system reform of high school education in selected school districts around the country.

78 A fourth district, Austin ISD (AISD), was funded separately by BMGF to reorganize its central office functions to better support high school reform. The report on the Austin ISD reforms will be published separately.

79 The district profiles describe the supports provided through THSP-sponsored and other related reform initiatives, the districts' readiness for reform, the coherence of district reform efforts, district leadership capacity, and the challenges to attaining key leadership attributes. Districts had the opportunity to check the profiles for factual accuracy for inclusion in this report.

selected staff from eight of Texas' largest school districts, three to four times a year. Each year, a different district chaired the Big 8 Council (e.g., DISDs' superintendent chaired the Big 8 Council in 2007–08) and defined the focus (such as pay-for-performance) in collaboration with CFT. CFT provided tools, experts, and informational materials, and worked out the logistics of each meeting. Several of the participants felt the meetings were a useful resource for urban districts with similar challenges to learn from one another. THSP has received additional funding from the BMGF to continue to facilitate meetings of the Big 8 Council to examine the current data and information systems of these districts and to determine what information teachers need to impact student learning at the classroom level.

District Leadership Challenges

District leaders played a crucial role in implementing high school reform initiatives, and despite the support districts received from THSP, they faced significant challenges in trying to overhaul district policies and practices to support high school improvement. Based on spring 2008 data, four primary challenges emerged through our qualitative analysis of the three districts that received leadership support (HISD, DISD, and SAID), which were consistent with findings from the other spring 2008 site visit districts.

The first challenge involved creating a coherent vision or plan for reforming high schools, particularly for those schools that were low performing and faced competing demands from multiple organizations, each with its own agenda. This challenge was evident at both the district and school levels. Even a district such as DISD, which had focused on redesigning the district office to better align policies and procedures and had developed an explicit theory of action about reforming teaching and learning, did not see that coherence permeate to the school level. Districts struggled with their own systems issues, such as clear communication channels and lines of authority. Staff in low-performing high schools were often implementing district, state, and federal reforms designed to radically improve student achievement so that they would no longer be subject to sanctions. Each group had its own set of requirements that school staff must address, often creating competing demands for staff time and leaving them confused about which voice to heed. Some respondents likened the situation to having "too many cooks in the kitchen" or throwing everything at a school and seeing what would stick. School leaders successful at creating coherence were those who were able to filter the multiple outside influences on the school, emphasizing priorities that were common across district, state, and other external reform demands and de-emphasizing those that were incompatible or of lower priority.

> *District leaders continued to struggle with creating a coherent vision of reform, providing adequate support structures for low-performing schools, balancing top-down mandates with school level adaptations, and managing leadership turnover that created implementation challenges for schools.*

Secondly, focusing high school reform efforts on the lowest-performing schools strained district support structures. Reforming large comprehensive high schools is an extremely challenging task, made even more difficult in schools with chronic low student achievement. For example, the Dallas High School Transformation Task Force had recommended that the district begin implementing their instructional reform agenda with three schools at varying performance levels. But when DISD was faced with restructuring six of their lowest performing schools because of federal accountability sanctions, the lowest performing schools became the first cohort for high school redesign. Despite the assignment of a district administrator to provide support to each school and the additional coaching received from CFT staff, these schools continued to struggle with maintaining a focus on instructional reform and adapting district requirements to their individual campuses. As respondents anticipated during site visits, the recent budget cuts would place additional strain on district support staff as a second cohort of schools prepared their design plans. Developing sufficient district capacity in terms of expertise and the number of staff necessary to support all their schools as they undertake a wide range of reform efforts is clearly an area where districts continued to struggle.

A third challenge district leaders faced was how to maintain the appropriate balance between issuing central office mandates and providing schools with sufficient flexibility so that schools could experience some degree of ownership over the reforms. These three districts made a variety of attempts to balance top-down mandates with bottom-up discretion. In Houston, for example, the district experimented with establishing an opportunity zone where four low-performing high schools were freed from some of the central office bureaucracy and given greater flexibility to implement reforms. Yet these schools were still held to the same accountability and reporting requirements as other schools, which resulted in adding a layer of administration—e.g., reporting to a district administrator responsible for reform initiatives and one traditionally responsible for high school performance—rather than achieving an opportunity to decentralize authority. In another example, SAISD adopted over the years a number of high school reform models to bring additional resources to their schools and to offer more choice to parents and students, thereby lessening centralized programming. Under recent leadership changes, district administrators have shifted course and are trying to bring greater coherence to teaching and learning across all schools.

Finally, leadership turnover, both at the district and school level, can hurt implementation progress. As noted above, a change in district leadership can derail reform efforts by pointing the district in a new direction or creating a mismatch in staff expertise as their roles and responsibilities change. All three districts were dealing with organizational changes and, at the time of our 2007–08 visits, only one had had the same superintendent for more than four years. At the school level, the principal plays a crucial role in establishing the vision of school reform and implementing reforms that support the espoused vision. With this role in mind, all of the districts profiled had placed an emphasis on building the capacity of principals to support their work as instructional leaders. Unfortunately, turnover among school leaders undermined these efforts. New school leaders may lack sufficient knowledge of the reform model principles being implemented at the school and lack familiarity with the skills of their school staff. In addition, all of the urban districts are facing a shortage of individuals who want to be high school principals. The strategy of replacing high school principals—which the turnaround literature encourages as a way of signaling the need for change (e.g. Calkins, Guenther, Belfiore, & Lash, 2007; Herman et al., 2008)—may only be a short-term strategy targeted at initial turnaround and untenable in the long term.

Influence of THSP Leadership Support on District Progress

Given the challenges that districts faced in trying to implement high school reform initiatives, the THSP leadership supports had mixed results in terms of helping the three districts make significant progress. Districts made progress in identifying unified visions and strategies for reform, but fully implementing those reforms in some cases suffered from the challenges mentioned above.

The district leadership support that CFT provided to DISD, HISD, and SAISD has contributed to the districts' developing a vision and theory of action for high school reform and, to some extent, a comprehensive set of strategies for instructional reform. At the same time, progress in implementing effective leadership practices has been mixed. In DISD, CFT leadership support for high school reforms made great progress because the district was explicit in its vision and theory of action about reforming teaching and learning, and this vision has guided all initiatives including the development of leadership practices to support reform. In HISD, administrative structures created barriers to reform; CFT-supported systemic and high school reforms were laid over existing reporting and evaluation mechanisms, which hindered supports for the schools in the district's opportunity zone. At the time of the spring 2008 site visits, new district leaders in SAISD were attempting to change instructional practices to emphasize rigor but had yet to determine how to integrate high school and leadership reforms into this vision. In part, SAISD leaders had not embraced the high school reform models adopted under the previous administration, and as a result the reforms at different schools were proceeding in an isolated manner.

Because of the variable results it has seen in districts receiving these supports, THSP decided to take a new direction with its leadership initiatives in the future. The initial THSP Education Leadership activities have come to the end of their grant cycle[80] and a new set of priorities have been established. At the end of 2008, CFT received additional funding ($2.9 million) from the BMGF to work with the Big 8 districts and a CMO (IDEA Public Schools) to advance the effective and timely use of data at the district, school, and classroom levels.

Conclusions and Implications

Districts and CMOs possess a strong mediating influence over school-level reforms, and have put in place a variety of strategies that embed high expectations for student learning, using data to inform school improvement, and some targeted PD focused on instruction. CMOs serve similar functions as those of traditional districts in governing their schools. In supporting replication, CMOs have attended to formalizing procedures and building the capacity of the home office. Despite district and CMO leadership efforts, teachers' perceptions of district effectiveness were lower than those of principals; however, charter school teachers viewed their central office leadership more positively than non-charter school teachers did their district leaders.

The influential role of districts and CMOs suggests that school-level grants may attain the greatest return on investment if school-level reform plans are articulated with district or CMO goals and strategies. Moreover, future grant application processes could factor in grantees' plans to create coherence, align the efforts of the various reform demands placed on them, and monitor their progress towards achieving the stated reform goals. Such systems for accountability, however, should adopt a broad view of fidelity to take into account local conditions and appropriate local adaptations to the models.

The need for district and CMO leadership development persists given their strong influence over school reform efforts and the organizational challenges they face.

80 The third and final year of grant funds for the pilot principal programs were issued for 2008–09. CFT decided not to fund a third year of support for the four opportunity zone high schools in HISD. A discussion of the findings regarding the pilot principal programs is provided in Appendix I.

Even though the THSP Education Leadership Initiative has taken a different direction, a need for other types of leadership support will persist given the influence of district leadership issues on driving sustained improvements in teaching and learning, as envisioned in the THSP theory of change. Much still needs to be learned about how to help district leaders refocus the work they already do so that it is more effective—to operate as a learning community dedicated to improving their own performance and that of their schools despite a host of pragmatic constraints (e.g., turnover of key staff, competing demands, and changes in the state policy environment).

To the extent that THSP wishes to target districts most in need of leadership development, those districts may require assistance in achieving some level of reform readiness, for example, a coherent vision of reform, an understanding of district capacity needs to achieve their reform goals, community and board involvement in developing and advocating for reforms, and stable leadership. Expectations regarding the achievement of district leadership attributes defined by the literature must also be tempered by where each district begins with these readiness factors.

Exhibit 5-4
Dallas ISD Profile, Spring 2008

District Reform Agenda

In 2005, DISD's school board and new superintendent set the district's mission to become "the premier urban district in the U.S." as measured by graduating more students college- and workforce-ready. Partnering with the Broad and Meadows Foundations to reform governance practices, the DISD school board developed a theory of action for district transformation and established a set of reform policies. DISD's theory of action is one of "managed instruction with earned empowerment," and directs the central office to take "responsibility for directly managing the district's core business—teaching and learning—within flexible parameters that balance accountability with empowerment according to the needs and performance of individual schools."

Tasked to address DISD's low student performance and a high dropout rate, the Chief Academic Officer established a high school transformation and redesign task force in 2006–07. The task force designed the High School Transformation Initiative, a 5-year plan that aims to reform all comprehensive high schools in the district into SLCs by the 2012–13 school year. RFP requirements for schools participating in the district's high school redesign project include a program of academic rigor, inclusion of campus improvement plan targets in their reform strategies, adherence to the district learning standards, and development of SLCs. Optional changes include additional instructional resources, career- or academy-themed project-based learning, different types of schedules, and choice over the specific organizational structure of schools' SLCs. Under state accountability pressures to reform specific schools, the first redesign cohort comprised the six lowest-performing high schools in the district.

As another support for the Board's mission to transform DISD, the superintendent formed the Dallas Achieves Commission, a broad-based community-wide team, to evaluate school support systems. Through these evaluations, the district developed the Dallas Achieves Transformation Plan to revise the district's educational program and systems of support to schools. Educational reform activities consisted of completely revising the district's Pre-K–12 curriculum, developing a common language for teaching and learning around the University of Pittsburgh's Institute for Learning framework, revising the district's assessments to match what is taught, creating tiered intervention programs and resources, reducing class sizes, and increasing collaborative planning time for teachers.

THSP-Related Supports

DISD works strategically with multiple partners to reform their system, including CFT. Given its preexisting capacity for systemic change, DISD was selected by CFT as a district where CFT could engage in developing systemwide leadership to implement large-scale reform work. It was hoped that the lessons learned through CFT's work in DISD would contribute to recommendations for a statewide educational leadership strategy.

Sharing DISD's goal of implementing systemwide reform, CFT came on board in 2007 through the Education Leadership Initiative to help implement the district's High School Transformation Initiative, develop leadership in the central office and schools, and aid the central office in determining how to better support its schools. CFT's program officer for leadership drew on his unique experience with high school reform in Boston to leverage the district's High School Redesign Task Force's thinking about how to lead DISD's own effort. He consulted closely with the district's high school redesign cohort leadership, the task force, the chief academic officer, and the executive director for career and college readiness, discussing research and issues of concern in instructional reform implementation. In his capacity as a coach to the central office and school leadership, his work has been instrumental in the district's thinking about high school reform.

Exhibit 5-4 (concluded)
Dallas ISD Profile, Spring 2008

District Readiness for Implementing Reforms

DISD seems well on its way to exemplifying many elements of effective district leadership and readiness for reform, as outlined in this study's leadership literature review. The district has commissioned outside parties to conduct needs assessments of their curriculum and support systems with the goal of applying a systemwide approach to reform. They have developed an explicit theory of action for improving student learning and restructured and reorganized the central office and regional districts to better serve this vision of instructional reform. For example, the district refocused the responsibilities of the area superintendents, now known as executive directors of learning communities, to oversee instruction, and reassigned their administrative responsibilities to the chief administrative officer. The district has also implemented multiple, tiered strategies to develop human capital in service of their reforms, and garnered broad stakeholder involvement from both the community and school board for district reform initiatives. With regard to equitable planning and resource allocation, the district's lowest-performing schools receive additional supports in the form of membership in the Superintendent's learning community, including TA from DISD's internal school improvement team and numerous instructional coaches. Sustainability has also been an explicit consideration in the form of school board-adopted policies that are intended to endure beyond current administrators.

The overall thrust of DISD's high school reform efforts is to place more attention on quality instruction. However, even with all of DISD's structural changes and curricular revisions, much work remains to place curriculum and instruction at the center of their high school reform efforts. Central office staff are still stretched in trying to support all of the high schools in this very large district, and their roles and responsibilities continue to shift. Lack of leadership stability has impeded clear conception and communication of DISD's vision for high school reform as one of instructional, rather than structural or organizational, change. For example, much of the task force's initial effort to build research-based knowledge around high school reform has not been institutionalized in the face of turnover within the task force itself. Much of CFT's consulting work tried to shift school leaders' thinking beyond structurally redesigning their schools toward instructionally reforming their academic programs. The district also still needs to move beyond its previous focus on changing high school instruction by increasing CTE course offerings. To engage in deeper instructional reform, the district is trying to solicit critical feedback on the actual content and quality of its core curriculum from industry partnerships as a way to truly prepare its students for graduating ready to enter the workforce.

Alignment of District Reform Strategies with THSP Reforms

All of these internal efforts to reform DISD's high schools are central to the district's overall mission of reforming its instructional and support-to-schools systems. The High School Transformation Initiative requires schools to demonstrate how their redesign plans fit into the district's theory of action of "managed instruction with earned empowerment." The initiative's RFP aims to align all schools to district standards for instruction, by balancing requirements holding schools accountable to districtwide goals and site-specific performance targets, with options allowing them the flexibility to redesign facets like their own schedule, small learning community structures, and program foci.

Implementation of THSP-specific initiatives, comprising the ECHS, T-STEM, and HSRR reforms, are part of the larger district effort to improve performance of their high schools. Although they might have come about parallel to or concurrent with the district's High School Transformation plan and receive some supports from the central office, they seem to be an independent effort. It remains to be seen if and how DISD will integrate these THSP initiatives, as well as its own transformation initiative and system redesign efforts, in order to form a cohesive approach for leading change.

Exhibit 5-5
Houston ISD Profile, Spring 2008

District Reform Agenda

As one of the largest districts in the country, HISD has long engaged in high school reform and redesign efforts. To serve HISD's current focus on instructional improvement and their goal of graduating every student ready for college and postsecondary success, the district has initiated a Pre-Kindergarten through 12th-grade school improvement effort called Accelerating Student Progress, Increasing Results and Expectations (ASPIRE). ASPIRE comprises four major components: improving teaching and learning, developing human capital, informing practice, and recognizing excellence. To drive this school improvement initiative, HISD has largely focused on building human capital in the form of strong school and district leadership and teacher quality and capacity.

Given its large geographic area, HISD's governing structure has historically broken down district oversight into various regional purviews. HISD currently has five regional superintendents and 19 executive principals, the latter positions each overseeing a feeder pattern of multiple schools. Leadership PD includes summer leadership institutes, monthly meetings with the superintendent, chief academic officer, and all school principals, monthly regional meetings, and monthly feeder pattern meetings. To build principal capacity, the district offers its own alternative administrator certification program and an Aspiring Principal Institute in partnership with Harvard University. The district also implements a teacher incentive program based on value-added data.

Another major focus for HISD is improving its performance management efforts with the support of $4 million in recent grants from the Michael & Susan Dell Foundation (i.e., the district will work on optimizing central office and school performance management systems building on ASPIRE work, as well as defining a strong technology strategy and execution plan).

HISD was selected by TEA and THSP leaders to receive both school and district leadership support for high school reform. One unique initiative concerning the district's portfolio of high schools has been the creation of a THSP opportunity zone, or what CFT also calls a DIEN initiative, comprising four of the district's lowest-performing high schools. The opportunity zone schools, selected by the district in conjunction with TEA, are split between two of the district's five regions and predominantly serve African-American and Hispanic students. With the ability to opt out of certain district policies and procedures, these four school are implementing high school reforms that intend to improve student learning and performance while giving the district an opportunity to reevaluate its existing policies and practices.

The district's strategy for engaging these four opportunity zone schools in reform was to remove them from the instructional supervision of their various regional superintendents and executive principals, and to hire an executive principal dedicated to working intensely with these four schools alone. These schools are in the second year of their grant for implementing a modified version of the HSTW model, with a third-year renewal option. Among other supports, CFT provided a coach in the form of their program officer for education leadership and a critical friend in the form of their program officer for HSRD to work on high school improvement with the executive principal of the opportunity zone and various district administrators.

Exhibit 5-5 (continued)
Houston ISD Profile, Spring 2008

THSP-Related Supports

CFT leadership support for HISD under the Education Leadership Initiative included funding for the transformation of their schools and for training the HISD superintendent and school board. Based on their philosophy of systemic change, CFT hired the Center for Reform of School Systems (CRSS) to work with the HISD Board and Superintendent on understanding the HSTW school improvement model chosen for implementation in the opportunity zone schools. CFT's executive director for THSP, a former school board member in another district, served as a liaison between CRSS and the HISD school board and helped to engage board members in two days of off-site training with CRSS.

CFT invested many of their leadership supports in developing the opportunity zone schools. A number of CFT staff, including their program officer for HSRD, program officer for education leadership, chief program officer for THSP, and a HSTW consultant working with CFT, met quarterly with the executive principal as well as HISD's assistant superintendent for secondary curriculum and instruction and assessment and HISD's chief academic officer to discuss progress in the opportunity zone. In particular, CFT's program officer for education leadership provided research to the executive principal, consulted with the school principals and TA consultants, and coordinated with HISD's central office. CFT maintains grant agreements with HSTW, the Southern Regional Education Board, and Region 13 to provide TA to the four schools around basic instructional issues, including content-specific syllabi and assessments and aligning their curriculum to the district curriculum. A HSTW consultant also worked with the four principals.

District Readiness for Implementing Reforms

Similar to the DISD, HISD exhibits some elements of strong district leadership and district readiness for reform, including a theory of action for school and central office reform embodied by their ASPIRE initiative, a growing focus on the use of data to pinpoint the district's needs for improvement and to assess teacher performance and instructional growth, school board involvement in evaluation of existing policies and practices, and numerous school and district leadership development initiatives to, in part, counteract substantial turnover rates. However, CFT has made mixed progress in leveraging change because the district has yet to find a way to balance shared responsibility and accountability in order to effectively support THSP high school reform.

Despite CFT's efforts to activate systemic reform in a decentralized system, bureaucratic reporting structures continue to hold all schools, including those in the opportunity zone, primarily accountable to their original executive principals and regional superintendents. This traditional administrative structure poses a barrier to the flexibility that was intended to be a key strategy for opportunity zone reform, and does little to encourage those school leaders to meaningfully change their familiar practices for the prospects afforded by a relatively short-term grant. The district's accountability requirements that occupy school priorities and varying levels of school leadership expertise were also cited as barriers to giving more autonomy to the opportunity zone schools. As a result, THSP efforts to reform the four high schools in the opportunity zone have been subsumed by numerous other existing priorities and initiatives in those schools. The executive principal appointed specifically to work with the opportunity zone schools has tried to work within these limits, providing substantial TA to individual schools but without the power to effect long-term systemic reform.

Exhibit 5-5 (concluded)
Houston ISD Profile, Spring 2008

Alignment of District Reform Strategies with THSP Reforms

Although many of HISD's goals and strategies were adopted independently of THSP and TEA, the THSP goals for high school reform are broadly aligned with the district's ASPIRE program in the areas of school and district leadership development, improving student achievement, and increasing college readiness and postsecondary success for all students. All high schools including those in the opportunity zone operate within a local governance structure comprising an executive principal and regional superintendent who in turn report to the central office. High schools must implement the district curriculum and assessments and they are held accountable to the district via measures including a new college readiness indicator and a district report card aligning district, regional, and school performance data on an annual basis.

While HISD schools share districtwide foci including student achievement, math and science instruction, and data use for informing instruction, they can exercise substantial autonomy with respect to PD, budget, and choosing participation in particular networks. For example, one THSP high school outside of the opportunity zone chose to implement the HSTW model and remains accountable to the district through its TAKS scores but not for HSTW reform implementation. Still, the challenge for high school reform in HISD lies in balancing alignment to district priorities and accountability structures with site-level flexibility to deeply engage in instructional change. The district acknowledged that a significant turnaround seems unlikely after only two years of school-level reform. Two of the opportunity zone schools embraced the modified HSTW model, while the other two schools struggled to engage in the reform initiative. As a large urban district accustomed to regionalized governance structures, and one that struggles with how an opportunity zone should truly function, further guidance and long-term supports toward activating systemic change would be critical to sustaining THSP high school reform efforts.

Exhibit 5-6
San Antonio ISD Profile, Spring 2008

District Reform Agenda

Facing declining enrollment and greater numbers of at-risk students, the superintendent of SAISD has targeted the improvement of teaching and learning in all schools by emphasizing instructional leadership and revising the district curriculum. District goals also include improving college readiness, increasing postsecondary enrollment at a nonremediation level, lowering the dropout rate, emphasizing system evaluation and the smarter use of resources, and strengthening teacher-student relationships.

In pursuit of SAISD's instructional goals, the district brought in the Texas Curriculum Management Audit Center (TCMAC) to conduct a curriculum audit through the Texas Association of School Administrators (TASA), and conducted a staffing and community-based study to determine district needs. These examinations revealed, among other things, the existence of operational silos throughout the district office and a need to communicate consistent messages across all departments and schools. Focusing on problem areas highlighted by the curriculum audit, SAISD has started to develop a curriculum guide for teaching at a higher level, including better alignment with district benchmark assessments and examples of how to differentiate instruction. The district also is increasing the rigor of its benchmark assessments beyond mirroring the TAKS tests and to match alignment with the new curriculum guide. To enact these changes, the Curriculum and Instruction department had to be reorganized, obtain training on formative assessments, and come to agreement on determining instructional requirements. The district is enlisting groups of teachers to help develop the curriculum guides and has launched a teacher blog around the subject, hoping that this opportunity will enhance teachers' knowledge and ownership of the new curriculum. District curriculum also will offer more dual credit courses and exploration into various career opportunities for students.

As part of the district's goal to improve instructional leadership, the SAISD superintendent, deputy superintendent, and area executive directors (AEDs) meet every two weeks with principals to discuss expectations for leadership and related issues. As part of the superintendent's focus on developing principal leadership to improve high schools, there is an emphasis on increasing rigor and raising expectations for all students to succeed. The superintendent recruited a deputy superintendent for teaching and learning from TASA for her expertise in leadership development and curriculum and instruction. As a certified walkthrough trainer, she conducted training for all principals, assistant principals and campus-based instructional coaches (CICs). A minimum of 25 classroom learning walks are conducted weekly followed by discussion framed around curriculum and instruction based on what they observed in classrooms. Through biweekly meetings with CICs, the department provides direction, training, and support to campuses around implementing district priorities.

In an effort to place a stronger focus on accountability, SAISD is trying to move beyond being "data rich" but "information poor." The district has refocused the Office of Accountability, Research and Evaluation to link formative with summative data. To further emphasize system evaluation and the smarter use of resources, the superintendent is focused on collecting data to assess program performance.

Exhibit 5-6 (continued)
San Antonio ISD Profile, Spring 2008

Finally, given the closure of six schools due to declining enrollment, the previous SAISD superintendent and his cabinet sought outside assistance to help improve some of their remaining, lowest-performing schools and elected two of these schools to apply for an HSRD grant from CFT. This particular reform model was selected for its focus on literacy, math, and science, alignment with the district's preexisting scope and sequence, and its provision of extra planning periods for teacher collaboration. The work of the HSRD campuses is part of the district effort to lower its dropout rate, as is another ninth grade academy concept being implemented at non-THSP schools. This latter effort also addresses the district goal of improving teacher-student relationships, but it did not seem to leverage any existing THSP initiatives.

THSP-Related Supports

SAISD's current superintendent and deputy superintendent of teaching and learning joined the district within the last two years, at the same time as several other leadership staffing changes. Because of the recent turnover, CFT's leadership development work in San Antonio is still in an early stage. THSP leadership support under the Education Leadership Initiative involved CFT's program officer for education leadership serving as a "critical friend," providing coaching for the deputy superintendent of curriculum and instruction on conceptualizing the HSRD reforms at two of SAISD's lowest-performing schools. As part of the district effort to lower its dropout rate, the deputy superintendent meets individually with the HSRD principals to determine how they will retain more students in their schools; the CFT program officer helped her draft questions to facilitate these meetings. He also facilitated meetings with the HSRD principals to discuss issues in reform implementation. As one of the HSRD schools struggled to perform, the district replaced the principal three years into the HSRD grant and CFT has taken responsibility for orienting the new principal regarding the implementation of the grant's reform model.

In the face of changes in upper management, CFT's program officer for HSRD and the Southern Regional Education Board's director of Texas initiatives and special projects has been working closely with the SAISD AEDs overseeing the two HSRD schools to keep them updated on implementation issues. They have also, along with CFT's chief program officer for THSP and program officer for educational leadership, met with SAISD's current superintendent and deputy superintendent to share information on program goals.

District Readiness for Implementing Reforms

While SAISD has a vision for overall instructional reform and the superintendent is focused on developing instructional leadership to target high school improvement, a districtwide theory of action and a strategic plan for comprehensive high school reform have yet to become clear.

Community and school board involvement in the district's direction is evident through the school board's request for a curriculum audit and the district's self-assessment of community-based needs. From these assessments, the district is revising its curriculum and reorganizing its operational structure. Data-informed decision-making also seems to be a growing focus for SAISD. Although school staff have access to many different types of data, the district is trying to move beyond data reporting to ensuring that they have quality program and system evaluations. Shared responsibility and accountability for student learning are primary foci of the superintendent in working with principals to raise their expectations for all students' success and to improve instructional rigor in their schools.

Exhibit 5-6 (continued)
San Antonio ISD Profile, Spring 2008

Building leadership capacity at both the district and school level is an ongoing challenge, but some supports for building district leadership capacity exist. In addition to CFT-provided support, the superintendent receives coaching from a professor and former urban superintendent. However, district roles and responsibilities continue to transition under a fairly new superintendent, including those of the AEDs who oversaw the two HSRD campuses. One AED continues to oversee one campus and a new AED has been assigned to the other. The district also struggles to find effective high school principals and one high school saw as many as five different principals in six years. Supports for existing principals include monthly leadership development meetings and a focus on improving the quality of teaching and learning through weekly classroom walkthroughs.

Alignment of District Reform Strategies with THSP Reforms

As mentioned, SAISD leadership is changing different pieces within their system to work toward a vision for instructional reform. However, the district still seems to be figuring out its vision for high school improvement in particular and how that will fit into a comprehensive and coherent reform agenda. While the deputy superintendent receives coaching from CFT to help implement the district's two HSRD grants, currently SAISD is focused primarily on reforming its schools by developing instructional leadership at all levels of the system. Ostensibly, the district's curricular reform initiative will impact all schools including high schools in SAISD. In an effort to build school leadership capacity, the district is working to better align school leadership overall with the district's vision for instructional leadership through regular district meetings and principal walkthroughs. The district also is trying to find ways to ensure that campus improvement plans and school programs are better aligned with district goals.

THSP schools do not receive any type of district supports different from those given to all other non-THSP schools in SAISD. As previously mentioned, the HSRD model was chosen for its alignment to the district's original scope and sequence, among other things. Two AEDs were responsible for ensuring that the THSP reforms were aligned with the district curriculum and district goals by meeting with the CICs and representatives from CFT and the Southern Regional Education Board (SREB). The main measure by which the district held the HSRD grantees accountable for implementing their THSP reforms comprised the AEDs' ensuring that grant expenditures did not violate district procedures. Although the THSP grants brought more resources to the schools in the form of PD, new programs, and outside expertise, the district leadership does not perceive enough improvement in student performance to feel strongly inclined to continue the HSRD reforms.

Chapter 6. Reform Model Networks: Variation in Supports for School Reform

Key Findings

- Reform model networks offered THSP TA and opportunities to connect to other schools implementing the same model. Although this external support is essential to helping THSP schools implement their reforms, some schools struggled to balance conflicting directives about the primary focus of their improvement efforts. Schools often implemented first those reform model elements that closely aligned with district priorities.
- The networks varied in the types and goals of TA and networking opportunities they provided to schools and in their participants. Although most networks did not have a formal process for ensuring the consistency, quality, or usefulness of their TA, they have begun to address this issue. The networks have also begun increasing their capacity to provide TA to a growing number of grantee schools.
- Through 2007–08, TA primarily focused on supporting school leaders in implementing structural changes as they started new schools or redesigned existing comprehensive high schools. All networks except one also focused on building instructional leadership at the school level as a first step to changing instructional practice.
- Schools typically engaged in networking with other schools during professional development activities provided by the networks. However, networking could play a more extensive role in providing ongoing support to schools, especially because reform implementation may need to exceed the short funding cycles for some THSP schools.

Introduction

THSP pursues high school reform by funding a variety of grant programs that each espouses a particular reform model, e.g., T-STEM, ECHS, HSTW, HSRR, and HSRD/DIEN. Participating schools receive network supports such as TA and networking opportunities where grantees have the opportunity to interact with each other and share lessons learned.[81] This chapter addresses the following questions:

- How do the reform models differ in specificity and capacity in terms of goals and TA support?
- How do reform model networks support schools in implementation?

The networks share common overarching goals as part of THSP. The goals include improving academic achievement and preparing students who are traditionally underserved in high school and underrepresented in postsecondary education. Each reform model network, however, has created its own design to reach these goals. The networks within THSP provide participating schools with a shared identity, as defined by the design elements, and hold schools accountable only for the implementation of those design elements. These networks are external to the formal school system. They differ from CMOs discussed in Chapter 5, which manage groups of schools, have direct authority over school leaders, and are involved in school operations. Exhibit 6-1 highlights several of the variations across the networks that are discussed in this chapter.

[81] In this chapter, the term "reform model" refers to the particular combination of reforms that the model designers posit would lead to improvements in student outcomes. Thus the reform models under THSP are T-STEM, ECHS, HSTW, HSRR, and HSRD/DIEN. Networks are associated with each reform model, usually led by a program officers and/or TA providers and providing schools implementing the reform model with activities to learn from other schools with similar pursuits, as well as with TA.

Exhibit 6-1
Variation in Reform Model Networks

	T-STEM	ECHS	HSTW	HSRD	DIEN	HSRR
Agency	TEA or CFT	TEA[82]	TEA	TEA or CFT	TEA or CFT	TEA
Number of schools open	42	22	35	6	4	54
Organization	Small schools or SLCs	Small schools	Redesign of comprehensive high school	Redesign of comprehensive high school into SLCs	Redesign of comprehensive high school in specific district	Redesign of comprehensive high school
Curriculum	Improve student achievement specifically in math and science through integration of technology and design elements across core content areas	Increase student achievement and college readiness by integrating college classes through Institution of Higher Education (IHE) partnership	Prepare students for college and careers by closely linking more rigorous academic core and CTE	Use modified HSTW model but with a significant focus on curriculum and instruction and less emphasis on CTE	Use modified HSTW model but with a significant focus on curriculum and instruction and less emphasis on CTE	Dependent on choice of TA provider, e.g., HSTW, but must emphasize a rigorous curriculum
Instruction	Project-based learning Contextual work-based teaching and learning experiences	Instruction was not a focus yet in 2007–2008	Rigorous and challenging assignments that use research-based instructional strategies and technology	Rigorous and challenging assignments that use research-based instructional strategies and technology	Rigorous and challenging assignments that use research-based instructional strategies and technology	Dependent on choice of TA provider
Technical assistance	Leadership coaches for each school T-STEM centers Network-affiliated supports (e.g., webinars) Program Officers and Associate Program Officers	Coaches	State Director SREB Consultant Coordinator SREB consultants	Region 13 HSTW consultants from SREB hired by CFT	Region 13 HSTW consultants from SREB hired by CFT Executive Principal hired to work with high schools implementing HSTW	Region 13 Individual TA providers [e.g., HSTW]

Note: The number of schools are the number of THSP schools included in the evaluation as of December 2009.

[82] Along with the TEA-funded ECHSs, CFT has funded 14 ECHSs in Texas. The CFT-funded ECHSs are not part of the THSP evaluation, although TEA and CFT seek opportunities to create relationships among the ECHSs in the state.

This chapter begins with a description of each THSP reform model networks. Then variations in the reform models and their networks' approaches to improving high schools in Texas are discussed, focusing on differences in program goals, curriculum and instructional design, TA, and student supports.

Reform Model Networks: Capacity and TA Supports

This section describes the schools currently participating in each network, the network goals of the, the kind of TA provided for schools, and the capacity of the network to support schools. Data for this section come mostly from interviews in 2008 and early 2009 with TEA and CFT program officers who were responsible for overseeing the various high school reform initiatives. Where possible, representatives from the variety of TA providers within each network were interviewed; their perspectives inform this analysis as well. RFPs, RFAs, TEA and CFT websites, and other relevant documents were also used to develop an overview of THSP high school reform initiatives.

T-STEM

The T-STEM Initiative is designed to improve mathematics and science achievement across the state and increase the number of students who pursue STEM careers. To accomplish these goals, THSP funded by 2007–08 38 T-STEM Academies serving grades 6 to 12 or 9 to 12. The T-STEM academies are supported by seven regional T-STEM Centers that provide PD, TA, and instructional materials.[83] The Dana Center at the University of Texas at Austin is funded to provide strategic, programmatic, and technical support for the creation of strong and effective T-STEM Centers and to build capacity across the state to ensure the long-term sustainability of the T-STEM initiative. The T-STEM initiative also funded four T-STEM Early Innovator schools[84] and a set of grant programs to expand its reach.

The work of the T-STEM initiative is overseen by both CFT and TEA program officers. The total funds for the initiative were $91 million as of February 2009.[85] The grants awarded to T-STEM academies at startup vary depending on the grade levels they serve, with some receiving as much as $750,000. Each T-STEM center received an average of $1.2 million over two years (2006–08).

The T-STEM academies can be new schools, schools within a school, or an existing school redesigned to have approximately 100 students per grade level. They are designed to provide a personalized learning environment with explicitly high expectations and a college focus. Academies must be nonselective (i.e., cannot accept students based on academic performance), having a student population that is at least 40% economically disadvantaged. The academies are typically located in high-need areas of the state and include charter schools, traditional public schools, and schools created in partnership with an institution of higher education.

In the T-STEM academies, all students must take four years of mathematics and science; have work-based and real-world learning opportunities; participate in mathematics, science, and

83 For more information about the seven T-STEM centers, see www.tstem.org.

84 The Early Innovator Schools are not included in the THSP evaluation.

85 Total funding includes programs other than T-STEM academies and T-STEM centers.

technology-focused extracurricular activities; and complete an internship or a capstone senior project. Structurally, the academies are expected to offer engineering coursework and integrate engineering design principles into core curricular areas, provide daily advisory periods, build partnerships with higher education and employers, graduate students with some college credits, and ensure each student uses an individual graduation plan. To support their teachers, academies are expected to provide ongoing PD in mathematics and science, weekly teacher common planning time, and external networking opportunities. The T-STEM model is tightly specified and the academies are required to follow a specific design blueprint for start-up/implementation with the specific requirements in the following areas: 1) mission-driven leadership, 2) T-STEM culture, 3) student outreach, recruitment and retention, 4) teacher selection, development, and retention, 5) curriculum, instruction, and assessment, 6) strategic alliances, and 7) academy advancement and sustainability.[86] At the time of 2008 interviews, THSP had planned to refine the Blueprint to provide more guidance on the elements it expects academies to have in place during planning, the first year of implementation, and then the second year of implementation.

Technical Assistance Support to Schools

T-STEM academies received TA from multiple sources including leadership coaches from CFT, T-STEM centers, and network-affiliated supports provided by program officers. During the application process, TEA provided TA sessions to all applicants that outlined the grant requirements. Once grants were awarded, all T-STEM academies (whether funded by TEA or CFT) were assigned an "innovation coach" from CFT who helped them during the planning stage and as they complete their grant. The duties of the innovation coaches included visiting the T-STEM academies monthly or more often (for newer academies), contacting the academy leader weekly via e-mail and/or phone, submitting site visit reports to T-STEM staff using the needs assessment tool, collecting progress indicators on the academies progress toward meeting school goals, and facilitating the growth of the T-STEM network to further the success of the T-STEM schools. In 2008–09, there were nine coaches who typically supported four academies each. Academies could also request supplemental support from coaches who specialized in specific areas (e.g., specific content areas).

CFT used a leadership coaching model, with most coaching initially directed at the school leaders. Although CFT responded to identified school issues, in the first year of the T-STEM initiative the coaches had very little involvement with teachers or instructional staff but instead concentrated on supporting school leadership on school design and administrative challenges. According to one program officer, "Coaches are out in the school and in classrooms, but they work through the school leaders to address the needs or challenges they find in the school." The coaches collaborated with school leaders in choosing when to transition to working with other school staff.

Along with coaching, the T-STEM network offered other resources to support the T-STEM academies. These included monthly T-STEM webinars that cover such topics as data-driven decision-making, innovative mathematics programs, and student outreach and mentoring. In addition, the network hosts a website that provides information on PD opportunities, science competitions, other grant opportunities, and online resources. The academies can also receive assistance from the seven T-STEM centers located at universities and regional service centers

86 The T-STEM Academy Blueprint can be found at http://cistexas.org/ed_init/thscsic/T-STEMAcademyDesignBlueprintFinal.doc.

and from program staff for convenings and workshops hosted by the THSP T-STEM network. (See T-STEM Center Sidebar for more information.)

According to the T-STEM center directors, the centers typically engaged with three to six schools (including local schools and T-STEM academies) in the 2007–08 school year. In that first year, the centers varied greatly in whom they supported. Centers worked with school leaders on structural and curricular issues, held PD workshops to improve teachers' mathematics knowledge, or delivered instruction and coaching for teachers. At the close of that year, the centers focused on reaching more participants. In PD sessions held in the summer of 2008, the T-STEM centers worked with 3,000 school leaders, teachers, and staff and intended to follow up with most of them during the 2008–09 school year. In addition, the T-STEM centers planned to establish more consistency among their offerings and resources so that, although they retain their individual approaches and offerings, all centers provide the same basic resources for every T-STEM academy. For example, in February 2008 the Centers established a best practices conference for all academies that they intended to hold in subsequent years.

Finally, academies also received TA from support providers outside the T-STEM network, such as school districts, their host CMOs, and regional education service centers. For example, teachers at one T-STEM academy reported participating in monthly districtwide meetings on curriculum and assessment. A charter school reported multiple support activities from its CMO, including a 10-day training for new teachers at the start of the school year, monthly "cluster" meetings in which teachers across a region meet in subject matter groups, classroom observations and feedback from a regional disciplinary leader, and networking opportunities with teachers in other schools within the CMO. Such supports did not necessarily focus on T-STEM implementation specifically. Rather, they addressed diverse school needs or stemmed from broader district or CMO initiatives

Capacity of the Network

The rapid growth in the number of T-STEM academies poses a challenge in ensuring quality PD across the T-STEM network. With the 18 schools that opened in 2008–09, the network nearly doubled in size compared with the prior year. This growth meant that the program officers and coaches who supported the schools were "faced with maintaining the quality and quantity of the TA with more and more clients," according to a T-STEM program officer. The network staff was considering at what point they would need to recruit new staff members to help support the schools. To become more efficient in providing PD, the network is documenting the supports and resources given to the T-STEM academies and analyze "what has been done, and patterns of what has been provided" in planning future activities according to the program officer. In the 2008–09 school year, CFT also developed an online portal for coaches to post their school reports. Other coaches and CFT staff can then review the reports and offer feedback to assist coaches in planning for subsequent meetings with schools. In addition, the portal contains other resources, such as a coaches' toolkit. The toolkit contains such resources as a sample student application and sample school flyers to use if an academy is struggling with student recruitment.

The T-STEM centers were created to provide T-STEM academies with pedagogical and STEM content expertise and to facilitate strong community partnerships using center staff who have existing relationships with schools in each region. Yet one challenge the seven centers faced during their first year of operation was supporting schools in implementing T-STEM because the timing of initial funding for T-STEM centers and the first cohort of T-STEM academies was misaligned. T-STEM centers received funding in 2006, a year after the first cohort of T-STEM academies received funding. As the T-STEM centers did not yet exist when schools conducted their planning activities, the academies sought support from other organizations within their region. For example, one T-STEM center director said that the two T-STEM academies in her area were selected before the T-STEM centers were selected and funded and chose to maintain their existing partnerships with their district or CMO rather than become involved with the center. In their second year of operation, the centers built stronger connections with the T-STEM academies in their regions through summer workshops and by attending CFT-sponsored meetings of T-STEM academy school leaders. Early analysis of data collected during the 2008–09 indicate that T-STEM centers have begun supporting T-STEM academies in subsequent cohorts from their planning stages onward.

T-STEM Center Side Bar

In addition to the T-STEM academies, the T-STEM initiative created seven T-STEM centers. These centers are spread across Texas, in El Paso, Lubbock, College Station, Tyler, Galveston, Austin/San Antonio, and Edinburg. Like the T-STEM academies, the T-STEM centers are charged with helping to prepare Texas students for rewarding careers in the 21st-century economy by improving student achievement outcomes in mathematics and science and increasing the number of students who pursue postsecondary studies and careers in science, technology, engineering, and mathematics. The centers accomplish this mission by serving as a resource and source of support for intermediate and high school science and mathematics teachers in their regions and by supporting the T-STEM academies in implementation.

T-STEM centers are expected to support T-STEM academies through such activities as

- Designing innovative STEM curricula/instructional materials
- Providing ongoing teacher and school leader PD
- Providing TA to academies in fulfilling their design goals, including coaching, conferences, and other meetings
- Researching best practices in STEM education, both locally and nationally, and disseminating the findings through white papers and online.

As a network, all the T-STEM centers are expected to offer all these activities and provide similar basic supports for the academies. This way, each academy can receive the same supports, no matter where they are located in the state. For example, a program officer explained that in summer 2009 every center was to start offering the schools in their area a set of identical "baseline trainings [to the schools in their area]. This way, they'll all give the academies the same message [on how to implement project-based learning]" regarding T-STEM. Besides these fundamental services, each of the centers also offers its own expertise based on its resources, experience, and partnerships.

The centers were funded in 2006 and operated quite separately from each other until mid-2008. To receive the T-STEM center grant, the candidates were required to compete against each other for funding. Transitioning from this competition to building a network, according to a project officer, "was a challenge, we had to compete for the grant, and then had to collaborate to really build our strengths. That was a hard turning point for a lot of the centers." Coordination among the centers has improved, with a program officer reporting, "It [coordination among the centers] is getting stronger as they move forward." Coordinated activities include the agreement to offer the same standard baseline trainings in summer 2009, the creation of a joint website to provide quick and easy access to center resources and separate center links (www.tstem.org), and jointly offering a conference on best practices for teachers and school leaders in January 2009.

ECHS

The ECHS grant program at TEA[87] funded 14 ECHSs from Cycles 1 and 2 (2007–09 and 2008–10, respectively) and 7 ECHSs that were in their planning year in 2008–09. Each ECHS serves approximately 100 students per grade and is partnered with an institution of high education (IHE) and may be located on the IHE campus. The primary goals of the ECHS grant program are to:

- Increase student achievement, as evidenced by both ongoing improvements in TAKS scores and increased credit accrual
- Increase the number of students who graduate from high schools college-ready, as demonstrated through credit accrual; AP, IB, associate's degree, dual credit, and concurrent enrollment participation; and enrollment in rigorous coursework in a college preparatory curriculum
- Increase the college readiness and success of students as demonstrated through their persistence in college

Students attending ECHSs can complete up to 60 college credit hours as part of their high school program. Every ECHS must have an articulation agreement with its partner IHE and a viable curriculum plan in place that will enable students to earn 60 credit hours within four or five years of entering ninth grade. Within the curriculum plan, 40 credits must be in the core subjects, which are guaranteed to transfer between public colleges in the state, and 20 credits can be in elective courses that may or may not be transferrable.

According to the Texas Education Code (29.908), ECHSs should serve students who are at risk of dropping out of secondary school or who wish to accelerate completing their high school program. The education code also directs ECHSs to target and enroll traditionally underserved students—defined as at-risk of dropping out of high school, students of color, economically disadvantaged students, first-generation college-goers, and English Language Learners. TEA allows ECHSs to be SLCs within a larger school or autonomous small schools. To ensure compliance to the relevant statutes and to the required design elements, schools provide progress reports to TEA (e.g. enrolling intended target population, college credits earned). ECHSs also provide TEA with information about the following school characteristics:

- Student selection
- Recruitment criteria
- Courses available to students, including how college credits will be earned (AP, IB, dual credit)
- Types of academic and social supports for students
- Memoranda of understanding that outline the terms of the partnership between the district and college

[87] Along with the TEA-funded ECHSs, CFT has funded 14 ECHSs in Texas. The CFT-funded ECHSs are part of a national evaluation of the ECHS Initiative funded by the BMGF and are not part of the THSP evaluation. However, the CFT-funded ECHSs that began implementation in 2006–07 or 2007–08 are included in the outcomes analysis presented in Chapter 7. For more information about the national evaluation of the ECHS Initiative, see http://www.earlycolleges.org/

In conjunction with the Texas Higher Education Coordinating Board and Jobs for the Future,[88] TEA established a designation process for new ECHSs (TAC §102.1091).[89] Through the designation process, TEA will ensure that districts operating ECHSs have certain elements in place, such as serving the intended target population and offering a transferable set of core academic college classes. The designation process will also create a quality control mechanism by which TEA can monitor the implementation of the ECHS design. Schools that successfully qualify for designation will receive benefits such as (1) recognition as an Approved ECHS, (2) eligibility for exemption from dual credit restrictions, (3) eligibility for state programs (e.g., Optional Flexible School Day), (4) membership in the state ECHS network, and (5) access to high-quality PD and TA from site design coaches and nationally recognized TA providers.

Like all other Texas high schools, ECHSs are held accountable for the percentage of students passing the TAKS test. TEA also depends on the progress reports from schools and coaches' reports to hold grantees accountable for implementation.

Technical Assistance Support to Schools

ECHS' progress in implementing the ECHS model largely determined the type of TA they received. To deliver TA to its ECHSs, TEA contracted with the Region 13 ESC and, as of spring 2008, had four coaches from Region 13 supporting ECHSs.

After receiving initial funding, each school has approximately nine months to plan for its opening to students. During the first year, the coach supports the team that wrote the grant application and works to ensure that the appropriate decision-makers are involved. Once a school principal is hired, the coach then shifts to working with the principal and one college representative, such as a college liaison. The coaches encourage sites to develop a design team that includes the superintendent, representatives from the local IHE, and grant writers and curriculum staff from the districts to work with the principal in implementing the school. Initially, the coaches work with the principal and design team on issues related to starting up a new ECHS, strengthening the district-IHE partnership, and opening a new school in general, such as school culture, logistics, facilities, scheduling, and facilitating the partnership between the school district and its higher education partner.

Coaches visit and customize support to each school. According to interview respondents, the coaches faced resistance from a few principals, particularly those with many years of experience and established ideas about opening and managing a school. These leaders were not interested in receiving assistance on integrating best practices into their design, even though this assistance was part of the initial grant agreement with TEA. As schools mature, the coaches continue their support through monthly visits and phone calls, although according to the TEA program officer, the frequency of visits depends heavily on what kind of support the coaches are providing, which can range from giving presentations to school boards to attending Parents' Nights to meeting with the IHE partner. Coaches are held accountable to TEA through the schools' regular feedback about the coaches in their progress reports.

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[88] Jobs for the Future is a nonprofit research, consulting, and advocacy organization that, since 2002, has been coordinating the national ECHS Initiative and providing significant technical assistance to ECHSs across the country.

[89] See http://txechs.com/echs_designation_announcement.php for more information about the designation process.

Along with school-level support, ECHSs also participate in network activities. During the first two years (2006–07 and 2007–08), TEA sent grantees to visit the first ECHS in Texas (Challenge ECHS in Houston) and University Park Campus School in Worcester, Massachusetts, a highly effective small school that has fully implemented many aspects of the ECHS model. TEA sponsored a visit in August 2007 from Bard College at Simon's Rock, the original ECHS that was a reference point for the national BMGF-funded ECHS Initiative. The Region 13 ESC coaches also worked to connect the TEA schools into a mutually supportive network, but at the time of spring 2008 data collection, it had not yet emerged. One possible barrier to a more effective network is buy-in at the school level. According to TEA officials, some districts applied for the grant with little or limited support from the school leader or staff who would be charged with actually implementing the model. TEA also found that districts vary in their knowledge and understanding of the ECHS model, making it difficult for the network to benefit all districts and to move all districts forward in their implementation. Instead, coaches believed that it was easier to address individual questions and concerns on a case-by-case basis. Finally, a few ECHSs have looked to neighboring ECHSs for guidance and have built alliances with these local schools.

Capacity of the Network

TEA originally employed two coaches to support its ECHSs. As more schools were funded in 2007 and 2008, TEA recognized that it needed to increase the number of coaches to support schools in planning and implementing the ECHS model. In particular, improving instruction is a growing emphasis. For example, TEA released an RFA in 2008 for PD that included training in mentoring for curriculum and instruction coaches and training in instructional practices for ECHS administrators and teachers. At the time of spring 2008 data collection, TEA was considering alternative methods to provide ongoing professional development to ECHSs due to an unsatisfactory response to the RFA.

To ensure adequate capacity for 2008–09, TEA added two coaches to work directly with schools, for a total of four coaches. TEA also explored adding regional coaches who may focus more on instruction, rigor, and leadership to build and serve regional cohorts of ECHSs.

In addition, TEA officials aimed to attract more rural applicants. Rural schools face unique challenges in opening an ECHS as they often lack the capacity to complete the grant application and recruit new students, much less implement the ECHS model. To facilitate applicants from rural areas, TEA released an RFA for funding and TA resources to small and rural school districts to enable them to (1) investigate the ECHS model; (2) establish and convene regular meetings of an ECHS design team; (3) hire a director, coordinator, or liaison to lead the design team; and (4) develop a partnership and a memorandum of understanding between the district and local IHE. Districts must be small, enrolling between 1,000 and 4,000 students, to be eligible. The RFA also allows up to five districts with enrollment up to 4,000 students to join together to partner with a local college. In 2008–09, five small and rural district planning grants were awarded across the state.

HSRR

With the greatest number of THSP schools, the TEA-funded HSRR initiative is a broad program that provides schools with the resources they need to implement innovative, whole-school educational programs to improve a wide range of student outcomes. The goal of the grant is to produce schools with integrated curriculum, technology, and PD programs that, in combination, form a coherent schoolwide reform plan. As outlined in the RFA, grantees are supposed to:

- Correct the specific areas of unacceptable performance identified in the campus accountability rating
- Increase overall student achievement
- Raise academic standards and expectations for all students
- Demonstrate innovative management and instructional practices
- Ensure that every student is taught by a highly qualified, effective teacher
- Develop leadership capacity in principals and other school leaders
- Engage parents and the community in school activities

As long as they target these elements, HSRR schools have considerable flexibility in implementing the grant.

To be eligible for an HSRR grant, schools need to have been rated AU under the Texas accountability system for at least one year. Primarily based in urban centers and border regions, HSRR schools tend to serve large numbers of students who are identified as economically disadvantaged or at risk. As of early 2009, TEA had approved 54 schools for HSRR grants in four cycles, with a fifth cycle of grantees slated to begin implementation in April 2009.

Technical Assistance Support to Schools

HSRR schools receive TA from two main sources. The Region 13 ESC is the statewide TA provider for the HSRR grant program, while local TA providers[90] serve individual schools. The Region 13 ESC offers conferences and trainings for all HSRR grantees and primarily targets school leaders for site-based assistance. Leadership teams from HSRR grantee schools are required to attend an annual conference and several training sessions and symposia sponsored by TEA. The summer conference is sponsored by Region 13.

Each HSRR school is required to contract with a TA provider of its choice for site-based coaching related to the schools' chosen reform model. For cycles before Cycle 5, schools were required to submit documents outlining their chosen provider's qualifications and describing the scope of the TA they will receive as part of their grant application.

For the Cycle 5 schools (beginning implementation in April 2009), TEA aligned the TA supports available across different phases of the grant. Under the new system, schools receive TA from Region 13 ESC before applying for the grant; then a needs assessment is conducted at the beginning of the grant award. During the needs assessment phase, Region 13 ESC provides key data for a "data dig[91]" conference, gathering together school teams to define their specific schools' needs. On the basis of the school's particular needs, a local TA provider is selected from a TEA-approved list. In the pre-approval process, TEA heightened its criteria for TA, selecting TA providers with expertise in curriculum, instruction, and assessment, as well as campus culture and climate. TEA and Region 13 ESC encourages schools to select TA providers

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[90] For additional information about TA providers, see http://www5.esc13.net/sirc/taps.html

[91] The Region 13 ESC facilitates a two-day session for campus leadership teams to engage in an in-depth, interactive examination of student and program performance data. The process engages teams in guided dialogue leading to a focused, targeted improvement plan.

for the specific needs identified during the needs assessment and, for the first time, schools in Cycle 5 are allowed to receive support from more than one TA provider based on their identified needs. TEA officials envision that local schools might choose multiple providers to address different needs because "It's difficult to find a single provider that can be all things to you [and] it's also difficult for a [TA provider] to be excellent across the board." TEA officials described this effort as empowering schools as consumers of TA.

School leaders and leadership teams have tended to be the main recipients of Region 13 ESC assistance. The TA that individual teachers received varied depending on the type of reform that the school chose. Several HSRR schools have chosen the HSTW model, for example, and focused their teacher PD accordingly, while other HSRR schools have adopted other models including those developed by the International Center for Leadership Education/Capturing Kids' Hearts or Accelerated Schools.

A particular challenge for HSRR schools is balancing the support from multiple TA providers related to their AU status. For example, schools that are under federal sanctions receive TA from Region 13 ESC (under contract with TEA), and AU schools receive TA from TEA's Monitoring and Intervention division. According to TEA representatives, "These schools have a lot of people coming on campus. The important thing is to keep the efforts coordinated and aligned."

Indeed, this alignment has been a challenge. Although TEA is aware of the support that each campus receives, the representatives reported little coordination across TA providers to date. Beginning with the Cycle 5 grantees, Region 13 ESC will explicitly help principals coordinate and integrate the TA they receive from outside their district in what TEA describes as a "case management" function. Although Region 13 ESC will not be able to determine the activities of the state or federal intervention teams, they hope that they can "make sure that more help is not a burden" and that they "can be a great assistance to the school leader to take advantage of [various TA providers and intervention teams] in innovative ways." TEA officials hope that this increased coordination will result in more consistent support across HSRR sites and that the improved support will lead to enhanced results at the program level.

Capacity of the Network

Region 13 ESC has been the TA provider since the program's inception. Hence, the capacity to support the HSRR schools rests largely on the Region 13 ESC, and according to TEA officials, its role has changed "radically" since the program began. The main changes have occurred with Cycle 5, as described above. The changes imply a more hands-on role for Region 13 ESC in terms of visiting each funded school for a needs assessment, summarizing the secondary data for every grantee, offering more conferences for school leaders and teams, and playing a case management role for individual schools. Planning for this work was just getting underway at the time of spring 2008 data collection; the evaluation will continue to follow the role of Region 13 ESC in this and related TA.

The capacity of local TA providers in the past was uneven relative to the schools' needs according to program officers. Prior to Cycle 5, schools submitted their applications with a named TA provider without necessarily a careful match between the TA provider's areas of expertise and the school's strategies for reform. According to one interviewee, "Principals [would be] overwhelmed and go with TA providers that approach[ed] them." TEA's decision to preapprove the TA providers resulted from a desire to help schools select their TA provider on the basis of established credentials. Also, the expectation that grantees will select different TA providers to address the multiple needs they identify through the needs assessment process may improve the effectiveness of the TA system.

HSTW

Since 2006, TEA has operated the Texas High Schools That Work Enhanced Design Network. Twenty schools were funded across two cycles (Cycle 1, 2006–08; Cycle 2, 2007–09) with approximately 10 additional schools to be funded in Cycle 3 (2009–11). All of the schools in this grant program are funded and overseen by TEA. The TEA program officer facilitates grant development, develops program guidelines, ensures compliance, responds to school requests for assistance, manages the finances of the grant program, and works closely with the HSTW Enhanced Design Network's state coordinator.

The Texas HSTW Enhanced Design Network is part of a national effort-based framework that assists schools in redesign/reform efforts. Grantee schools are required to belong to the Enhanced Design Network and participate in various associated activities, including national and state conferences and professional development for teachers, administrators, and district officials. In addition to these requirements, schools in the Enhanced Design Network are also required to participate in PD to improve their guidance/counseling department and to use a portion of their grant funds for SREB consultants who assist the schools in implementing the HSTW design principles.

The goal of HSTW is to provide meaningful, career-based education in grades 9 to 12 that prepares students for both college and careers. The 10 HSTW key practices linked to this goal are:

1. High expectations for students
2. A program of study for each student that includes an academic core and concentration
3. Academic studies aligned with standards
4. Career/technical studies
5. Work-based learning
6. Teachers working together
7. Students actively engaged
8. Student guidance by a mentor
9. Extra help to students
10. A culture of continuous improvement.

Since the HSTW program began, TEA has modified the criteria for school participation. Initially, in 2006–07, schools were eligible if they were (1) located in a district with a Stage 3[92] or 4[93] intervention level for CTE as indicated by the TEA performance-based monitoring system,

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92 Schools are selected for Stage 3 intervention if (1) three individual CTE Performance-Based Monitoring Analysis System (PBMAS) indicators equaled 3 and not more than two individual CTE PBMAS indicators equaled 2 or (2) the LEA otherwise would be selected for Stage 4 on the basis of results but has received a CTE/Program Access (PA) On-Site Review between 2005 and 2008.

93 Schools are selected for Stage 4 intervention if (1) no CTE/PA On-Site Review was held between 2005 and 2008; and (2) three individual CTE PBMAS indicators equaled 3 and at least three individual CTE PBMAS

(2) rated AU in 2005 (regardless of funding cycle), or (3) a participating member of the HSTW statewide network during the 2005-06 school year. To align with state efforts to improve college readiness and other dropout prevention efforts, the TEA added criteria aimed at attracting schools that serve a large percentage of at-risk youth. Hence, with Cycle 3 (2009–11), eligible high schools must meet at least one of the following criteria: (1) in each of the past three school years (2005–08), at least 55% of students were identified as economically disadvantaged, and in 2007–08 only, at least 45% were identified as being at risk of dropping out of school; (2) the school had an AU rating in 2007–08 under the state accountability rating system; or (3) the school would have had an AU rating if the school leaver provision had not been in place in the 2008 state accountability rating system.[94]

More recently, TEA planned to fund up to 10 HSTW grantees selected in Cycles 1 and 2 (schools funded in either 2006 or 2007) to implement the Making Middle Grades Work (MMGW) program. This program establishes a framework for HSTW grantees to work closely with feeder middle schools in improving academic instruction and increasing middle school students' readiness for a rigorous high school program by creating a culture of high expectations and continuous improvement. As with the high school program, HSTW has developed a list of MMGW Key Practices and Conditions that closely align with the original HSTW Key Practices. Continuation funding was also available to Cycle 1 and 2 high schools that made adequate progress in implementing the HSTW model. These additional funds provide schools with another two years of funding.

Technical Assistance Support to Schools

The HSTW grantees received support from both the state and national infrastructure through TEA and SREB. Managed by the program officer, TEA funded the schools[95] and channeled federal Perkins funds to the Region 13 ESC to support a state HSTW director, who ran the day-to-day operations of HSTW, an assistant state director, and a state HSTW summer conference. To ensure fidelity to the HSTW model, the state director provided some TA to schools directly but mostly concentrated on PD for SREB consultants (who are contracted through SREB). SREB's head of Texas initiatives, working closely with the state HSTW director, supervised the consultants, delivered additional training directly to schools, and facilitated the consultants' and schools' access to SREB resources.

Each school participating in the HSTW Enhanced Network was required to use a large portion of its grant funds (about 70% of the total grant) to contract with SREB for a site-based consultant or coach. Early in the implementation process, each school received a three-day TA

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indicators equaled 2; or (3) four to seven individual CTE PBMAS indicators equaled 3; or for Local Education Agency (LEA) with substantial, ongoing risk, (4) the LEA was in Stage 3 CTE Interventions or higher between 2005 and 2008; and (5) six or more individual CTE PBMAS indicators equaled 3.

94 After Hurricanes Katrina and Rita, Texas schools enrolled a high percentage of highly mobile students. TEA recognized that the influx of these students would lead to artificially high dropout rates, negatively affecting the schools' accountability ratings. Also, to allow schools and districts time to adjust to the new dropout definition and leaver codes, TEA issued the "school leaver" provision, which gives schools and districts a reprieve from having their grades 7–8 dropout rate and 9–12 completion rate count toward the state accountability ratings. TEA has continued to identify schools and districts that would have received an Academically Unacceptable rating, so a school that would have received this rating had the school leaver provision not been in place is still eligible for an HSTW grant.

95 Originally in Cycle 1 (2006–08), schools received $30,000. Each cycle, the amount per school has increased so that in Cycle 3 (2009–11), each school will receive $83,500 over the 2-year grant.

visit from its consultant, who assessed the school's needs and determined its status in implementing the 10 key practices. This assessment then informed the type of TA and PD that each school receives.

According to the state HSTW director, to ensure adequate support to schools during implementation, SREB consultants are required to visit the school a minimum of 8 to 10 times a year. Yet consultants have some autonomy to tailor their support to individual school needs within the framework of the 10 key practices. For example, at one HSTW school that chose to focus on classroom instruction, e.g., bell-to-bell instruction and teacher collaboration, the principal asked the consultant to observe teachers and conduct workshops for them on lesson cycles and how to plan with other teachers.

In addition to the support they receive from the consultants, staff members from HSTW schools must attend one TEA-sponsored conference each summer. The conferences are typically framed around a topic that benefits all schools. For example, in June 2008 the conference addressed strategies that schools could adopt to support traditionally underserved students. At the time of the interview, the state director hoped that the summer 2009 conference would be on academically preparing middle grade students for high school. The state HSTW director also organizes several teacher training sessions each year, delivered online, in person, or via video conference. In 2007–08, a two-day conference was held on math and science instruction in CTE and included consultant follow-up and PD throughout the school year. According to the state director, the planned topics of the teacher training in 2008–09 were science, guidance, and leadership.

To further networking activities between HSTW schools, TEA identified five mentor schools from Cycle 1 (2006–08), all of which were deemed high implementers of the HSTW model by TEA. State leaders then assigned schools within the HSTW network to specific mentor schools to facilitate sharing and learning. In exchange, the mentor schools received an extra $10,000 in grant funding.

Generally, consultants have reported that it takes about two to three years of working with a school to address all the key practices, and both the TEA HSTW program officer and state HSTW director expressed similar concerns that the 2-year grant period is really not long enough to fully implement the model. Most of the schools in the enhanced HSTW network are adopting the model for the first time, but one program officer noted that although funding or school leadership may have changed, it is "encourag[ing] that some schools in the Enhanced Design Network have been doing HSTW for a number of years. Whatever the state they may be in, they've kept the same model."

Capacity of the Network

With turnover in HSTW program leadership in 2007 and 2008, the new program officer and state director are working more closely with schools and are making an effort to be more visible on participating campuses. The leaders pursue efforts to coordinate management and communication among TEA, SREB, and Region 13 ESC to provide schools with effective and consistent support. TEA is responding to the network of schools as it evolves and schools' identified areas for improvement. For example, with the increased focus on guidance, TEA helped Region 13 ESC fund a counseling and guidance position for two years. Overall, both the TEA program officer and state HSTW director believed that the quality of support to the schools is high.

Yet the HSTW program faces ongoing challenges to ensuring the effectiveness of its school supports. As noted, the consultants are employees of SREB and have significant autonomy in their work at the local level. This consultancy arrangement can often limit TEA's ability to closely monitor the specific content and direction of the implementation efforts at the school level. In addition, many of the consultants are retired principals, and although knowledgeable about reform efforts, they may not be well versed in the current vocabulary and reform initiatives occurring in the state. TEA seeks to ameliorate both challenges by providing all consultants with common PD, for example, through the annual fall institute.

At the time of spring 2008 data collection, the TEA program officer and state HSTW director were not planning to continue the mentor schools as previously established. As one SREB consultant noted, the sheer size of the state limited contact between the mentor and the other schools in the network to phone calls and decreased the effectiveness of the mentoring. Another concern was that the matching process did not always result in the most appropriate pairings of mentor and mentee schools, again limiting the potential effectiveness of the strategy.

More recently, state HSTW leadership identified a number of goals, including increasing the accountability of SREB as TA provider and of grantee schools to implement the HSTW model. To this end, TEA is moving toward implementing a more formal process to gather information from SREB and its consultants regarding their work with grantee schools, provide training for SREB consultants to improve consistency in coaching services, establish expectations for required PD for grantees, monitor teachers who attend the annual summer conferences, and subsequently collect better data about HSTW implementation at the local level. Finally, the State Board of Education in Texas is redesigning the CTE curriculum with the intent to prepare all students for college and career. The state adopted the federally defined 16 career clusters[96] and is designing a unique program of study for each. HSTW then will collaborate with districts and schools to integrate more fully the CTE and academic curricula. The hope is that districts will create stronger course sequences and better align the CTE and academic requirements.

HSRD and DIEN

A smaller and more prescribed initiative than HSRR, the High School Redesign (HSRD) program provides funds for redesigning existing comprehensive high schools into SLCs. According to the RFP, by reorganizing into SLCs, HSRD schools offer students the opportunity to engage in challenging and meaningful coursework while receiving the personal guidance and attention necessary for academic success. HSRD goals include increased student engagement, higher academic achievement, better attendance and graduation rates, and reduced discipline problems. Specifically, HSRD aims to increase the number of students who pass TAKS, the number of students enrolled in and graduating from the Distinguished Plan,[97] the total number of students graduating from high school, the overall Average Daily Attendance rate, and student participation and performance in advanced courses. HSRD is designed to impact students from typically underperforming ethnic and socioeconomic groups. By engaging the entire school community and focusing on increased personalization, students gain a better sense of belonging.

[96] See the States' Career Clusters Initiative, http://www.careerclusters.org/index.php

[97] As defined in Texas law [TEC 28.002], the Distinguished Academic Plan is an advanced high school program that exceeds minimum graduation requirements.

Broadly, the goals are to redesign high schools, strengthen sustainability, and meet the following benchmarks for success for participating students:

- At least an 80% high school completion rate
- An annual 20% increase in TAKS scores
- An annual 20% increase in AP/IB, SAT, ACT, and PSAT scores
- A 75% college matriculation rate

HSRD grants are targeted at historically underperforming schools along the Texas-Mexico border and in urban areas of Austin, San Antonio, Fort Worth, and Ysleta (in El Paso). Under the umbrella of HSRD, one district received extra supports as part of the District Engagement (DIEN) initiative, which focused on building capacity for change at multiple levels of a district. In addition to supports afforded through the HSRD grant, the DIEN district received extra training for district leadership and school boards on supporting high school reform and had an executive principal charged with working with the participating schools. These schools also could opt out of certain district policies and procedures. Initially, there were six HSRD schools and four DIEN schools. As of early 2009, there were 25 small learning communities across the 6 HSRD schools and 14 SLCs across three DIEN schools (one high school chose not to continue with DIEN in 2008–09).

All HSRD and DIEN schools implemented a modified version of the national HSTW model (described above), the main difference from the national program being the pace of implementation. According to the program officer, during the first few years of implementation, CFT focused significantly on curriculum and instruction, with less emphasis on CTE than would be typical in the national HSTW model. This program officer also mentioned that, in contrast to the national model, CFT is "working with teachers very strongly on marketing strategies"—making curriculum relevant to students—and relationships, which he believed must be in place first as "a base that you build on."As part of the reforms, CFT also requires that HSRD and DIEN schools exhibit a common focus on rigor, relevance, and relationships, extensive common planning time both within and between subject areas, and common standards of practice in terms of homework and grading.

CFT assesses model fidelity qualitatively with site visits by the program officer. To ensure that CFT would have sufficient time to work with the schools to fully implement the model and focus on instructional change, schools received funding for four years, which is two more years of funding than HSRR or HSTW schools receive, with the possibility of CFT opting to continue their funding for a fifth year as well. The program officer noted, "[CFT is] using that option in the original six schools funded. They need extra time for us to be involved. " Model fidelity is expected to increase over time as CFT works with schools to improve teacher quality and instruction.

Technical Assistance Support to Schools

HSRD schools received customized support that was linked to the requirements and goals of the initiative. For example, the CFT program officer and consultants from Region 13 ESC worked with school principals and leadership teams on leadership development. In addition, CFT hired HSTW consultants from the SREB to provide site-based coaching. HSTW coaches were in the HSRD schools at minimum of once a week and up to four times a week, working predominantly with math and science teachers and less frequently with principals and guidance counselors. In addition to coaching and mentoring, the consultants periodically monitored teachers' implementation of HSTW strategies. Along with the more typical curricular support, the site coaches also helped one school develop a relationship with a community college to increase dual-enrollment options for the students, and provided school boards with training about HSRD to help build district support for the schools' work.

Part of CFT's TA focused on helping the SLCs align their curricula and structures with district standards. As part of this process, CFT became aware of the need to provide teachers with the instructional strategies necessary to implement the curriculum. Consequently, in 2007–08, CFT worked intensively with SREB to help teachers develop instructional strategies and to engage students in the reform process. In some schools, this support has included bringing in content area specialists to provide PD on the lesson cycle and working with teachers to develop common syllabi and assessments. Assistance with curriculum and instruction, however, was highly tailored and where schools did not need assistance with alignment, CFT concentrated on working with teachers on collaboration.

Because DIEN was focused on more systemic change, DIEN schools received more in-depth needs assessment from CFT that looked across the four schools. CFT spent the first year visiting the four DIEN schools and developing an action plan. The executive principal also worked exclusively with the DIEN schools to implement the HSTW model.

Throughout the entire RFP and implementation processes for HSRD and DIEN, CFT worked closely with the grantee school districts. First, as part of the selection process, CFT asked districts to identify underperforming schools that are good candidates for redesign. Once the grants were awarded and implementation began, CFT regularly kept districts informed of the schools' progress, and it worked to ensure that the districts and grantee schools remained committed to the goals of the initiative. Although all districts were cooperative according to the program officer, as implementation progressed, some districts demonstrated a higher level of support for the initiative by committing to significant changes at the school level such as the appointment of a new school leader.

During the first two years of the program (2004–05 and 2005–06), HSRD grantee schools periodically met face to face, and CFT created PLCs around leadership development. Over time, those group meetings have been reduced in favor of more site-based coaching. Because CFT identified counseling as an area of need in all the HSRD schools, however, it planned to gather all HSRD guidance counselors together for PD in summer 2009.

Capacity of the Network

As discussed above, HSRD schools are required to implement "a modified HSTW program." (The 10 key practices of the HSTW framework were listed above.) Given that all of the HSRD schools used the HSTW model, the main TA provider for HSRD schools is SREB, the same organization that manages all of the HSTW schools in the THSP program. Program goals, the type of TA, and TA providers are almost identical across the HSTW and HSRD programs (with the exception of the intensity of coaching, as HSRD schools receive more frequent visits from coaches than HSTW schools).

The capacity of the HSRD network, and DIEN by extension, was largely influenced by the capacity of Region 13 ESC (similar to HSRR) and SREB to support teachers and administrators at HSRD schools. The program officer also acted as sounding board and advisor to principals, but the level of communication varied substantially among schools. For example, at two school sites that researchers visited, one HSRD principal reported that she had minimal contact with the HSRD program officer, while another described the assistance that CFT provided as extremely helpful.

To maximize the efficiency and effectiveness of their TA for HSRD/DIEN schools, representatives from CFT, SREB, and Region 13 ESC met quarterly to discuss the progress of grantee schools, the schools' unmet needs, challenges they have encountered, and solutions offered based on a broad range of informal and formal information collected through conversations, observations, walkthroughs, and hard data. The program officer managed the consultants and coordinated the efforts of SREB and Region 13 ESC as they supported schools and also met frequently with district staff regarding the DIEN grant. Feedback suggests that HSRD school administrators were generally satisfied with this support. However, the capacity of the trio of providers (CFT, SREB, and Region 13 ESC) to continue to support HSRD and DIEN schools is difficult to predict based on spring 2008 data collection. As the implementation deepens over time at HSRD schools, the capacity of the HSRD network to create positive change in the schools should become clearer.

Variation in Reform Models and Their Networks

This section discusses variations among the reform models, incorporating information about implementation wherever possible. Up to this point in the chapter, data about implementation at the reform model level has been gleaned primarily from program officer and TA provider interviews. To understand how the different programs were implemented at the school level, teacher and student survey data from spring 2008 and spring 2008 site visit data for T-STEM academies and HSTW schools are incorporated below, wherever possible.[98] The spring 2008 survey data, gathered during the first year of the evaluation, provides early implementation information about the different networks within the THSP. While the survey results in Chapters 3 and 4 pertain to the overall THSP initiative, survey findings in this section are presented by model.[99]

Program Goals

In alignment with THSP goals, all of the network models aim to prepare students for success in college and careers through the redesign of comprehensive high schools or the creation of new small schools. The models included in the THSP initiative provide districts with alternative research-based strategies to develop rigorous curricula and student supports to achieve these goals. For example, the T-STEM and ECHS models are designed to target *students* who are typically underrepresented in postsecondary education, whereas the HSTW, HSRD (including DIEN), and HSRR models target *schools* that are underperforming as indicated by their academic rating on the TEA performance-monitoring system. Thus, the HSTW, HSRD, DIEN, and HSRR programs serve to redesign existing comprehensive schools with a history of low performance, and the T-STEM and ECHS models create new small schools that serve specific student populations.

98 T-STEM, HSTW, New Schools/Charter Schools, and HSRD had grantees in 2006–07, with the majority of the schools that were visited affiliated with T-STEM and HSTW.

99 All models are represented by survey data except HSRD. HSRD schools were included after the evaluation began and were not surveyed in spring 2008.

Curriculum and Instructional Design

Although the models within THSP vary in specificity and design, together they offer eligible districts and high schools the opportunity to select new and innovative pathways to improve students' academic achievement. For example, the ECHS, T-STEM, and HSTW models allow schools to implement innovative curricula. To implement the ECHS model, districts and college partners collaborate to design a rigorous curriculum plan that provides students with the opportunity to earn up to 60 credit hours, incorporates dual-credit classes, and fosters vertical alignment of the secondary and postsecondary curriculum. Schools within the T-STEM network implement a blueprint that features mathematics and science as well as engineering courses, with many T-STEM schools adopting "Project Lead the Way" to integrate the engineering content into their curriculum. According to the program officer, the T-STEM network "academies are offering unique courses and unique pairings such as offering Algebra II with physics or offering robotics not just to build a vehicle or a robot but [to teach] how the robot models current systems work." The program officer believed that with these pairings, "Our schools are being creative with capturing excitement and engagement with their courses."

The HSTW model that is implemented within the enhanced network, and in a more modified manner within the HSRD and DIEN networks, is based on a curriculum that seeks to integrate academic and career readiness skills. According to one of the program leaders, "Our state is transitioning to a career cluster system that is aligned to 16 clusters and [we will] develop a program of study for each cluster. The adoption of the 16 clusters will take the randomness out of the course selection process while fully aligning CTE and academic standards and developing a plan for each student." HSRR requires that schools include a rigorous curriculum for all students in their redesign plan but provides autonomy regarding the specific scope and sequence. High schools that receive funding under the HSRR grant must begin the grant-funded redesign and restructuring process by collaborating with Region 13 ESC to conduct a comprehensive needs assessment. If the needs assessment identifies curriculum as a concern, then schools will receive TA in that area.

Implementing an innovative curriculum may necessitate that teachers adopt more rigorous instructional practices. Several of the networks provide specific ideas about the appropriate kind of instruction to implement the model. For example, the T-STEM model specifies that content should be delivered through project-based learning. In project-based learning, teachers seek to engage students in learning content and essential skills, such as communication and presentation, research and inquiry, and collaboration and leadership skills, through activities that are designed to answer a question or solve a problem in a manner that reflects what people do in everyday life outside the classroom. Although less explicit about a specific instructional strategy, the HSTW Key Practices suggest schools that have adopted the model focus on instruction through teachers working together to integrate high school studies and work-based learning. Finally, the ECHS and HSRR network do not specifically focus on instructional practice within their models. Yet regardless of whether an explicit instructional design element is present, program officers overwhelmingly supported a focus on improving instructional practice during the first phase of implementation.

Within the first year of implementation, all networks (except ECHS) focused on deepening instructional leadership at the school level. One program officer stressed the importance of developing a strong instructional leader, noting that "a leader with an ample amount of PD seems to be able to take hold and go at a faster pace" in implementing the design features centered around instruction while for a school leader with less experience, "we have to build skills, build capacity, and provide a level of support" to implement the model. Another program officer had the goal of building a team of instructional leaders within a school. School leadership teams that included assistant principals, SLC leaders, and department chairs were trained to work with teachers to implement new instructional strategies. The program officer noted that the long-term "goal is to find teachers who are instructional leaders and help to develop them so that they have an impact on other teachers."

Networks provided teachers with PD on instruction to increase rigor in specific content areas. For example, at a few HSRD schools, consultants provided 10 to 15 days of training for math and science teachers. After the training, consultants subsequently monitored teachers periodically to ensure that they were implementing the new instructional practices in class. Similarly, SREB consultants for HSTW focused efforts on improving how teachers work together to develop common assessment and syllabi.

School-Level Curriculum and Instruction Practices

Overwhelmingly, spring 2008 site visits to schools indicated that their initial reform efforts were focused on structural rather than instructional change. The focus on structure was especially evident in schools such as newly created T-STEM small schools that were growing into full 9th- to 12th-grade offerings. Issues such as equipping new school buildings, qualifying teachers to offer AP courses, structuring the curricula, and ensuring students are on track to earn strong TAKS scores often absorbed more effort and concern at the early stages of a school start-up.

At some HSTW schools, one of the primary reasons that fundamental instructional practices seemed largely unchanged may be the difficulty in creating comprehensive CTE curricula. Several schools described the difficulty of integrating academic standards with real-world, hands-on learning into the existing TEKS (Texas Essential Knowledge and Skills) standards. One teacher at an HSTW school reported that, "There has been a lot of confusion about how to change instruction while maintaining [TEKS] standards." Administrators at another school said the greatest challenge to HSTW implementation was "to move technology and real-world-based instruction into the core academic curricula."

Although a focus on structure was predominant, evaluators did see evidence of key practices being implemented in more established HSTW to improve instruction at the classroom level. Several HSTW schools were working to create PLCs for their teachers and maintaining high expectations for students. At one school, all ninth-grade teachers taught in interdisciplinary "academies," and had weekly common release periods for planning. These meetings covered a variety of topics and were valuable, especially for novice teachers. One novice teacher said, "PLCs are very effective. We meet once a week and discuss what's working or not working. We talk about what to do to help the kids—test-taking strategies, classroom management skills, etc. They've been helpful to me as a first-year teacher." Yet to this point, fundamental changes in instruction appeared slow in coming.

Initial teacher survey results from spring 2008 also provided information about the instructional rigor at many THSP schools as the models were initially implemented. Teachers reported relatively infrequent use of instructional practices that are arguably more demanding of students. Of the more rigorous activities that teachers did offer, a majority of THSP teachers surveyed reported requiring students to evaluate and defend their ideas, use evidence to support their ideas, and consider multiple solutions or perspectives in assignments at least once a week.[100] Although the degree to which teachers reported having their students engage in these activities varied widely, as Exhibit 6-2 shows, no systematic differences in teachers' use of rigorous instructional activities between grant programs were evident.

Exhibit 6-2
Teacher-Reported Use of Rigorous Instructional Activities

	Teachers who reported giving students opportunities to engage in these activities at least once a week				
	T-STEM	**ECHS**	**HSTW**	**HSRR**	**DIEN**
Evaluate and defend their ideas or views.	73%	74%	53%	54%	54%
Orally present their work to peers, staff, parents, or others.	33%	26%	17%	31%	38%
Work on multidisciplinary projects.	23%	26%	9%	17%	21%
Use evidence to support their ideas.	69%	63%	52%	66%	59%
Report on or paraphrase a single text.	37%	39%	31%	45%	53%
Clearly state a main thesis or argument.	40%	22%	30%	43%	37%
Demonstrate original thought, ideas, or analysis.	62%	37%	43%	53%	61%
Consider multiple solutions or perspectives.	59%	63%	51%	58%	67%
Synthesize information from multiple sources.	46%	50%	37%	39%	51%
Complete a sequence of logical steps necessary to reach a conclusion.	61%	68%	65%	69%	71%
Present their own examples.	54%	58%	49%	54%	57%

Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

Infrequent use of instructional strategies that require advanced skills on a regular basis indicates the need for additional PD aimed at improving the rigor of classes. Yet the focus on preparing students to be successful on TAKS, described in Chapter 4, may also influence the limited frequency with which teachers incorporated advanced instructional strategies into classes. Basic strategies may be sufficient to prepare students for TAKS, but they are likely to be inadequate for preparing students for college. Qualitative data do suggest some school leaders were seeking to move their staff beyond "teaching to the test," advocating for teachers to focus on developing college-ready students instead and arguing that challenging content and

[100] The survey asked how often teachers asked students to do or turn in assignments that require them to engage in these advanced activities, and teachers could respond using a 5-point scale where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

instructional strategies would ensure that students pass TAKS without directly "teaching to the test."

It will be important to explore further whether the focus on TAKS limits instructional practice and whether changes in the state assessment system correspond to any changes in the instructional practices teachers report using. As the EOC exams that were adopted to better align high school assessments with college entrance exams and the content required for students to be college ready are phased in, teachers may need to adopt more advanced instructional strategies.

Challenges in Altering Instructional Practice

Program officers and TA providers acknowledged that improving instruction was challenging across THSP schools during the first phase of instruction. Several explanations account for schools' struggles in this area. A primary issue within some THSP schools was that priorities other than improving instruction took precedence. Some schools were directed to begin reform efforts by addressing the most obvious need. One program officer noted that establishing an orderly and safe climate is essential before schools can focus on the lesson cycle or instructional strategies. Several TA providers shared that perspective and suggested that schools initially need to focus on ensuring that curricular relevance and positive teacher-student relationships are in place before instructional improvement can occur. For schools implementing HSTW, SREB consultants often suggested that schools focus on a few of the key practices based on individual school needs. In the words of one consultant, "You have to pick out your greatest needs." The alternative can be overwhelming. One school tried to focus on all 10 practices in the first year of HSTW implementation but decided that was too many. In the second year, it focused on only three areas instead (extra help for students, raising rigor in the classroom, and improving reading levels).

Frequently, THSP schools must also balance implementing multiple models at the same time, which may also delay attention to instruction. For example, T-STEM schools are started and administered by several CMOs including Harmony Science, YES Prep, and independent school districts. Each school operator promulgates its own vision and model of an effective high school; these schools then face the challenge of implementing the attributes of the T-STEM model in addition to their respective CMO's school model or district initiatives. Thus, schools often implemented elements of teaching and organizational structures that were consistent with the T-STEM model, but they delayed implementing attributes that did not naturally overlap with their "home" existing model and approach. For HSRR schools that are AU, responding to multiple initiatives is also a problem, and, as previously mentioned, Region 13 ESC is attempting to provide better coordination of TA providers.

Some THSP schools have considerable autonomy in deciding which elements to prioritize in implementing the model, and improving instruction may not be an initial focus. For example, the flexibility afforded to schools in interpreting the key principles and an unclear accountability mechanism for HSTW implementation may also help explain differences in implementation and which key practices are selected, especially at schools in the initial phase of adopting the model. At the HSTW schools visited in spring 2008, the four key practices most commonly found were (1) teachers working together, (2) guidance, (3) extra help, and (4) high expectations. In contrast, few to none of the schools reported prioritizing (1) program of study, (2) career/technical studies, or (3) work-based learning.

To this point, the approach to improving instruction locally has been to develop strong instructional leadership. Accordingly, in the first year or two of implementation, principals were often the primary recipient of efforts to improve instruction. For example, school leaders attended trainings sponsored by the HSRR program to learn about best practices in high school restructuring from *Breaking Ranks* (National Association of Secondary School Principals, 2004)[101] and to learn about monitoring instruction through training in using formative assessments. Those activities have constituted the formal networking opportunities of HSRR grantees, although plans going forward include more frequent convening of both school leaders and school teams.

Program officers believed that efforts to improve instruction schoolwide are best when instructional leaders guide these efforts. As one program officer noted, "Leading efforts to improve instruction requires sufficient knowledge of what good instruction looks like on the part of principals." Program officers also believed that instructional leadership at the campus level can be deepened regardless of a principal's experience, with one project officer stating that it is not "about the years [of experience] but about the leadership skills they possess…do they know instruction well enough to know when teachers are on task, on target." Although the focus on improving instruction has primarily targeted high school principals, several networks are increasing efforts to support teachers in improving instruction. The HSTW state director noted that although conferences are available for teachers, "There was no documentation of who attended; no certificates of completion…There are now new procedures to hold them accountable as we want to build capacity within each school."

With an increased focus on supporting teachers to improve instruction, teachers may be required to adopt new practices. It is often easier, however, and possibly more comfortable to teach to a curriculum that primarily prepared students for TAKS. For example, one TA provider observed that adding literacy across the curriculum has been difficult because it requires teachers to eliminate multiple-choice/true-false exams in favor of more writing and reading across the subjects.

Research (Berman & McLaughlin, 1975; Fullan, 2001) shows that changes in instruction and curriculum require a concerted ongoing effort, and according to conventional wisdom it is generally expected that changing instruction requires three to five years. Often instructional reform efforts are eliminated or replaced by yet another model with insufficient time provided to see whether the first intended shift in instructional practice really worked. Given that in spring 2008, most schools were only newly implementing the THSP models, one can anticipate that with two more years of PD at a deeper and systematic level, teachers will report greater use of advanced instructional practices.

Technical Assistance

THSP schools are trying to implement innovative curricula and redesign themselves to better prepare students for college and careers. As described above, they receive a range of TA strategies to support these efforts. The networks vary in the kind of TA they offer to schools, the goal of these supports, and who receives the supports.

In terms of network structures, instructional coaches and TA providers are the carriers of knowledge and information about components of the reform model and how to appropriately

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[101] *Breaking Ranks II* (NASSP) provides a series of recommendations for reshaping American high schools. It was produced by the NASSP in partnership with the Carnegie Foundation for the Advancement of Teaching.

implement it. Frequent (e.g., monthly) interaction with coaches is a part of the grant agreements for ECHSs, HSTW, T-STEM, HSRD, and DIEN schools; HSRR schools receive support from the local TA provider they select as well. Along with the coaching, the networks offer alternative methods to assist schools. T-STEM schools can participate in webinars or conferences and can receive assistance from the T-STEM centers and the Dana Center at UT Austin. Several other networks also developed websites to enable schools to have a central location for resources and updated information impacting schools within the network. ECHSs and HSTWs have the opportunity to visit existing schools within the state (or nationally) that adopted the model previously. School leaders and teachers often mention the opportunity to visit a school with a mature model in place as a powerful tool in increasing their knowledge and understanding of how the model can affect students.

Content of Technical Assistance

Data collected through spring 2008 suggest that the content of the TA varied by network but was primarily aimed at supporting schools in implementing THSP models. For start-up schools, such as ECHSs, the TA frequently addressed more structural issues, such as developing the partnership with the local institution of higher education or the curriculum plan, and will shift to a focus on what is happening in the classroom as schools mature. For comprehensive schools, the results of an initial needs assessment helps identify the most pressing areas of concern and which elements of the reform model to target, and then guides the initial TA support. According to program officers and TA providers, the foci of TA varied by school, and initial TA focused on the logistics of reform implementation and curriculum and primarily targeted school leaders.

To ensure the schools have access to appropriate content, several program officers were considering developing a cadre of coaches with different expertise who could be assigned on the basis of individual school needs or implementation phase. To facilitate the best match between schools and TA providers, HSTW and HSRR performed a formal needs assessment of each school to determine which program goals to address first and then selected SREB consultants or local TA providers on the basis of their expertise. For other networks, the program officers noted that as the content of TA shifts to pedagogy in the future, some of their coaches would either need additional training or they would assign coaches with different content knowledge to work with the teachers.

Although most networks did not appear to have a formal process for ensuring consistency in the quality, content, or utility of the TA offered to schools, coaches within most of the networks had the opportunity to share best practices or receive PD on relevant topics affecting their schools (e.g., curriculum, state policy issues) at least a few times a year. For example, T-STEM coaches had access to a "coach's toolkit" organized by the model's blueprint benchmarks, which contained resources that coaches could review to improve their ability to support schools or to share with school leaders. In an effort to address coaching consistency, HSTW held conferences that brought together all the SREB consultants "so that everyone is up on current vocabulary and initiatives in the state." Finally, because of the wide variety of TA providers that HSRR schools could choose from, Region 13 ESC held an orientation meeting with all the TA providers to review reporting requirements, the supports available to them, and how they can support each other. Most of the networks operated under a tension between seeking to ensure schools receive consistently high quality TA on relevant topics for each model and allowing TA providers sufficient autonomy to adapt their work to school needs.

Role of Networking

Networking activities potentially provide schools with TA, PD, or other access to expertise. From the beginning of THSP, several THSP networks from national activity. Because they were affiliated with larger networks outside Texas that predated THSP, ECHSs and HSTW schools were able to access documents to guide them through the implementation process. For example, a planning template was available for ECHSs that provided a step-by-step plan for opening an ECHS. ECHSs and HSTW schools also benefited from visits to existing schools outside those established within the THSP.

To facilitate a state-based network, TEA also provided supplemental funding to 10 mentor schools to serve as advisors and additional sources of support for the other schools within the HSTW network. These mentor schools were required to (1) disseminate online resources and other materials that will provide guidance on how to implement the HSTW design and how to sustain HSTW activities through other funding sources, (2) host site visits for HSTW schools and other interested parties, and (3) provide coaching to HSTW schools and other high schools through e-mail and telephone contact. At the time of interviews, according to the program officer, there was limited data about the effectiveness of the mentor schools. Creating a network between ECHSs funded by TEA and those participating in the national initiative funded by the BMGF remains a central goal of the ECHS leaders; several activities are planned that are hoped to facilitate networking among the few schools that to now have shown some reluctance to participate.

In initial stage of implementation, the TEA-funded networks varied in the degree to which they invested in networking activities and in the nature of those activities. It appeared that most grant programs did not have an explicit goal regarding "networking" in and of itself. Rather, networking was perceived as a residual benefit of PD activities that brought schools together. Early on, it also appeared that schools were still relying primarily on the support provided by site-based coaches. In supporting their schools, coaches often focused on reform model elements that were a priority for the school and did not hold schools accountable per se for reform model implementation. As schools mature and no longer receive funding, it will be important to monitor whether the networks become a more prominent source of ongoing support for and among schools.

Capacity

The benefit of TA is measured by its value to the recipients. Ensuring that the schools within their network continue to receive high-quality TA remains a clear priority for program officers. Not surprisingly, as the number of schools within each network increased, several program officers reported hiring or contracting with additional TA providers to guarantee that all schools would continue to receive sufficient and useful support. Program officers and TA providers also analyzed lessons learned to be more effective as they move forward in supporting schools. As a T-STEM program officer said,

> We're looking at what lessons we can learn from the past [schools] we will have opened, as opposed to just rolling out the model. At this point we're trying to pull back a little bit and look at what we have learned so far, and how we can continue to support the ones that are currently open. We're beginning to capture some of those lessons learned. Some of them center around the actual blueprint itself and what kind of TA is needed. Some of it is around the conditions under which the blueprint allows us to be successful.

Across the TA provided to THSP schools, Region 13 ESC is a partner—to varying degrees—in these efforts. Its role is especially prominent for HSRR. Beginning in 2007, Region 13 ESC assumed a much larger leadership role in managing the TA for HSRR schools, including assigning and overseeing the work of the case managers for each school as well as providing direct support to schools (e.g., performing a needs assessment upon award of the grant, conferencing with each principal to discuss site-based implementation of the suggested reforms). In terms of HSTW, the state and assistant state director are based at Region 13 ESC and oversee the support provided to schools within the enhanced network. Additionally, CFT also has a grant agreement with Region 13 ESC to support HSRD and DIEN schools; Region 13 ESC is a partner in running the Transformation 2013 T-STEM Center; and the coaches that support ECHS schools are contracted through Region 13 ESC.

As more schools join the networks and replicate the THSP models, ensuring adequate capacity to support them in these efforts is vitally important, and program officers understand this priority. Given that most THSP schools receive funding for two years, being strategic about how to continue to support schools in implementing the model is a concern. The participation of Region 13 ESC to some degree in all the THSP models places it in a unique position to create a network among networks of TA providers to maximize the supports that can be offered to THSP schools. A network of networks could build strategies for common TA challenges such as focusing school reform efforts on instructional improvement, thereby forming more of a learning community among multiple networks to reinforce the capacity of each individual network.

Perceived Value of Professional Learning

The spring 2008 survey results provide insight into how much PD the teachers received and their perceived value of that PD. Across all models, relatively few teachers reported participating in PD offered by the school, district, or network provider, which included for example creating PD plans with school administrators and working with teachers from other schools (Exhibit 6-3).

Exhibit 6-3
Teacher Participation in Professional Development Opportunities

	Teachers participating in these PD activities at least once a month				
	T-STEM	ECHS	HSTW	HSRR	DIEN
Participated in professional development during regularly scheduled time during the school day.	34%	26%	27%	27%	44%
Had opportunities to work productively with teachers from other schools.	20%	16%	16%	6%	13%
Attended professional development activities sponsored by your school/district.	34%	16%	27%	12%	39%
Attended professional development activities provided by an organization other than your school/district.	15%	5%	12%	6%	26%

Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

In addition, a minority of teachers from all models reported opportunities to participate in PD that was relevant and/or exhibited high quality. More teachers at ECHS, T-STEM, and DIEN schools, however, reported higher rates of participation in high-quality PD (Exhibit 6-4).

Exhibit 6-4
Teacher Participation in High Quality Professional Development

	Teachers participating in these PD activities at least once a month				
	T-STEM	ECHS	HSTW	HSRR	DIEN
Attended professional development that has been sustained and coherent, rather than short term and disconnected.	28%	37%	21%	17%	31%
Attended professional development that has been closely connected to our school's improvement plan.	34%	26%	21%	13%	38%
Attended professional development that has built on your previous knowledge.	27%	26%	24%	18%	44%
Attended subject-matter-specific professional development.	24%	11%	27%	16%	31%

Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.
Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

As THSP evolves and given the role of TA in assisting schools to fully implement the various models, program officers and the evaluators need to learn more about the TA that is most effective, how ongoing TA is monitored, and how TA providers will be held accountable for guiding schools to make identified improvements. For HSRR, the largest network, the recent release of an approved list of TA providers appears to be an effort to ensure consistency in content and quality.

Supports for Students

The intent of THSP is to improve the academic performance of and increase postsecondary success for all students. As discussed, however, whether they attended existing comprehensive high schools or small start-up schools, the students served by THSP schools were generally more at risk of academic failure than other students and often entered high school below grade level. Yet in adopting more innovative curriculum, students often faced increased academic demands. Therefore, to ensure that the needs of these students are being met, schools that adopted the reform models implemented to varying degrees supports ranging from tutoring to counseling to career guidance.

Academic Support

A few of the reform models explicitly focus on student supports in their design principles. For example, HSTW includes several key practices related to support, such as providing students with extra help through a variety of mechanisms to assist them in completing an accelerated academic and technical program. The ECHS model is based on schools providing a suite of supports that are aligned with being an “enhanced comprehensive program.” Enhanced comprehensive programs offer "a wide range of activities such as counseling, assistance with applications, mentoring, and general personal support and…aim to address all elements of the secondary-postsecondary transition, and encompass a majority of students' high school experiences" to prepare them for college (Bailey & Karp, 2003, pp. viii–ix).

In addition, some THSP models have modified their design elements to be more explicit about the type and frequency of supports needed as school implementation progresses. For example, on the basis of feedback from T-STEM academies and T-STEM center staff, the blueprint—a document specifying the design of T-STEM academies—was revised, and the new culture and design benchmark explicitly articulates expectations for daily advisory periods and targeted postsecondary preparatory supports. However, THSP schools are aware that additional supports are needed, and they seek to provide academic, social, and postsecondary supports as an implicit design element to ensure that students will successfully complete the curriculum.

The teacher and student surveys provided further information about the availability of supports offered to students across THSP models. Overall, teachers reported a wide range of supports including academic supports (e.g., tutoring, academic classes, summer bridge programs, and remediation), social supports (e.g., advisories and counseling), postsecondary supports (e.g., college entrance exam preparation and college tours), and career preparatory supports (e.g., career guidance, job shadowing, internships). Tutoring, academic counseling, and career guidance were the most common student support activities provided to all students who need it according to teachers. Across all THSP models, teachers reported[102] that supports were generally available to at least some of the students who needed them, although academic and social supports were provided to more of the students than postsecondary and career preparatory experiences. Qualitative data also provided additional evidence that schools have adopted academic support programs that accelerate learning and provide remediation where necessary.

Social Supports

According to several program officers, providing social supports appears to be an ongoing challenge, although most models include access to non-academic supports. Many schools relied on the guidance department as the primary source of social support. A program officer for HSTW highlighted the need for an increased focus on guidance counseling:

> It's a key practice [within the HSTW model], but I haven't been on a TA visit where guidance and counseling are in the top three needs. Counselors have had a lot of issues in terms of how guidance and counseling is framed in Texas. Seeing improvement in terms of counselors doing what they're trained to do. There are lots of wonderful things they can do to create more efficient and effective ways of working with individual students. Relationship is a huge piece of that, teachers as advisors, self advocacy for students, comprehensive guidance systems.

Other program officers also highlighted plans to provide TA to guidance counselors to promote positive, supportive relationships among students and teachers as schools continue reform implementation.

[102] This question about whether or not a type of support was provided was asked on a 3-point scale where 1 = Not provided, 2 = Provided to some students who needed it, and 3 = Provided to all students who need it.

Postsecondary Preparatory Supports

In terms of ensuring students' continued success after high school, most teachers across all the models reported that some kind of support was provided to at least some of the students that needed it. These supports included college entrance exam preparation, career guidance services, college tours, and job shadowing and internships. Several models include elements that specifically address providing postsecondary supports. The key practices within the HSTW model focus on increasing access to CTE opportunities, including vocational courses at local community colleges and internships, and providing students with the supports they need to succeed in these types of vocational studies. Inherent to the ECHS model is ensuring students are academically prepared for the college courses they will enroll in while in high school. Yet as ECHSs mature and more students begin enrolling in college classes while in high school, it is quite appropriate that schools provide specific supports to facilitate their success in postsecondary courses. Qualitative data gathered in subsequent years will shed additional light on what strategies schools have adopted in this area. Finally, as more students begin enrolling in dual-credit classes under HB 1 (79th Legislature, 3rd called session, 2006), which mandated that every district provide students with the opportunity to earn at least 12 semester credit hours of college credit in high school, one can anticipate that in future years, teachers of other models may report increasing availability of postsecondary preparatory supports.

School-Level Perspective on Supports

No matter what supports were available, most students did not report using the range of academic or social supports offered by the schools, although more students from ECHS and T-STEM schools took advantage of the academic supports than students in schools supported by other models. The evaluation team speculates that the rigorous curriculum and college-going climate of these ECHS and T-STEM schools may motivate students to seek out extra academic supports if they are struggling in their classes. These models may also attract students who are college-minded and more willing to avail themselves of supports to ensure that their goal of attending college is reached. Finally, it may also be possible for these small schools to offer supports in ways that students can access, such as during the school day rather than after school, making it easier or more acceptable for students to take advantage of the help. Qualitative data from school staff at other models suggest that supports are most often offered after school, making it difficult for at-risk students who have other personal, family, or financial obligations (such as holding afterschool jobs, taking care of other family members, or not having transportation) to take advantage of the supports offered.

Similarly, students across most of the models except ECHS generally did not report taking advantage of the postsecondary supports and career preparatory experiences provided by the schools very often. This is not surprising given the limited access that students in other models have to non-academic supports, as noted above. Students at ECHS, on the other hand, typically had access to an enhanced suite of supports aimed at helping them successfully complete high school and make the transition to college easier.

Overall, supports were available to students in a variety of areas. The supports that were most commonly offered—and that students report using the most—were academic supports. Yet most students did not avail themselves of these supports. Given the importance of supporting students in THSP schools that offer innovative curriculum, THSP schools need to strategize about how to increase the number of students who use the supports that are already available and strategize about different methods to provide supports that students will use.

Conclusion

Results from the first year of the evaluation suggest that networks were serving their intended role of guiding the implementation and replication of innovative designs in new or redesigned high schools. The networks were providing needed assistance and resources to all THSP schools that were attempting to implement an academic program that engages, retains, and prepares students for postsecondary and career opportunities.

The THSP reform models and their networks share similar goals of improving student achievement and preparing students to be college and career ready. Nonetheless, a variety of differences exist. First, the design and specificity of the reform models vary significantly. T-STEM and ECHS have fairly specified designs that result in similar characteristics among participating schools, whereas HSTW, HSRR, HSRD, and DIEN have less defined models that allow schools autonomy to implement the design principles that are most appropriate for the local context. Second, the T-STEM and ECHS networks consist predominantly of start-up schools designed to target low-performing students, while the HSTW, HSRR, HSRD, and DIEN networks consist of schools that are eligible for participation primarily because of their AU status on state assessment measures.

Regardless of how schools joined THSP, they benefit from network participation through additional funding and support from TA providers who are knowledgeable about starting and redesigning high schools. All networks relied on TA providers or coaches to provide the majority of assistance to schools. The foci of implementation activities at the school level appeared to be closely linked to priorities identified by TA providers and the results of any needs assessments required by the networks. In the first year, primarily principals received the TA. Given the important role that TA providers play in directing where schools begin reform efforts, it will be crucial to make sure they deliver consistent messages to the schools regarding model implementation and that they have adequate instructional credentials as the focus of TA moves to more rigorous instruction. Program officers discussed efforts to move TA toward an increased focus on rigorous instruction but in the first year it primarily focused on structural issues.

At the point of data collection, it appeared that schools could reap the benefits of participation with little accountability for implementing fully the reform models. Program officers require schools to submit semiannual or annual reports and TA providers to provide regular updates about the status of implementation, but there are few consequences (e.g., withholding of funds) for failure to implement the network models. Schools reported responding to the strongest external pressure (which may not be from the network), which led to inconsistent implementation of the model. While increasing the accountability measures that are allowable within the provisions of state law would ensure deeper implementation and greater consistency within the networks, it is clear that schools need support in determining how to balance multiple directives, including district and state mandates.

Full implementation of the reform models necessitates addressing challenges at both the school and program levels. Changing instructional practices will require teachers to move away from teaching to TAKS and to receive significant training on how to use more rigorous instructional practices. As such, a need remains for TA (both coaching and materials) that specifically addresses instruction, reaches past the school leaders to engage teachers and other school staff directly, and provides support for integrating specific model instructional requirements. School leaders must also be encouraged to bring coaches and new methods of teaching into the classrooms. The process of transforming instruction—such as incorporating project-based learning, actively engaging students, and incorporating career and technical studies—takes time and is often the most challenging aspect of the reform process. With the magnitude of this challenge, it is imperative to assess the capacity of all networks to provide sufficient, consistent TA.

Given the differences in network activities, schools selection criteria and process, reform model specificity, and weak accountability measures, it is not surprising that model implementation varied within each network. As school reforms often require three to five years to start showing an impact in school practices and student learning (Berman & McLaughlin, 1975; Fullan, 2001), continuation grants like the ones TEA provided for some HSTW schools may be essential to support schools' ongoing efforts to implement the network models and reach the intended THSP goals.

The very challenging contexts in which THSP schools often operate—underserved students from challenging family environments and students who enter high school significantly below grade level—cannot be ignored and must be considered in evaluating the pace of model implementation. To this end, networks can help schools reassess the array of student supports they provide and how they can facilitate greater student access to and use of those supports.

At the program level, the leaders appeared to operate somewhat in isolation. The silo nature of networks within and across TEA and CFT limited TA providers' ability to share lessons in supporting schools that may be experiencing similar successes or challenges in implementing innovative designs, regardless of network affiliation. As grant funding decreases, the need for a network of program leaders will become more vital, especially if continuation funding is eliminated. The annual THSP conference is beginning to forge relationships, but alternative strategies could be used to foster greater collaboration. For example, an organization—possibly Region 13 ESC or CFT—might foster collaboration among the program officers and TA providers.

Chapter 7. Effects of THSP on Student Outcomes

Key Findings

- THSP schools are early in their reform implementation and results from the analysis of ninth- and tenth-grade student outcomes for 2007–08 are considered preliminary.
- For the **THSP** initiative overall, THSP schools had small, positive, and statistically significant effects on two outcomes compared to matched schools:
  - Tenth-graders in THSP schools scored slightly higher in TAKS mathematics than their peers in the comparison schools (by 12 points, small effect size of 0.07).
  - Students in THSP schools were 1.5 times more likely to be promoted to the tenth grade than similar students in comparison schools.
- Differential effects across various THSP programs are beginning to emerge.
- **T-STEM academies:** Tenth-graders scored 49 scale score points higher than students in comparison schools on TAKS mathematics (small effect size of 0.27); however, tenth-grade results for T-STEM come from two schools only and cannot be generalized to the larger T-STEM program.
- **ECHS:** Compared with those in non-THSP schools, tenth-grade students scored 26 scale score points higher on TAKS mathematics (small effect size of 0.14), 25 scale score points higher on TAKS social studies (small effect size of 0.15), were two times more likely to pass TAKS in all four core subject areas, and were 2.2 times more likely to pass Geometry or Algebra II. However, ninth-grade repeaters were also 1.5 times more likely to be absent than similar students in comparison schools.
- **HSTW:** No statistically significant differences between HSTW students and students in comparison schools emerged for the outcomes analyzed.
- **HSRD:** Ninth-grade repeaters were 1.6 times more likely to be absent compared with similar students in non-THSP schools. However, in contrast, students in HSRD schools were three times more likely to be promoted to tenth grade than students in comparison schools.
- **HSRR:** No statistically significant differences between HSRR students and students in comparison schools emerged for the outcomes analyzed.
- **NSCS:** First-time ninth-graders were 40% less likely to be absent compared with similar students in non-THSP schools.
- **DIEN:** Ninth-grade repeaters were 21% less likely to be absent compared with similar students in non-THSP schools.
- Analyses relating implementation models to key ninth-grade student outcomes indicate that through 2007-08, isolated implementation factors (e.g., school climate, dividing into smaller subunits such as academies, supports for data use) were inconsistently related to TAKS achievement, "four by four" course progression, and absence rate.

Introduction

The THSP encompasses grant programs that target different types of schools and students and pursue different missions. Yet they all have a common goal, to improve the college and work readiness of all Texas high school students. This chapter offers an early examination of how THSP schools included in this evaluation compared with rigorously matched non-THSP schools on key student outcomes that represent indicators of THSP's ultimate goals. Drawing on administrative data from TEA, the evaluation team analyzed student outcomes separately by program and for the THSP initiative as a whole. This chapter addresses the following research questions:

- To what extent do student outcomes in THSP-supported schools differ from outcomes for students in well-matched comparison schools?
- To what extent do student outcomes in each high school reform initiative (i.e., T-STEM, HSTW, HSRD, HSRR, ECHS, DIEN, and NSCS) differ from outcomes for students in well-matched comparison schools?
- Do THSP schools that have been implementing reforms for two years perform better relative to comparison schools than THSP schools that have been implementing reforms for one year?

Future analyses will continue to be guided by these questions as the cumulative evidence builds on whether and to what extent THSP programs are effective. At this stage of the evaluation, findings are preliminary for a number of reasons. As is often the case with statewide data, certain data collected by TEA and necessary for the analysis lag by one year. Therefore, the latest available data for this report represent (1) tenth-graders who have been in THSP programs for two years and (2) ninth-graders who have been in the THSP programs for one year[103]. Moreover, given that the available data pertain to 2007–08, the first or second year of implementation for the schools included in this analysis, the outcomes for which one can reasonably expect to see any effects are short term. As the ninth-graders move through high school, the evaluation will incorporate more diverse medium- and long-term outcomes such as enrolling in Advanced Placement (AP) courses, internships, dual-enrollment courses, graduating from high school, and enrolling in college.

This chapter briefly reviews the methods used to match THSP schools with similar non-THSP schools, the sample, student outcome measures, and statistical procedures. Then the baseline demographics and achievement of the THSP schools and their well-matched comparison schools are described. Following are analyses of the overall THSP effects for students who have been in THSP-supported schools for two years and for students who have been in THSP schools for only one year. Finally, student outcomes in each THSP initiative are compared to peer groups in matched comparison schools.

[103] The implementation started in September of 2007. The TAKS were administered around March to May of 2008. Thus, the ninth grade students were in THSP programs for little more than half of the school year when TAKS began.

Methods Overview

Identifying Appropriate Comparison Schools

Because THSP programs target specific types of schools and student populations, THSP schools may differ from the average Texas school in student composition and other school and district characteristics. Therefore, comparing THSP schools with all other Texas high schools is not appropriate. To obtain an appropriate comparison group, the evaluation team first matched THSP schools with non-THSP schools based on select school characteristics and on achievement indicators using a combination of exact matching and propensity score matching. Characteristics chosen for matching include grade span, campus accountability rating, TAKS mathematics and reading passing rates, urbanicity, total enrollment, Title I status, and percentage of minority students. The matching method is described in Appendix A, the selection model described in Appendix F, and the lists of THSP schools and their matched comparison schools are summarized in Exhibits F-4, F-5, and F-6.

The goal of the matching process was to create comparison groups that are similar to THSP schools on as many dimensions as possible. The evaluation team verified that the existing schools beginning THSP implementation in 2006–07 and 2007–08 are similar to their matched schools on a wide range of school characteristics, student demographics, teacher characteristics, and performance indicators. Due to their distinguishing features, schools newly opened in 2006-07 or in 2007–08 were matched closely with comparison schools on some key indicators but not others. As a result, any interpretation of the outcomes analysis presented here must be taken cautiously where THSP new schools are included. Characteristics of students at THSP and non-THSP schools were also evaluated to make sure that the matched schools serve similar types of students. These similarities ensure that any identified THSP effects on student outcomes are not due to prior differences in the observable characteristics of students, although they may be influenced by differences in unobserved characteristics. Descriptive statistics documenting the quality of the matches between THSP and non-THSP schools are in Appendix G.

Student Sample

Ultimately, the evaluation of THSP reform efforts will longitudinally assess the implementation and effects of the various programs for students from ninth grade through high school graduation. However, because this evaluation project began with THSP schools implementing reforms in 2006-07, and because the data available at the time of this analysis is for the 2007–08 school year, this analysis includes two student samples: tenth-graders who have been in THSP schools for two years and ninth-graders at THSP schools that have been implementing reforms for one or two years.

The evaluation team analyzed the general THSP effect and the specific program effects for the ninth-grade and tenth-grade student samples separately because, as discussed below, the outcome measures that are available and appropriate differ by grade (e.g., TAKS is given in different subjects in ninth and tenth grades). Program-specific analyses are also necessary as the types of schools funded by each program differ (e.g., T-STEM, ECHS, and NSCS tend to be smaller schools and include charter schools whereas the other programs include traditional high schools). The ninth-grade student sample includes 14 T-STEM schools, 24 HSTW schools, 6 HSRD schools, 15 HSRR schools, 16 ECHS,[104] 8 schools in the NSCS program, and 4 DIEN schools. The tenth-grade sample, which draws exclusively from schools implementing THSP reforms in 2006–07, represents students from 2 T-STEM schools, 6 HSRD, 14 HSTW schools, and 8 ECHS.

Student Outcome Measures

After identifying the pool of appropriate comparison schools, evaluators used hierarchical modeling to analyze key student outcomes at THSP and comparison schools. Based on data availability and relevance after only one or two years of program implementation, the student outcomes examined include performance on TAKS, passing Algebra I by ninth grade, passing geometry or Algebra II by tenth grade, passing all core courses, absence rates, and grade promotion (Exhibit 7-1).

To control for observable differences between students, the analysis included variables describing individual student demographics and previous achievement on mathematics and reading TAKS tests. To account for differences between THSP and comparison schools that remain after matching, the analysis also included school-level characteristics, such as the percentage of first-year teachers and the school's accountability rating. For consistency, essentially the same model is used for each outcome. Details about the analytic approach are included in Appendix A.

Exhibit 7-1
Student Outcomes Analyzed for 2007–08 School Year

Student Outcome Measures	Ninth Grade	Tenth Grade
TAKS reading/English	✓	✓
TAKS mathematics	✓	✓
TAKS science		✓
TAKS social studies		✓
Passing TAKS in all four subjects		✓
Passing Algebra I by ninth grade	✓	
Passing Geometry or Algebra II by tenth grade		✓
Meeting "four by four" course requirement	✓	✓
Promoted to tenth grade		✓
Percentage of days absent	✓	✓

Exhibits G-4 through G-6 present the means, standard deviations, and sample sizes for all the outcome measures for the ninth- and tenth-grade samples.

Findings of the Student Outcomes Analysis

Overall THSP Effect on Ninth-Grade Students

A total of 87 THSP schools and 505 comparison schools had complete data for first-time ninth-graders (nonrepeaters). The number of schools in each analysis differs slightly, however,

[104] CFT-funded ECHSs that began implementation in 2006–07 or 2007–08 are included.

because some schools have complete data for one outcome but are missing data for another. The numbers of schools and students included in each analysis are available in Appendix H and Appendix I.

Exhibit 7-2 presents the overall THSP and individual program effects estimated separately for ninth-grade nonrepeaters and repeaters using a two-level HLM model for each outcome listed in Exhibit 7-1.[105] The analysis controlled for a wide range of student-level and school-level covariates. These adjustments—as well as the careful matching of comparison schools in the first place—come close to isolating whether the school's participation in THSP has an effect on student achievement for similar students in THSP versus the matched schools. However, because the results are for schools that have been implementing reforms for a relatively short period of time—one to two years—the evaluation team considers these findings preliminary and suggestive. The planned subsequent outcomes analyses will be necessary to evaluate the success of THSP. This chapter presents these early estimated THSP effects; the complete specification for each outcome model can be found in Appendix H.

TAKS Mathematics and Reading Achievement

The analysis of TAKS mathematics and reading shows that there were no statistically significant differences between ninth-grade students in THSP schools compared to their peers in matched schools, adjusting for student and school background characteristics and prior achievement indicators. The results for TAKS mathematics and reading, as well as the other ninth-grade outcome measures, are displayed in Exhibit 7-2.

Exhibit 7-3 (and subsequent similar exhibits) presents a boxplot of the THSP effects on ninth-grade TAKS scores for repeaters and nonrepeaters in mathematics and reading. A boxplot is a convenient way to display the size of an effect and to indicate whether it is statistically different from zero. The height of each bar (i.e., the box) indicates the size of the coefficient or the difference between the TAKS scores of students in THSP schools and comparison schools after controlling for previous year achievement and other important student- and school-level characteristics. For convenience, the effect sizes are labeled on top of the coefficient bars for each THSP effect that reaches statistical significance.

As shown in Exhibit 7-3, zero falls within the 95% confidence interval for each coefficient, indicating no discernible THSP effect in ninth-grade TAKS mathematics and reading achievement for nonrepeaters and repeaters. No differences in TAKS achievement were found between schools in the first year of implementation and those in the second year of implementation. Detailed models can be found in Exhibits H-1 and H-2.

[105] We included a dummy variable for THSP schools (i.e., where a THSP school is coded with 1 and a non-THSP school is coded with 0). The coefficient for the THSP dummy variable is an estimate of the effect of attending a THSP school compared to matched non-THSP schools, controlling for student demographics and previous achievement as well as school background. To estimate specific program effects, the THSP dummy variable was replaced with dummy variables indicating each THSP program.

Exhibit 7-2
THSP Overall and Grant Program Effects on Ninth-Grade Student Outcomes in 2007–08

Student	THSP Overall[a]		TSTEM[b]	HSTW[b]		HSRD[b]		HSRR[b]		DIEN[b]		ECHS[b]		NSCS[b]
Outcome	NR	RP	NR	NR	RP	NR	RP	NR	RP	NR	RP	NR	RP	NR
TAKS math														
Coefficient	4.06	-15.40	3.98	-1.23	-31.08	-2.85	-50.82◊	-0.23	-20.58	9.89	5.48	12.03	-26.64	20.77
SE	5.38	9.62	9.54	9.79	19.28	16.80	30.30	8.08	13.25	16.32	19.25	11.36	35.69	14.87
Effect size	0.02	-0.09	0.02	-0.01	-0.19	-0.01	-0.31	0.00	-0.13	0.04	0.03	0.05	-0.16	0.09
TAKS reading														
Coefficient	-3.44	-8.36	14.66◊	-12.00	-6.42	-15.91	-35.99	-9.77	-21.36◊	-16.00	5.99	12.80	30.21	6.90
SE	4.12	8.50	7.53	7.43	17.10	12.64	26.61	6.18	11.52	12.23	16.98	8.74	31.90	11.53
Effect size	-0.02	-0.05	0.09	-0.07	-0.04	-0.10	-0.23	-0.06	-0.14	-0.10	0.04	0.08	0.19	0.04
Passing Algebra I														
Coefficient	0.26	0.06	-0.10	0.03	-0.35	0.59	-0.34	0.34	0.12	0.54	0.71◊	0.49	-0.81	0.42
SE	0.16	0.18	0.28	0.28	0.32	0.46	0.52	0.22	0.24	0.43	0.39	0.34	0.56	0.46
Effect size	0.16	0.04	-0.06	0.02	-0.21	0.36	-0.21	0.21	0.07	0.33	0.43	0.30	-0.49	0.25
Absence rate														
Coefficient	-0.03	0.005	-0.07	0.02	0.09	0.14◊	0.46*	0.02	0.06	-0.19	-0.23*	-0.08	0.42*	-0.51*
SE	0.04	0.08	0.06	0.04	0.05	0.07	0.16	0.04	0.11	0.15	0.07	0.11	0.17	0.15
Effect size	-0.02	0.00	-0.04	0.01	0.05	0.08	0.28	0.01	0.04	-0.12	-0.14	-0.05	0.25	-0.31
"Four by four" on track														
Coefficient	-0.24		-0.77◊	-0.10		0.06		-0.02		0.49		-0.76		-0.36
SE	0.22		0.43	0.40		0.73		0.37		0.71		0.47		0.60
Effect size	-0.15		-0.47	-0.06		0.04		-0.01		0.30		-0.46		-0.22
Number of students in the analysis[c]														
THSP program	15,336	1,944	872	6,095	951	1,979	150	3,296	519	957	234	1,800	74	337
Comparison	113,513	15,944	113,513	113,513	15,944	113,513	15,944	113,513	15,944	113,513	15,944	113,513	15,944	113,513
Total	128,849	17,888	114,385	119,608	16,895	115,492	16,094	116,809	16,463	114,470	16,178	115,313	16,018	113,850
Number of schools in the analysis[c]														
THSP program	87	53	15	23	20	6	6	15	14	4	4	17	4	8
Comparison	505	288	505	505	288	505	288	505	288	505	288	505	288	505
Total	592	341	520	528	308	511	294	520	302	509	292	522	292	513

[a]Models with THSP dummy variable and control variables as predictors. Please see Exhibit H-1 to H-7 for details.

[b]Models with program indicators and control variables as predictors. Please see Exhibit I-1 to I-7 for details.

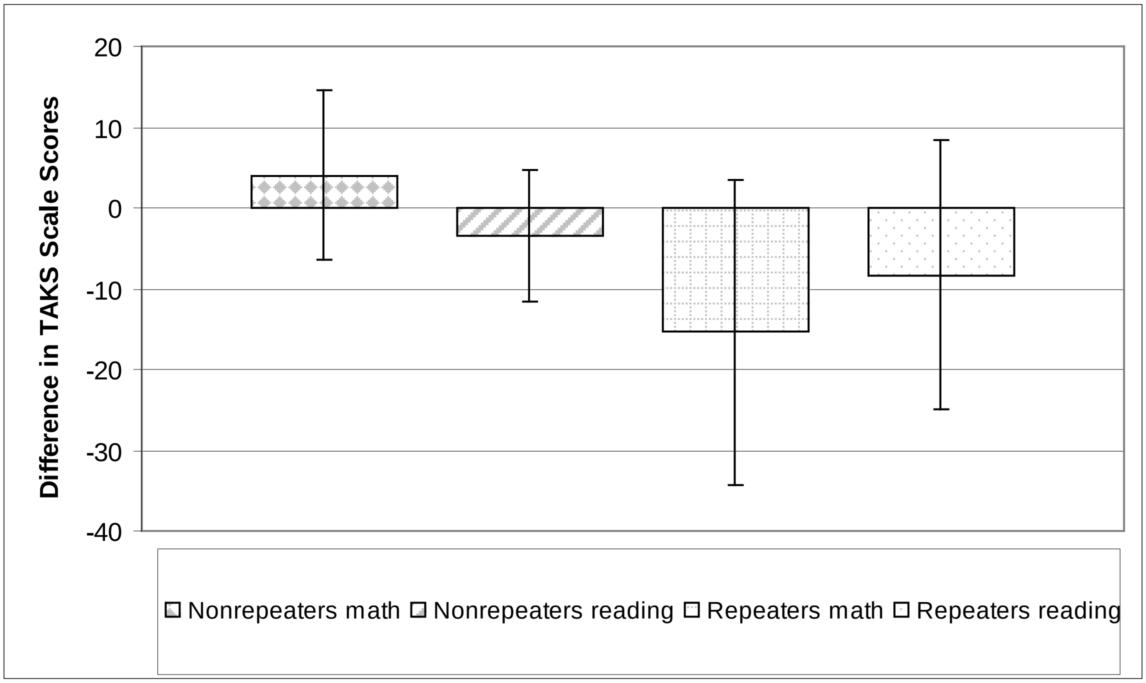
[c]The Ns are the number of students and schools used in the passing Algebra I outcome analysis. The Ns for other outcome variables have slightly more missing data.

NR = nonrepeaters. RP = repeaters.

Notes. Passing Algebra I, absent rate, and "four by four" are logits and coefficients need to be interpreted as odds ratio. See our explanations in the text.
The number of repeaters is too small to perform valid T-STEM and NSCS effect analysis.

**p* < 0.05. ◊*p* <.10.

Exhibit 7-3
THSP Effect on Ninth-Grade TAKS Scores in 2007–08



Note: The height of the bar represents the difference in TAKS scores between students in THSP and comparison schools after controlling for important student and school characteristics. The line through each bar represents the 95% confidence interval around estimated TAKS score difference. If the line does not cross zero, then the difference is statistically significant at $p < .05$; if the line crosses zero, then the difference is not statistically significant. Effect sizes are labeled on top of the bars for significant TAKS score differences.

*$p < .05$, ◊$p < .10$

Passing Algebra I

The evaluators considered passing Algebra I by ninth grade—traditionally a gatekeeping course—as a proxy for whether students are likely to graduate from high school in four years. More important, mathematics skills are critical for future academic and labor market success (Rose & Betts, 2001). Arguably, passing Algebra I by ninth grade is a medium- rather than a short-term outcome, as substantial supports may be necessary to boost students' success in Algebra I given high schools' reliance on middle school feeders to prepare students for a demanding high school curriculum.[106] Thus THSP may not have affected rates of passing

[106] The evaluation team constructed the passing Algebra I variable from TEA's student course-completion data. The analysis categorized ninth-grade students who passed Algebra I or took more advanced mathematics courses than Algebra I (i.e., Geometry and Algebra II) in ninth grade as having passed Algebra I. Students who did not take any mathematics courses in ninth grade were categorized as not passing Algebra I. Although students who did not take any mathematics courses in ninth grade may include those who had taken Algebra I in previous grades, TEA does not collect eighth-grade course-taking data and therefore these students cannot be identified. Measurement error introduced by this limitation of the data is greatly reduced for ninth-grade students in 2007–08 who were subject to the legislative requirements of the "four by four" curriculum. In other

Algebra I after just one to two years of implementation. Schools with high percentages of students passing Algebra I before the ninth grade may have had strong mathematics programs in their feeder middle schools prior to the THSP intervention. To control for preexisting differences between schools in grading policy and the percentage of students who had passed Algebra I upon entering ninth grade, such a variable is included at the school level.

Generally speaking, THSP schools did not have a significant effect on the probability that students pass Algebra I in ninth-grade for either nonrepeaters or repeaters based on data from 2007–08 school year. There was also no difference between schools in the first year of implementing THSP and those in the second year. Results for the fully specified Algebra I models can be found in Exhibits H-3 and H-4.

Percentage of Days Absent from School

Reducing absences is a commonsense precursor to improving student learning because students are less likely to learn the curriculum if they are not in class. First time ninth-graders and ninth-grade repeaters in THSP schools had absence rates similar to that of students in comparison schools.[107] Results for the fully specified attendance models can be found in Exhibits H-5 and H-6.

On Track to Graduate with "Four by Four" Curriculum

The state "four by four" curriculum policy mandates that all students, beginning with the ninth-grade class of 2007–08, take four years of English, mathematics, science, and social studies to graduate from high school with the recommended diploma. The "'four by four' on track" variable measured whether a student fulfilled the "four by four" course requirements at each grade level. All Texas high schools are affected by the "four by four" policy beginning with the ninth-graders in 2007–08, even though many schools and districts had made the "four by four" requirement prior to the legislative mandate. Among schools without a "four by four" requirement already in place, however, those participating in THSP programs may have some early advantage given their pledges to improve students' college readiness.

Evaluators ran the analysis on ninth-grade nonrepeaters and repeaters combined. Exhibit 7-2 shows that no significant difference existed in the success of THSP and comparison schools in keeping students on track with the "four by four" curriculum.[108] Results for the fully specified "four by four" model can be found in Exhibit H-7.

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words, ninth-graders beginning in 2007–08 were required to take a mathematics course and therefore the number of ninth-graders who did not take mathematics was greatly reduced.

107 The percent of days absent at the home school is calculated by dividing total days absent by the number of days taught. For students who attended more than one school during ninth grade, the analysis considered only the percentage of days they were absent from the "home" school, the school where they were enrolled on the 12th day and where they took the ninth-grade TAKS tests. Consequently, days in attendance at any school other than the "home school", including alternative schools, are excluded from the percent absent variable. To constrain the model prediction to between 0 and 1 and to adjust the standard errors for the nonnormality of the error term, the analysis uses the logit transformed percentage of days absent as the outcome variable. Consequently, the coefficients on the independent variables are interpreted in terms of odds ratios.

108 Because passing all four core courses and grade promotion are simultaneously determined, splitting the sample by nonrepeaters and repeaters would bias the results. In other words, repeaters by definition did not pass one of the core courses. Consequently, the analysis uses one model for the two groups combined for both the ninth-grade and tenth-grade analyses.

Overall THSP Effect on Tenth-Grade Students

This section discusses the effect of THSP reform efforts on students who have attended a THSP school for two years. The tenth-grade student outcomes examined are listed in Exhibit 7-1. The tenth-grade student sample is comprised of ninth-graders from 30 THSP schools in 2006–07 and their 185 matched comparison schools one year later; only students who attended the same school in 2007–08 as in 2006–07 are included. Students observed in ninth grade in both 2006–07 and 2007–08 and those promoted to tenth grade in 2007–08 are combined for the promoted and "four by four" analyses, but only those promoted to tenth grade are considered for the TAKS outcomes, attendance, and Geometry-taking analyses.[109] Exhibit 7-4 summarizes the overall THSP effect on each of these outcomes for this smaller sample as well as separate program effects for each of the programs represented: HSTW (14 schools), T-STEM (2 schools), HSRD (6 schools), and ECHS (8 schools). Only four programs are available for the tenth-grade student analysis because they are the only programs with schools funded in 2006–07 and serving 9th-grade students that same year. Results for the fully specified models can be found in Exhibits H-8 through H-13.

When viewing the results, keep in mind the tenth-grade students in this analysis are not representative of all ninth-graders who entered school the year before. Students in this sample have been in the same school for two years and, for the tenth-grade TAKS analyses, were promoted to tenth grade in 2007–08. Of the 63,500 ninth-graders enrolled at THSP and comparison schools in 2006–07, approximately, 51,400 appear in the analysis in 2007–08. Students fell out of the sample if they had incomplete data, spent a partial year at a treatment or comparison school, moved to a different school between years, or dropped out. Thus, students who remained in the sample were, by definition, less mobile or—to the extent that dropouts are academically unsuccessful—higher performing. Therefore, the ninth-grade students who stayed at the same school and were promoted to the tenth-grade (N = 48,549) are less mobile and have higher academic performance than the general population of ninth-grade students one year prior. Nonetheless, the sample attrition rates at THSP (25.3%) and at the matched comparison schools (28.5%) are similar. Therefore, the selective student attrition does not seem to undermine the analysis of THSP schools compared to the matched schools.

[109] See previous footnote for why students who were not promoted are included in the "four by four" analysis. Ninth-graders in 2006–07 who were not promoted to tenth grade in 2007–08 are excluded from the TAKS, attendance, and Geometry/Algebra II-taking models because they appear in the ninth-grade repeater models previously discussed.

Exhibit 7-4
THSP Overall and Grant Program Effects on Tenth-Grade Outcomes in 2007–08

Student Outcome	THSP Overall[a]	T-STEM[b]	HSTW[b]	HSRD[b]	ECHS[b]
TAKS math					
Coefficient	12.43*	49.31*	1.81	4.12	25.63*
SE	5.84	22.80	8.05	11.95	11.02
Effect size	0.07	0.27	0.01	0.02	0.14
TAKS English					
Coefficient	7.42	10.53	5.80	2.97	9.96
SE	4.55	18.25	6.38	9.45	8.76
Effect size	0.06	0.08	0.05	0.02	0.08
TAKS science					
Coefficient	3.48	31.22	-8.72	5.34	16.51◊
SE	4.99	20.03	6.90	10.22	9.52
Effect size	0.02	0.18	-0.05	0.03	0.10
TAKS social studies					
Coefficient	10.22◊	30.20	6.88	-7.39	25.10*
SE	5.36	21.64	7.44	11.00	10.27
Effect size	0.06	0.18	0.04	-0.04	0.15
Passing TAKS in 4 subjects					
Coefficient	0.08	0.84◊	-0.25◊	-0.006	0.70*
SE	0.10	0.46	0.13	0.19	0.20
Effect size	0.05	0.51	-0.15	0.00	0.42
Passing geometry or Algebra II					
Coefficient	0.19	-0.38	0.10	-0.19	0.82*
SE	0.19	0.76	0.26	0.37	0.37
Effect size	0.12	-0.23	0.06	-0.12	0.50
Absence rate					
Coefficient	-0.02	-0.01	-0.05	0.03	-0.05
SE	0.03	0.08	0.03	0.05	0.06
Effect size	-0.01	-0.01	-0.03	0.02	-0.03
"Four by four" on track					
Coefficient	0.15	0.30	0.26	0.78	-0.76
SE	0.24	0.93	0.34	0.51	0.47
Effect size	0.09	0.18	0.16	0.47	-0.46
Promoted to tenth grade					
Coefficient	0.41*	0.37	-0.20	1.10*	1.16*
SE	0.20	1.02	0.26	0.38	0.44
Effect size	0.25	0.22	-0.12	0.67	0.70
Number of students in the analysis[c]					
THSP program	6,318	128	3,297	1,837	1,056
Comparison	37,768	37,768	37,768	37,768	37,768
Total	44,086	37,896	41,065	39,605	38,824
Number of schools in the analysis[c]					
THSP program	30	2	14	6	8
Comparison	185	185	185	185	185
Total	215	187	199	191	193

[a]Models with THSP dummy variable and control variables as predictors. Please see Exhibit H-8 to H-13 for details.

[b]Models with program indicators and control variables as predictors. Please see Exhibit I-8 to I-18 for details.

[c]The Ns are the number of students and schools used in the passing geometry or Algebra II outcome analysis. The Ns for other outcome variables have slightly more missing data.

Notes . Passing geometry or Algebra II, absent rate, and "four by four" are logits and coefficients need to be interpreted as odds ratio.

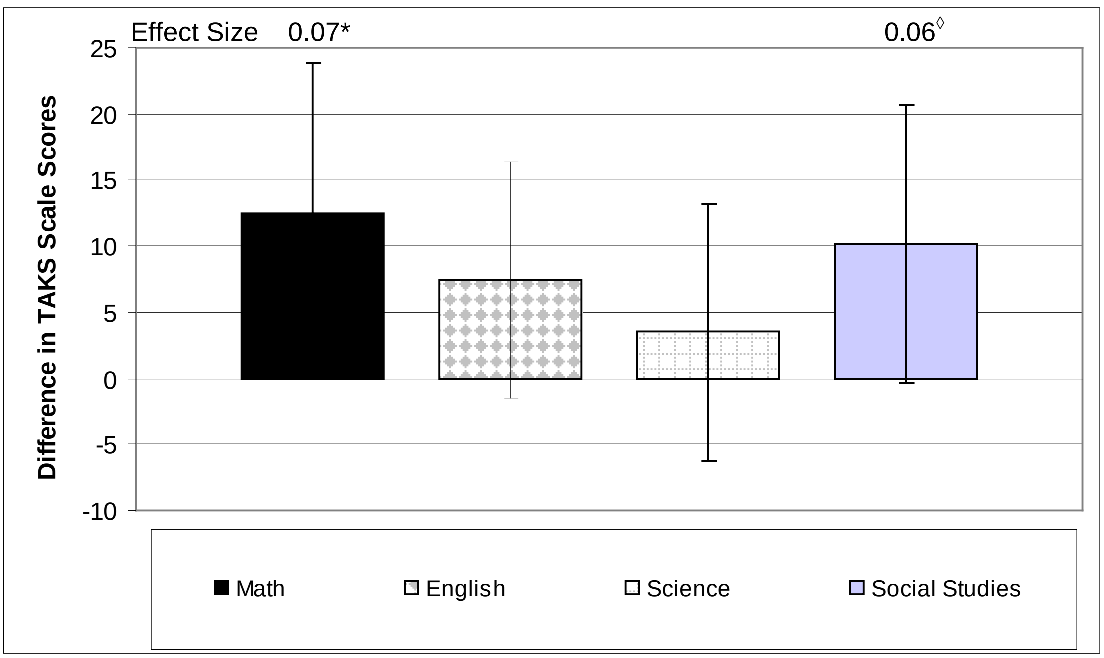
*p < 0.05. ◊p <.10.

TAKS Mathematics, English, Science, and Social Studies Achievement

The THSP Overall column in Exhibit 7-4 presents the general THSP effect on TAKS mathematics, English, science, and social studies scores for students promoted to the tenth-grade. THSP schools had a statistically significant effect of about 12 points on the tenth-grade TAKS mathematics score after adjusting for other school and student characteristics. With a mean and pooled standard deviation of 2,262 and 181.5 points, respectively, the estimated THSP effect of 12.4 on the tenth-grade TAKS mathematics test translates into a small effect size of 0.07 standard deviations.[110] THSP schools also had a marginal effect of about 10 points ($p < 0.10$) on the TAKS social studies score. The THSP effects on tenth-grade TAKS English and science achievement were not statistically significant, so their effect sizes were zero. These results are depicted in Exhibit 7-5.

> *Tenth graders in THSP schools scored higher in TAKS mathematics than their peers in comparison schools.*

Exhibit 7-5
THSP Effect on Tenth-Grade TAKS Scores in 2007–08



Note: The height of the bar represents the difference in TAKS scores between students in THSP and comparison schools after controlling for important student and school characteristics. The line through each bar represents the 95% confidence interval around estimated TAKS score difference. If the line does not cross zero, then the difference is statistically significant at $p < .05$; if the line crosses zero, then the difference is not statistically significant. Effect sizes are labeled on top of the bars for significant TAKS score differences.

*$p < .05$, ◊$p < .10$

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110 The effect size was calculated by dividing the coefficient of the THSP or program indicator by the pooled within-group standard deviation of the outcome at the student level (What Works Clearinghouse, 2008). Note that both the *THSP effect* and the *effect size* are presented throughout the discussion of results. The former is the raw differences between students in THSP and comparison schools, whereas the latter puts all the raw differences on the same metric. Unlike THSP effects, effect sizes can be compared across different outcomes and indicate the strength of the intervention effect. Consistent with standard practice, the evaluation team considers an effect size of 0.20 as small, 0.50 as moderate, and 0.80 as large. Therefore, 0.07 is indeed very small (Cohen, 1988).

Passing Geometry or Algebra II

In addition to the TAKS mathematics outcome, the analysis examined passing Geometry or Algebra II by the end of tenth grade as a measure of student mathematics achievement. Research suggests that taking more advanced mathematics courses in high school predicts higher college graduation rates and earnings. For example, a student who takes both intermediate and advanced Algebra earns, on average, seven percent more than a student with a similar background who takes only Algebra or Geometry in high school (Rose & Betts, 2001).

Exhibit 7-4 shows that THSP schools generally did not have a significant effect on improving passing rates in Geometry or Algebra II by tenth grade. Given the cumulative nature of the mathematics curriculum, THSP schools may be more effective at improving mathematics course-taking with later student cohorts after multiple years of the intervention.

Other Outcomes

THSP schools had a statistically significant effect on whether a student was promoted to tenth grade. Students in THSP schools were 1.5 times more likely[111] than students in comparison schools to be promoted to tenth grade, with an effect size of 0.25 standard deviations. Generally speaking, THSP schools did not yield statistically significant differences from the comparison schools on students' chances of passing all four TAKS subjects (English, mathematics, science, and social studies), absence rate, or the percentage of students on track with the "four by four" curriculum after controlling for a wide variety of school and student characteristics. Although matched comparison schools did not receive THSP funding, college and work readiness is supported by the state policy environment, as well other grant programs in Texas public high schools. To the extent that state policy and other programs are affecting outcomes at the comparison schools, THSP gains will more difficult to detect because all schools might improve as a result of those broader policy trends.

Ninth-grade students in THSP schools are more likely to be promoted to tenth grade than their peers in comparison schools.

Program Effects on Student Outcomes

Under the THSP umbrella, each grant program has its own focus and takes a different approach to improving college- and work-readiness. For example, the T-STEM program has a strong emphasis on using innovative and rigorous science and mathematics instruction with technology integrated across the curriculum. In contrast, the DIEN program aims to improve school leadership to promote academic rigor and student-teacher relationships. Therefore, it is important to understand whether THSP grant programs might have differential effects on the student outcomes examined here. This section discusses specific program effects across the ninth-grade and tenth-grade student samples on the same student outcomes previously discussed. These program-specific effects are presented in Exhibits 7-2 for the ninth-grade sample and Exhibit 7-4 for the tenth-grade sample.

[111] For outcomes that are categorical, e.g., promoted to tenth grade or not, the results are based on logistic regression (within a hierarchical framework). The coefficients (logits) from logistic regression are exponentiated to calculate the odds ratios. An odds ratio of 1 represents equal chance and an odds ratio of 2 presents twice the likelihood for a one unit increase in the predictor.

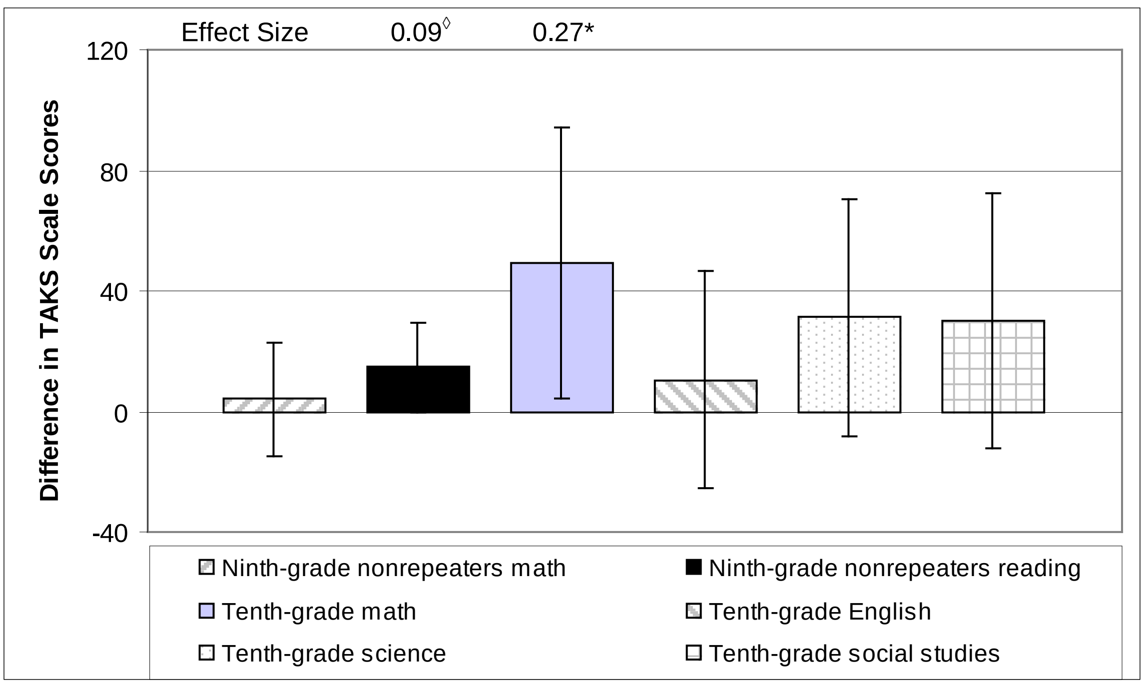
T-STEM

The T-STEM column in Exhibits 7-2 and 7-4 displays the difference between students in T-STEM academies and students with similar background characteristics in comparison schools. Because only two T-STEM schools are represented in the tenth-grade student sample, any estimated T-STEM effect has low power and is likely not representative of the larger program. Consequently, the tenth-grade T-STEM results should not be emphasized until further analyses confirm their validity.

Tenth-grade students in T-STEM academies had higher TAKS math scores than their peers in comparison schools.

Exhibit 7-6 shows the effect of T-STEM on various outcomes across the three samples of ninth-grade nonrepeaters, ninth-grade repeaters, and tenth-graders who have been in the same school for two consecutive years. The T-STEM program had a positive, significant effect on the TAKS mathematics scale score for tenth-grade students. Tenth-grade students in T-STEM schools scored 49 points higher on TAKS mathematics than students in comparison schools. This T-STEM effect, combined with a pooled standard deviation of 181.5 points, translates to a small effect size of 0.27 standard deviations.

Exhibit 7-6
T-STEM Effect on Ninth- and Tenth-Grade TAKS Scores in 2007–08



Note: The height of the bar represents the difference in TAKS scores between students in THSP and comparison schools after controlling for important student and school characteristics. The line through each bar represents the 95% confidence interval around estimated TAKS score difference. If the line does not cross zero, then the difference is statistically significant at p < .05; if the line crosses zero, then the difference is not statistically significant. Effect sizes are labeled on top of the bars for significant TAKS score differences.

*p < .05, ◊p < .10

Exhibit 7-6 also shows that the T-STEM program had a positive, marginally significant effect on TAKS reading for first time ninth-graders (nonrepeaters). Ninth-grade nonrepeaters in T-STEM academies scored an average of 15 points higher on TAKS reading than students in comparison schools, but it is statistically significant only at $p < 0.10$. Although the mission of T-STEM academies is to cultivate interest in and prepare students for degrees and careers in mathematics and science, reading is obviously fundamental to continued academic success, as acknowledged in the T-STEM Blueprint that lists defining principles of T-STEM academies. The T-STEM effects in reading may reflect the schools' efforts in literacy, as well as all-around academic supports for students. Also shown in Exhibit 7-6, students in T-STEM academies performed similarly to their peers in the comparison schools on ninth-grade TAKS mathematics and on tenth-grade TAKS English, science, and social studies.

T-STEM had a negative, marginally significant ($p < .10$) effect on the likelihood of passing TAKS in all four core subject areas for first time ninth graders (see Exhibit 7-2); however, T-STEM tenth graders had a marginally significant ($p < .10$) higher likelihood (2.3 times) of passing TAKS in all four core subject areas (see Exhibit 7-4).[112] No significant differences between T-STEM academies and comparison schools were found on absence rates, on track with the "four by four" curriculum, passing Algebra I by the ninth grade, passing Geometry or Algebra II by tenth grade, or being promoted into the tenth grade.

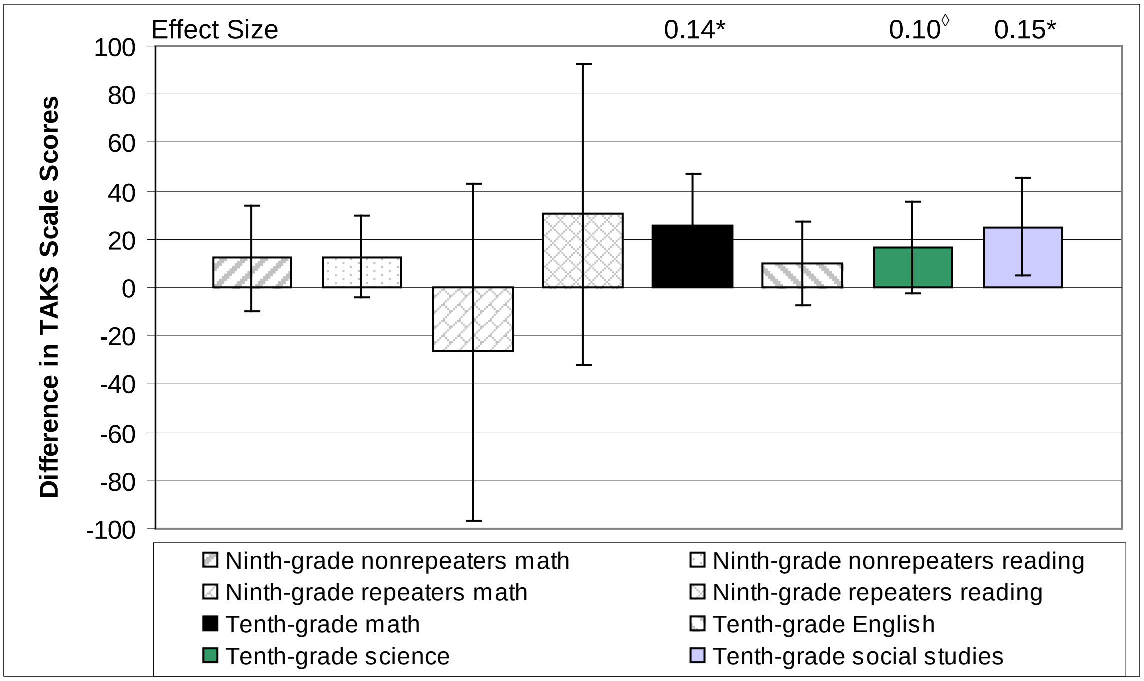
Early College High Schools

Tenth-grade students in ECHS had higher TAKS math and social studies scores than their peers in comparison schools.

As displayed in Exhibit 7-7, ECHS had a statistically significant, positive effect on tenth-graders' TAKS mathematics score. Compared to the matched schools, tenth-graders in ECHS score 26 points higher, which translates to a small effect size of 0.14 standard deviations. ECHS also produced a significant effect of 25 points in the TAKS social studies score (small effect size of 0.15 standard deviations) and a marginally significant effect ($p < .10$) of about 17 points in TAKS science. ECHS did not have a significant effect on tenth-grade TAKS English or on ninth-grade TAKS mathematics or reading.

112 In the "Passing TAKS in four subjects" model, the dependent variable is dichotomous (equal to 1 if a student passed all four exams and 0 otherwise) rather than a continuous TAKS scale score. Consequently, the coefficient is interpreted in terms of an odds ratio. For example, the odds of first-time ninth-grade students in T-STEM academies passing TAKS in all four subjects are 54% lower than those of their peers in comparison schools with identical student and school characteristics ($p < 0.10$).

Exhibit 7-7
Early College High School Effect on Ninth- and Tenth-Grade TAKS Scores in 2007–08



Note: The height of the bar represents the difference in TAKS scores between students in THSP and comparison schools after controlling for important student and school characteristics. The line through each bar represents the 95% confidence interval around estimated TAKS score difference. If the line does not cross zero, then the difference is statistically significant at $p < .05$; if the line crosses zero, then the difference is not statistically significant. Effect sizes are labeled on top of the bars for significant TAKS score differences.

*$p < .05$, ◊$p < .10$

Tenth-grade students in ECHS were more likely to pass TAKS in four subjects and Geometry or Algebra II than their peers in comparison schools.

Exhibit 7-4 also shows that ECHS had a significant effect on the likelihood of passing TAKS in all four core subject areas for tenth-graders, on passing Geometry or Algebra II by tenth grade, and on being promoted to tenth grade.[113] However, ninth-grade repeaters in ECHS were 1.5 times more likely to be absent than those in comparison schools (see exhibit 7-2). No significant differences between ECHS and comparison schools were found in being on track with the "four by four" curriculum or passing Algebra I by the ninth grade.

High Schools That Work

At this early stage in implementation, the HSTW schools did not have higher TAKS scores in English, mathematics, science, or social studies in tenth grade or in TAKS scores in mathematics or reading in ninth grade compared to the matched comparison schools. Exhibits

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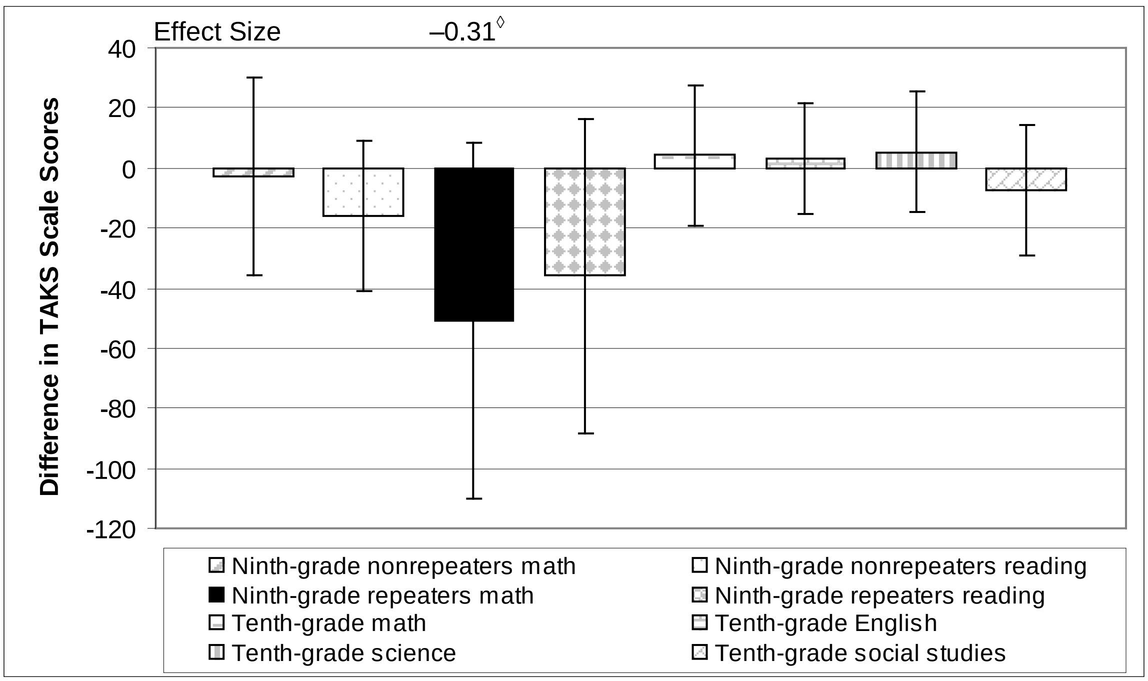
[113] In the "Passing TAKS in four subjects" model, the dependent variable is dichotomous (equal to 1 if a student passed all four exams and 0 otherwise) rather than a continuous TAKS scale score. Consequently, the coefficient is interpreted in terms of an odds ratio. For example, the odds of tenth-grade students in ECHS passing TAKS in all four subjects are two times higher than those of their peers in comparison schools with identical student and school characteristics.

7-2 and 7-4 show that HSTW had no effect on the other student outcomes examined except that HSTW tenth-graders were marginally less likely ($p < .10$) to pass TAKS in all four subjects than their peers in comparison schools.

High School Redesign

Exhibit 7-8 shows that schools in the HSRD program had no statistically significant effect on TAKS achievement for ninth-grade nonrepeaters or for tenth-graders, compared with the matched comparison schools. Ninth-grade repeaters in HSRD schools, however, had marginally significant TAKS mathematics scores that are about 51 points lower than those of their peers in comparison schools ($p < .10$).

Exhibit 7-8
High School Redesign Effect on Ninth- and Tenth-Grade TAKS Scores in 2007–08



Note: The height of the bar represents the difference in TAKS scores between students in THSP and comparison schools after controlling for important student and school characteristics. The line through each bar represents the 95% confidence interval around estimated TAKS score difference. If the line does not cross zero, then the difference is statistically significant at $p < .05$; if the line crosses zero, then the difference is not statistically significant. Effect sizes are labeled on top of the bars for significant TAKS score differences.

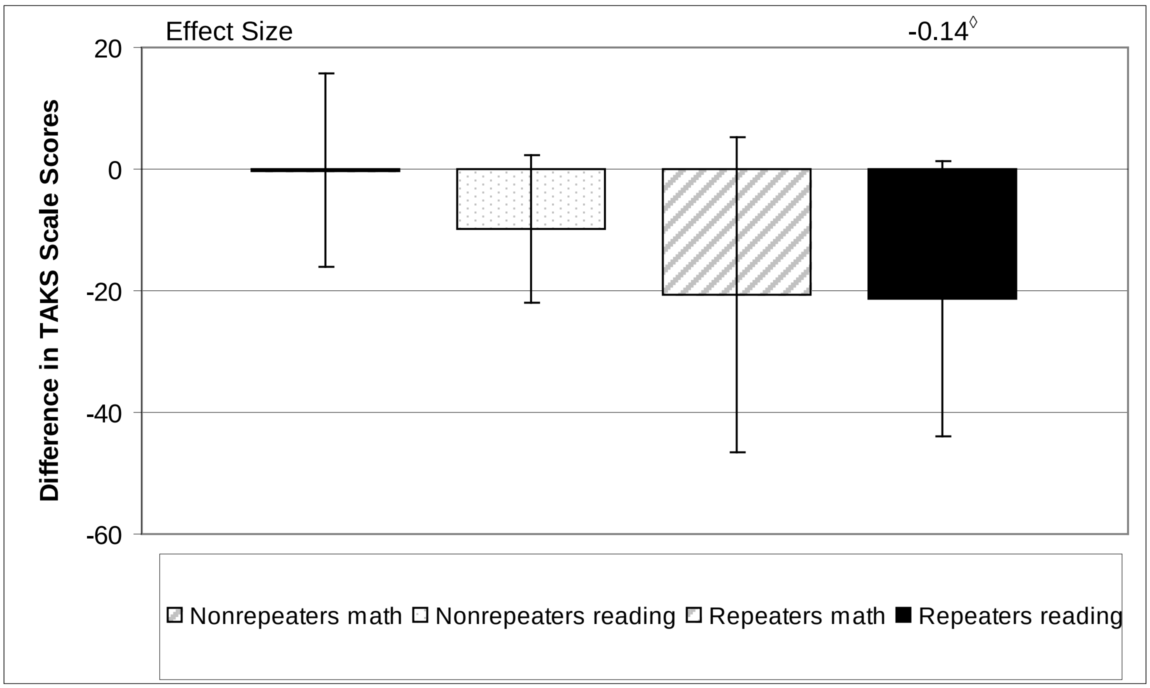
*$p < .05$, ◊$p < .10$

Exhibit 7-2 also indicates that ninth-grade nonrepeaters had marginally significant higher likelihood to be absent and repeaters were 1.6 times more likely to be absent compared to their counterparts in the comparison schools. Nevertheless, ninth-graders in HSRD schools in 2006–07 had a three times higher odds of being promoted to tenth grade than the 2006–07 ninth-graders in comparison schools (Exhibit 7-4). Next year's analysis will provide information on whether the ninth-graders in 2007-08, including the struggling repeaters, had chances of being promoted to tenth grade equal to ninth-graders in the comparison schools. No differences were found between HSRD and comparison schools in other 2007–08 student outcomes examined.

High School Redesign and Restructuring

Exhibit 7-2 shows that no significant differences existed between ninth-grade students in HSRR-supported schools and students in comparison schools on most outcome measures. HSRR students had lower TAKS reading scores among repeaters but at marginal statistical significance ($p < .10$). This result is depicted by the 95% confidence interval bars crossing zero for the difference in TAKS reading score among ninth-grade repeaters in Exhibit 7-9.

Exhibit 7-9
High School Redesign and Restructuring Effect on Ninth-Grade TAKS Scores in 2007–08



Note: The height of the bar represents the difference in TAKS scores between students in THSP and comparison schools after controlling for important student and school characteristics. The line through each bar represents the 95% confidence interval around estimated TAKS score difference. If the line does not cross zero, then the difference is statistically significant at $p < .05$; if the line crosses zero, then the difference is not statistically significant. Effect sizes are labeled on top of the bars for significant TAKS score differences.

*$p < .05$, ◊$p < .10$

New Schools and Charter Schools

The analyses of the NSCS effects are based on ninth-grade nonrepeaters.[114] The NSCS program had no significant effects on the ninth-grade TAKS outcomes. Exhibit 7-2, however, indicates that ninth-grade nonrepeaters in NSCS were 40% less likely to be absent than those in the comparison schools, with an effect size of about 0.30 standard deviations.

District Engagement

No differences between DIEN and comparison schools were found in students' TAKS mathematics and reading performance. Ninth-grade repeaters in DIEN schools, however, had approximately twice the chance of passing Algebra I as students in comparison schools at marginally significant level ($p < 0.10$). In other words, for similar students, the Algebra I program— whether because of the instruction, materials, PD, district policies (e.g., grading standards), or other support—in DIEN schools may be more successful at helping repeating ninth-grade students pass the course than the Algebra I program in the comparison schools. Ninth-grade repeaters in DIEN schools were also 21% less likely to be absent than their peers in the comparison schools, with a small effect size of 0.14 standard deviations.

Relationships Between Implementation Factors and Student Outcomes

Chapter 2 explored relationships between key implementation factors and teacher and student attitudes that, according to the THSP theory of change, serve a mediating role in ultimately higher student achievement. At this early stage, the evaluation team explored the relationship between those same key implementation factors from the spring 2008 surveys and selected ninth-grade outcomes. Specifically, the ninth-grade outcomes included in the analysis were TAKS mathematics and reading scores, on track with the "four by four" curriculum (i.e., taking at least one course in each of the four core academic areas all four years of high school), and absence rates.[115]

A variety of implementation factors were related to these student outcomes; however, the findings are not consistent. Coming early in the implementation as these results do—from spring 2008 surveys after one or two years of implementation—these findings merely suggest factors to attend to in the ongoing evaluation. Most importantly, more data are needed to understand how and why the relationships between the implementation factors and student outcomes exist because in some cases, the relationship is indirect, which will be apparent in the summary of results below. Exhibit 7-10 lists the implementation factors that are significantly related to at least one student outcome examined. The full HLM models can be found in Appendix J. All results reported are statistically significant at $p < .05$ unless otherwise noted.

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[114] Repeaters were dropped from the analysis because all NSCSs are new schools by definition. Ninth-grade repeaters at new schools attended a wide variety of different schools during their previous ninth-grade experience. The evaluation team did not want to confound the effect of prior school ninth-grade influences with the NSCS effect.

[115] The analysis focused on ninth-grade student outcomes only because the implementation factors draw from surveys of ninth-grade teachers and students in 2007–08.

Exhibit 7-10
Relationship Between Implementation Factors and Student Outcomes in 2007–08

Predictors	Student Academic Outcomes			
	TAKS Math	TAKS Reading	"Four by Four"	Absence Rate
Leadership				
Principal-reported district leadership for school effectiveness	-15.05 (20.60)	-31.44◊ (17.18)	-0.57 (0.92)	0.03 (0.09)
School climate				
Teacher-reported respect between students and adults	-1.03 (6.76)	-1.95 (6.30)	.34* (0.15)	-.17* (0.06)
Teacher-reported sense of responsibility for student learning	-9.91 (44.83)	31.66 (37.25)	1.57 (1.95)	.28◊ (0.15)
Student-reported personal connections with teachers	8.28* (4.19)	5.13 (3.86)	-0.11 (0.09)	0.10* (0.03)
Instruction and teacher professional learning				
Teacher-reported access to professional development	-69.51 (42.79)	42.01 (36.22)	-3.41◊ (1.92)	0.17 (0.16)
Teacher-reported supports for data use	84.49* (37.11)	47.63 (30.73)	-0.03 (1.65)	-.23* (0.12)
Teacher-reported frequency of teaching advanced skills	-13.90 (20.56)	-34.20* (17.02)	-2.16* (0.93)	0.03 (0.08)
Student supports				
Student-reported access to academic and postsecondary supports	-24.54◊ (13.96)	-26.80* (12.95)	-0.19 (0.31)	-.01 (0.12)
Principal-reported schools divided into small groups	-9.28 (19.69)	11.94 (16.36)	-1.49◊ (0.83)	-.24* (0.10)
Student attitudes and other important factors				
Student-reported attitude towards importance of school	30.79* (6.44)	14.31* (5.91)	0.81* (0.14)	-.22* (0.05)
Student-reported aspiration to graduate from high school	42.63* (17.08)	-8.73 (14.54)	1.30◊ (0.71)	0.10 (0.08)
Student-reported parental involvement	-5.47* (2.44)	2.17 (2.26)	0.02 (0.05)	0.01 (0.03)

Note. Coefficients and standard deviations (in parentheses) are presented for each model. See Appendix J for details.
**p* < .05, ◊*p* <.10.

School Climate and Leadership

Elements of a positive school climate were related to the ninth-grade student outcomes examined, although not consistently. Students' reports of personal connections with teachers were related to a higher TAKS mathematics score, as well as, unexpectedly, a higher absence rate. Students' reports of respect between students and adults were also significantly associated with successful "four by four" course progression and a lower absence rate. Teacher-reported responsibility for students was also surprisingly related to a higher student absence rate ($p < .10$). These findings provide some evidence of the importance of these school climate factors in ultimately leading to student achievement and achievement-related outcomes. However, the few unexpected findings indicate the need for a better understanding of how these climate factors might operate and the different contexts under which they might lead to positive student outcomes, as well as those contexts under which they might not. Also, this early in the implementation, it is possible that these results reflect that schools struggling with student performance might be adopting strategies to improve the school climate, which have not yet translated into improved student outcomes.

Student-reported personal connections with teachers and teacher reported respect between students and adults were related to positive student outcomes.

Data-Informed Decision-Making, Instructional Practices, and Professional Learning

The THSP evaluation found that supports for data use were significantly associated with students' higher TAKS mathematics scores and a lower absence rate. It may be that schools promoting data use and supporting their teachers to do so are applying those strategies specifically in mathematics. Certainly, site visitors observed that schools were placing a greater emphasis on improving mathematics achievement as that was the subject area in which they were most likely to fall below acceptable performance according to state and federal accountability policies.

Teacher-reported supports for data use were related to positive student outcomes. Teaching advanced skills was related to negative student outcomes.

Contrary to expectations, teachers' reported access to PD was associated with lower rates of student staying on track with the "four by four" course requirements. Teaching advanced skills such as students' using evidence to support their ideas, considering multiple solutions or perspectives, synthesizing information from multiple sources, and working on multidisciplinary projects was related to lower TAKS reading scores and progression on the "four by four" course requirement. These critical thinking skills may not be captured by TAKS tests, which focus on assessing basic academic skills. Moreover, teaching in ways that place such academic demands on students is challenging to do well, which the survey cannot measure. Thus, it is a reasonable conjecture that poorly executed instruction, whether focused on basic or critical thinking skills, may indeed yield negative results.

Student Supports and Attitudes

Students' access to academic and postsecondary supports was significant and negatively associated with TAKS reading and with TAKS mathematics at marginal significance ($p < .10$). Although this finding is unexpected, it may be that schools where students are struggling academically are the ones placing greater resources behind academic and postsecondary supports.

Student attitudes towards schooling have been shown to influence achievement (Cote & Levine, 2000; Singh, Granville, & Dika, 2002). Consistent with that research, the evaluation found that student attitudes toward the importance of school were positively associated with TAKS reading and mathematics scores as well as with course progression and lower absence rates. That is, students who had more positive attitudes about school had higher TAKS scores, better course progression and fewer absences. Student aspiration to graduate from high school was marginally, positively related to course progression ($p < .10$) and TAKS mathematics score. Thus, although these data do not mean that building positive student attitudes leads to higher student achievement, these findings suggest that schools may want to explore strategies that foster students' academic orientation and educational aspirations.

Students' positive attitudes were related to better student outcomes.

Lastly, schools that were divided up into small units such as houses or families had a lower absence rate. This finding potentially supports the assumption that organizing so that a group of teachers can teach the same students, get to know them, share strategies for setting consistent expectations, and collaboratively problem-solve to address their students' behavioral, emotional, and academic needs will lead to higher student engagement. However, the school being divided into smaller units was also associated with lower "four by four" course progression. It may be that schools that decide to divide into small units because they see the need to better support students, thus the lower "four by four" course progression may simply reflect the types of schools pursuing that strategy rather than the effect of it.

Dividing schools into small organizational units was related to lower absence rates.

Implications

Given the newness of the THSP reform initiative and the early stage of this evaluation, the evaluation team believes it is clearly too soon to make broad claims about the efficacy of THSP in Texas. These findings do, however, provide us with some optimism about the reform and also bring some noteworthy issues to our attention. There were some indications that students in THSP schools have a higher likelihood of being promoted to the tenth grade than do students in matched comparison schools. Tenth-graders in THSP also appeared to have higher TAKS mathematics performance than those in comparison schools. Early results also hint that certain programs might promote improved student outcomes. For example, there was some evidence that T-STEM tenth-graders have higher passing rates on TAKS mathematics—an encouraging sign given the emphases of that model.

The ECHS model aims to accelerate student learning to include some college-level course-taking during the high school years. Current evidence suggests that the model may be having some effects. Tenth-graders in ECHS performed higher in TAKS mathematics and TAKS social studies compared with tenth-graders in the comparison schools. ECHS tenth-graders also had a higher likelihood of passing TAKS in all four subjects, and of passing Geometry or algebra II by tenth grade. Students in ECHS had a higher likelihood of being promoted to the tenth grade, and ninth-grade repeaters had a lower likelihood of being absent compared with peers in comparison schools.

The early student outcome indicators on models that target reform of comprehensive high schools are less obvious. However, students in HSRD schools did appear to have a higher chance of getting promoted than those in comparison schools.

Certain implementation factors such as strong and respectful connections between teachers and students and supports for teachers' use of data merit further research to understand how they might lead to improved student achievement. Similarly, positive student attitudes towards school were significantly associated with TAKS mathematics and reading achievement, course progression, and lower absence rates, and reform strategies that promote such attitudes will be important to follow through the evaluation. Also, implementation factors were negatively related to student outcomes, which may reflect that struggling schools' new reform strategies were in early implementation. It was perhaps too soon to expect improved student outcomes and the findings suggest a need to better understand the contexts under which certain reform strategies are effective and the contexts under which they may not be.

Chapter 8: Conclusions and Implications

This report has presented the results of 2008 data collection and analyses, representing first-year, or baseline, information intended to ground a multiyear evaluation of THSP, an initiative that is testing several different models of high school reform in search of promising practices that can be scaled up or replicated to improve high school education throughout the state. As described at the beginning of the report, the 2008 data on which the report is based came from multiple sources and included the perspectives of all major stakeholders in the education enterprise (except parents), as well as baseline analyses of indicators of student outcomes.

The evaluation team's working assumption—based on prior research on school reform—generally has been that one would not, in this first year, find striking evidence of significant positive effects on such indicators as student academic performance or attendance at the participating schools compared with matched schools that were not part of THSP. That assumption has been substantially confirmed, although the initial analyses suggest some limited improvements in a few areas such as small positive effects in both reading and math among some of the individual THSP initiatives. In general, however, it is too early in students' high school careers (the analyses included a large cohort of ninth-graders and a smaller number of tenth-graders) and in the schools' implementation of the various funded models to draw any conclusions about improvements in student outcomes.

It is nevertheless worth pondering the potential patterns that the baseline student outcomes data may suggest and to consider emerging findings that can be tested through the year 2 evaluation analyses. For example, baseline statistical modeling of spring 2008 survey data indicated some positive links between small school size and both teachers' sense of responsibility for student learning and students' sense of responsibility for their own academic improvement. On the other hand, at this point 2007–08 data on student outcomes are mixed or demonstrate no clear advantage for small school reform models over comprehensive high school restructuring models. One hypothesis might be that if traditional high schools participating in THSP are not exposed to alternative approaches to instruction, professional development, and data use, student outcomes are unlikely to change. Another is that small schools are quickly able to establish a fertile attitudinal environment, but significant changes in student outcomes will take time to grow.

Although we must wait for definitive, quantifiable evidence of student and school success, this report provides considerable information on the complex interactions of state, district, and school factors that are the context for any outcomes. Some important points and issues that emerged from the year one evaluation activities are presented below.

Policy Environment

Texas has a strong state policy framework for high school reform in place. Further, the framework is not static. Rather, policymaking and decision-making bodies within the state are engaged in continuous improvement and refinement of the framework. Thus, in 2008, TEA and the Texas Higher Education Coordinating Board (THECB)—after working with the University of Oregon's Educational Policy Improvement Center—approved agreed-on College Readiness Standards. Phase II of this work involved evaluating the alignment between the college readiness standards and the proposed revised K-12 standards (TEKS) and incorporating the college readiness standards into the TEKS; Phase III will develop support and training materials to assist teachers with implementation of the new standards in their classrooms. Clearly, the goal is much greater articulation of expectations as students move through the education pipeline and ultimately into higher education or the world of work—and that goal seems achievable, at least at the policy level.

Even though districts and schools throughout the state are accustomed to the TAKS-based accountability system pacing the rhythm of a school year, there appears to be widespread understanding among educators that newer policies currently coming into play will change this rhythm. The "four by four" curriculum and subject-centered end-of-course exams will substantially alter the working lives of Texas high school educators. Many of the educators we interviewed hope that the changes will be positive and will increase focus on rigorous and engaging teaching and learning. However, many interviewees are also concerned that the "four by four" course requirements for all students and the need to pass multiple EOC exams to earn a diploma may exacerbate the state's dropout problem if marginal students become discouraged by the more rigorous requirements. The results of these policy reforms, which are in line with directions suggested by national advocates for high school reform such as Achieve and its American Diploma Project, will remain hypothetical until they come into effect for the state's ninth-graders of 2011–12.

THSP and the public-private alliance that it represents are thus grounded in a policy environment that is welcoming and supportive of their work. The multiple high school reform models, networks, districts, and schools that THSP supports are theoretical test beds for how more rigorous educational policy goals can be met, particularly by schools working with the state's most challenging student populations. It therefore seems particularly important for THSP to identify ways to become the statewide voice—the champion—for a vision of high school reform that the policies enable. With the understanding that the public and private sides of the alliance must work within different rules and parameters, there is nevertheless ample latitude for all the affiliated organizations to broadcast a clear, consistent, and concerted message about the importance of a high school education that is more rigorous and more relevant than in the past.

Further, this message needs to reach deeper into the universe of Texas educators than it perhaps has up to this time. Interviews conducted for the evaluation with personnel in THSP sites suggest that teachers, for example, do not necessarily understand the big picture of high school reform, although most school and district administrators clearly have internalized the implications of the new policy environment. But even beyond THSP-funded sites, the high school reform messaging needs to be broadly based, reaching school boards and other local policymakers, parents, and the community at large to create the will for change and improvement that will be necessary for systemic reform. This is a big job in a state as large and diverse as Texas, and the THSP alliance may need additional influential partners who are thought of as leaders with various constituencies.

THSP as an Initiative

On the basis of the RFP for the evaluation of THSP, the evaluation team conceptualized THSP with its six associated substudies[116] as an initiative—one with many moving parts but with a core vision; a coordinating function represented by the alliance among TEA, CFT, MSDF, BMGF, and other involved parties; and a developing reform-minded community of educators who are implementing diverse high school models but who also have lessons learned to share with each other and opportunities to do so. After the initial year of data collection, we are less inclined to view the THSP as an initiative per se. The various high school reform models are being managed and supported well by both the public and the private sides of the THSP alliance, but they are not strongly linked. In short, the models appear to be largely in silos and developing without reference to each other. This may be inevitable because the models are so varied. What, for example, do the HSRD high schools have in common with the T-STEM academies—many of which are small schools with a math and science focus? On the surface, the answer to this question may be "not much." Yet it seems presumptuous to assume this without offering rich opportunities for those on the ground—the teachers and administrators across models—to interact and search for their commonalities. Without doing this, it seems improbable that THSP would be able to scale high school reform statewide in any reasonable time frame because it is at least hypothetically possible that the strongest student outcomes may be associated with the small school models. It is unlikely that hundreds of T-STEM academies, ECHSs, or charter schools will emerge to serve all of the state's students. Even though their contexts are very different, particularly with regard to the self-selection factor that is difficult to control for in schools of choice, comprehensive schools need to learn what they might successfully adopt or adapt from the small school models.

One feature of the THSP theory of change and one substudy of this evaluation explicitly focus on networks. Conceptually, each reform model represents an affiliated group of schools implementing the same design in their respective local contexts. The models themselves vary in terms of specificity, which may contribute to the looseness or tightness of the networks that are forming around them. Thus, although they are being evaluated through another study, we know that the CFT-sponsored ECHSs represent a relatively tight state network in the sense that they must actively commit to building their schools around a set of core principles ratified by a national network in which they also participate. Based on data collected for that other study, their sense of belonging to a community of like-minded educators from which they can learn is strong. Schools in other THSP networks do not yet necessarily have this sense of membership. Some, in fact, are seeking to form their own small circles of schools from which they can learn, independent of THSP-supported work. Particularly because the ultimate goal of THSP is to take lessons learned from grantee districts and schools to a larger scale, strategies to strengthen the network aspect of the TA would enhance the possibility that the state is growing a body of high

[116] The six original substudies are (1) Study of High School Reform Initiatives (2) Study of District Redesign (3) Study of Networks (4) Study of Other Supports for High School Reform (i.e., District Leadership Program and human capital development) (5) Study of the State Context for High School Reform and (6) Study of THSP Management and Coordination (TEA RFP No. 701-07-032).

school reform experts who will be able to help other schools implement the models (or parts of them) in the future.

Technical Assistance and Supports for THSP Grantees

The THSP has built in significant TA and PD for the districts and schools implementing the various high school reform models. One issue seems to be how to coordinate among the TA providers more effectively. Interviews with a number of providers suggest that problems with competition may exist among the provider organizations. This competition was certainly initially the case with the T-STEM centers, apparently because of confusion about the intention behind their roles and relationships with the T-STEM academies. In the absence of initial relationships with the centers, the academies had established relationships with other providers to obtain the help that they needed. The centers thus came into competition with established TA sources. The most up-to-date information seems to suggest that the T-STEM centers now show signs of moving beyond competition to cooperation with each other and with other TA providers.

Another aspect of TA competition as opposed to coordination is that many of the grantee districts and schools are working with multiple TA providers who are helping them solve multiple problems and address multiple goals. A number of interviewees noted that it can be difficult for schools and their staffs to align and rationalize all the interventions that they are experiencing simultaneously. One ESC reported taking some steps to better coordinate the assistance available to THSP schools. Our sense is that many grantees would welcome guidance on how to align TA inputs and perhaps therefore enhance their positive effects.

A number of questions arose from our current understanding of the TA structure for THSP. For example, how could CFT- and TEA-funded TA activities be more collaborative across models? Could the regional responsibility for TA support on high school reform activities be shared more collaboratively across multiple providers and therefore enhance statewide understanding of the high school reform vision? What leverage does TEA have to foster cooperation and collaboration among ESCs to enhance and support high school reform? The overarching issue is not the availability of TA and other supports. These resources are considerable. Rather, the issue seems to be the most effective deployment of the resources for the strongest benefits to THSP schools and districts—and by example to other schools and districts throughout the state.

Much of the TA provided through THSP can be defined as PD for educators in the grantee sites. During the 2007–08 school year, the evidence across all THSP sites visited was that school leaders were the dominant beneficiaries of the PD activities offered. Relatively little TA or PD trickled down to teachers. This lack of penetration is perhaps not surprising since in a number of the models, the early focus is on structural and organizational matters associated with restructuring established schools or starting up new schools. However, the lack of a trickle-down effect of THSP-supported PD to the classroom contributed to the general lack of recognition of THSP's vision, goals, and investment as important drivers of whatever changes were being undertaken at the grantee high schools. In some instances, this invisibility of THSP may change as the models mature and the grantees can focus on teaching and learning to a greater extent. However, in the cases where grants are relatively short lived, schools may not get to issues of teaching and learning. This observation in fact suggests that the Alliance members should already be considering the issue of sustaining reform momentum, perhaps through strategies for schools to maintain network affiliations after the grant period ends.

Teaching and Learning in THSP Schools

More rigorous and relevant curriculum and instructional strategies for all students are explicit goals for THSP, as they are for high school reform activities all around the country. (The "new three Rs"—rigor, relevance, and relationships—are at this point universally incorporated into the reform rhetoric almost everywhere.) As in other places, however, there is no common, widely disseminated THSP or Texas definition of what is meant by either "rigor" or "relevance." Therefore, according to the evaluation's interview data, individual teachers are crafting their own definitions, which vary widely, particularly with respect to instructional strategies. Even in T-STEM Academies, where model specifications endorse a particular approach to rigorous instruction, teachers do not appear to have a consistent way to talk about instructional strategies that they are using to challenge students and bring them to a state of college readiness.

Relevance is even less well defined than rigor in the typical THSP high school classroom, which also mirrors the national pattern. The HSTW model has an explicit objective to provide as many students as possible with "real-world" experiences, but even those schools cannot do so for most students. Most commonly, when teachers were asked about how they make curriculum and instruction relevant to their students, they gave examples of how they speak about real-world applications for concepts being taught (e.g., in math or science) or compared situations in assigned readings or in lectures with current events (e.g., in English and social studies). Realistically, these strategies may be all that is possible for the schools. If relevance remains a key part of the reform rhetoric for high schools, however, we should offer better definition and clearer guidance to teachers on how they can enhance this aspect of their teaching strategies. Greater use of technology might be part of the answer here. However, teachers' recognition of the potential of technology is tempered by reports of insufficient training in integrating technology meaningfully into instruction.

As we have discussed, the tendency among several of the THSP models is an initial focus on getting the structural elements right, often to bring under control problem situations in schools. Thinking about and actually implementing changes to strengthen teaching and learning are deferred, or assumptions are made that structural changes will automatically lead to improved instruction. For the most part, however, leaders seem to clearly comprehend that they must get to curriculum and instruction at some point. It is understandable that dealing with all the pieces of a given reform model simultaneously is overwhelming, especially if most of the responsibilities devolve to the school principal or a small group of building administrators.

Other high school reform initiatives have faced this dilemma of staging structure and substance. In other evaluations that we have conducted, when leaders reflect back over several years of reform implementation, they quite often have expressed regrets about not addressing the teaching and learning issues earlier. In cases around the country where staging has been less of a problem, the leadership team has tended to be more broadly constituted such that small groups could undertake research on, planning for, designing of, and strategizing about different aspects of the reform model at the same time. Project officers for the THSP models may want to consider whether this kind of approach might help THSP schools move more quickly in the implementation process, particularly given the relatively short grant periods for most of them.

Another important issue to consider relative to improvements in teaching and learning is whether the supports available to students help them experience success, particularly if the bar is being raised as it is with, for example, the "four by four" curriculum. The overall data are clear that schools throughout Texas (both THSP and non-THSP) provide academic supports such as tutoring and pull-out classes to help as many students as possible pass TAKS. (The student survey data are also clear that many students do not routinely use the supports if they are not required.) We did not, however, find much discussion about or evidence of a broad array of supports that can address students' social and emotional as well as academic need. More attention to this issue might lead to innovative strategies that contribute to stronger effects on student outcomes.

Our intention in this chapter has been to summarize the evaluation team's synthetic thinking about what we have seen, heard, and learned in our first year of collecting data and deepening our knowledge of what THSP represents for the state of Texas. What we have learned has pushed the team's thinking toward factors related to replicability and sustainability—topics that we must consider more closely in the second and succeeding years of our work. In the next section, we pose some questions that might be considered by various groups under the THSP umbrella: the strategic alliance members, the networks, policymakers, and governance bodies, and the evaluation team itself.

Questions for Consideration Going Forward

THSP is now several years into implementation and at a point where it makes sense to take stock of progress toward the ultimate goal of systemic high school reform. The commitment of the contributors to the public/private alliance is strong and the investments are significant. In 2008, CFT hired the consulting firm of Katzenbach to reexamine the focus and direction of THSP and develop a five-year strategic plan. Working closely with key stakeholders at the TEA, CFT, and the THSP Alliance, the consulting team developed a plan that is built around four evidenced-based impact areas:

- Teacher Effectiveness—Teachers hired, developed, and supported through PD and TA to deliver strong student performance outcomes;
- Educational Leadership—Campus, district leaders hired, supported, and developed through PD and TA to focus on instruction and lead operations effectively;
- Learning/Instructional Delivery Systems—Methods employed to teach content to students and the managerial and operational support for these approaches;
- Performance Management—Infrastructure and processes for identifying, tracking, analyzing and using data critical to decision-making aligned with standards and successful student outcomes.[117]

The next step in the evolution of THSP is to direct attention and resources to these four areas. As the alliance moves its plans forward, the evaluation team suggests a few key questions that both their work and ours should consider:

- What are the key reform levers that THSP should focus on? Leadership at all levels is generally accepted as key, but what are the specific strategic actions of school leadership that lead to success in fixing high schools? How can the idea of leadership

[117] These impact areas were provided to the evaluation team by the THSP Alliance in April 2009, prior to public release of the full strategic plan.

be broadened so that high school reform ideas go deeper and are thus less susceptible to the turnover of individual educators?

- How can THSP more effectively use and build on existing state, regional, and model infrastructures and resources to support successful high school reform?
- What common definitions of rigor and relevance can be agreed on within the various THSP models and programs? Where and how will teachers learn about instructional rigor and relevance? Who will guide them? If there are multiple guides, how can THSP help teachers find coherence in the ideas, mandates, and assistance that they experience?
- What is an adequate suite of supports for the most at-risk students, especially in a policy environment of increasing emphasis on rigor and college/career readiness?
- What should the role of data be in high school reform? District and school leaders understand that use of data to make important programming and instructional decisions should be increased, but they are not always clear on how to use data to connect vision and action.

In year 2 of the evaluation of THSP, the team will build on the analyses and findings that have been presented in this report. The student outcome analyses will include the next cohort of ninth-graders while continuing to follow the progress of students already in the sample as they move up another grade. A new round of site visits to a random sample of the THSP schools and to some matched comparison schools occurred in the second semester of the 2008–09 school year. The evaluation team also paid repeat visits to a small number of the sampled schools from year one of the evaluation that showed evidence of being exemplary either in model implementation or with respect to a specific feature in the THSP theory of change. Surveys will not be repeated until the 2009–10 school year.

Looking Ahead to the Next Report

The evaluation team is already well into analysis of the data and findings that will be presented in the second comprehensive report, submitted to TEA in April 2010. Some of the ongoing analyses of qualitative data from interviews and site visits suggest that, based on comparative findings for 2007–08 and 2008–09, strategies and practices to improve high school education in Texas are moving in a positive direction. It therefore seems appropriate here to foreshadow key themes that are emerging as important discussions for the next report.

Greater Focus on Curriculum and Instruction

During the evaluation team's first round of interviews with school and district administrators as well as teachers, educators nearly universally described TAKS as the force that drove what happened in the classroom. The assessment system and its attendant school accountability ratings dominated all other considerations. The tendency, therefore, was admittedly to teach to the test.

Site visits and interviews in 2008–09 yielded quite a different picture. At many high schools, the focus had shifted from an exclusive emphasis on TAKS preparation to greater attention to the subject-by-subject state curriculum standards embodied in the Texas Essential Knowledge and Skills (TEKS). This shift represents greater attention to what is taught and how—day to day and week to week throughout the school year. At least to some extent, this change may reflect the direction that teacher professional development activities took across the state in the past year.

Professional Learning Increasingly Tied to Instructional Improvement

Site visit and interview data for 2008–09 indicate increased emphasis on professional development practices that research has shown to be associated with improved classroom practices and increased student learning. THSP schools (and in some cases, comparison schools) appeared to be engaging in professional learning opportunities that incorporated whole faculties, departments, or teams in examination of the teaching and learning offered to students—often based on analysis of formative or summative data on student outcomes. Further, school-level structures and roles that embed professional learning in the day-to-day life of schools (in contrast to PD "events" that take teachers out of school or occur on special days when students are not present) appear to be on the increase. These include the presence of regular times for teacher collaboration and positions such as instructional coaches and master teachers.

Student Supports

Data from 2007–08 indicated that school-based supports for students focused heavily on extra help for passing TAKS—before and after school tutoring, Saturday sessions, special in-school tutorial periods for selected students, and so on. Early analyses indicate that these types of student supports continue to dominate in 2008–09. The concern is that exclusive investment in these supports may not address student needs in other areas related to the ultimate goals of THSP—for example, successfully negotiating post-high school entry to college or career. Further, there appears to be scant attention paid across the range of THSP models and schools to encouraging and assisting families to support the aspirations of their children.

The Role of Districts and CMOs

Districts and CMOs continue to play a pivotal role in shaping school reform. These entities are increasingly active in leading and building capacity for instructional improvement. Often, the enhanced focus on using data to drive school-level improvement appears to be encouraged or required by district and CMO initiatives. Central office staff are also sometimes involved in school-level efforts to increase teacher collaboration to improve teaching and learning. Interestingly, the largest districts now seem less enticed by wholesale adoption of high school "models." Rather, they are looking for specific strategies and practices that can be inserted into (scaled up to) the range of high schools that they oversee.

The Role of THSP Networks

During the 2008–09 school year, the networks associated with THSP seemed to be taking ownership of their potential to enhance the overall impact of the THSP investment. The THSP theory of change assumed that each funded high school reform model would establish or integrate into some community of practice for sharing information about successes and challenges in individual school efforts to undertake improvement or reform activities. In 2007–08, the presence of network influence on THSP grantees was hard to detect. A year later, indications were that the networks associated with the various THSP models were improving the coherence of the technical assistance and support that they provided to schools. In the cases of some networks, oversight of approved technical assistance providers has increased and tightened. In others, technical assistance capacity has expanded. Nevertheless, despite improved effectiveness of individual network entities, the THSP could do more to provide opportunities for networks to share best practices at both the program (model) and school levels.

The second comprehensive evaluation report that emerges in summer 2010 will elaborate on the preliminary observations outlined above. The overall indications of high school reform progress in Texas are positive, and it seems likely that THSP is playing a significant role.

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Appendices
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Appendix A. Study Methods

Overview

This appendix details the design of and procedures for the major data collection methods and analyses. The study was based on a comprehensive and rigorous mixed-methods design to develop an understanding of the implementation and outcomes of THSP and its various programs. The data collection strategy integrated robust qualitative and quantitative methods to capture perspectives at multiple levels of the educational system, investigating implementation and facilitating factors and barriers, and to analyze the effects of THSP reforms on THSP schools in comparison to rigorously matched non-THSP schools. Data collection activities included site visits to THSP participating schools and districts and to comparison schools; surveys of principals, teachers, and students in THSP schools; interviews with external intermediaries (e.g., network leaders, policymakers), and collection of TEA school and student characteristics including demographic information and outcomes. Analyses of implementation and outcome data seek to describe implementation of reform at the participating schools; isolate school and classroom factors that account for differences in teacher attitude and classroom instructional activities as well as student attitudes and achievement; identify differences related to the type of program being implemented at the school; examine the role of the district in implementing school reform; and investigate policy factors that impacted the school reform taking place in Texas.

Comparative Outcomes Analysis

One part of the overall research activity was to conduct comparative analysis looking at outcomes for students at THSP schools compared to students at non-THSP schools. As we describe below, propensity score matching was used to create a pool of non-THSP schools for comparison purposes in determining the effect of THSP schools on a variety of student outcomes.

Matching Procedure

To ensure that THSP schools and non-THSP schools have similar demographic composition and achievement indicators, we applied a two-stage matching strategy combining propensity score matching and specific characteristics matching to find comparable schools for the THSP schools. To start, we posited a selection model to estimate what types of schools are likely to participate in the THSP initiative, using school-level information from the AEIS data. Based on the estimated propensity model, we calculated a propensity score (logit) of participating in the THSP initiatives for each school based on a set of school characteristics. Exhibits B-1, B-2 and B-3 present the results of the selection model for pre-existing schools funded in 2006–07, pre-existing schools funded in 2007–08, and newly opened schools funded in 2007–08 respectively[118]. Unless otherwise noted, we interpret the results below at a

[118] We analyzed newly opened schools funded in 2007–08 separately from pre-existing schools since newly opened schools do not have previous year achievement indicators as existing schools do. To match newly opened THSP schools funded in 2007–08, we aggregated 2006–07 student-level achievement to the school level, which we used together with 2007–08 school level demographic information for propensity score modeling and the

significance level of 0.05, that is, coefficients with a *p* value of less than .05 are considered statistically significant.

Compared with non-THSP schools in the state with the same grade span, 2006–07 pre-existing THSP schools on average tended to have proportionally more economically disadvantaged students, adjusting for all school characteristics simultaneously. THSP schools funded in 2006–07 tended to have marginally significant ($p < .10$) lower percentages of African-American students and special education students when compared to other schools at the same level of economically disadvantaged students and other school characteristics. THSP schools funded in 2006–07 also tended to have lower average teacher experience, yet proportionally fewer teachers in their first year of teaching, and more African-American teachers, adjusting for other school characteristics. In addition, 2006–07 THSP schools generally tend to be larger than non-THSP schools and with a marginally significant ($p < .10$) smaller student-teacher ratio.

Compared with non-THSP schools, pre-existing 2007–08 THSP schools tended to have marginally significant ($p < .10$) higher percentages of African-American students and special education students, adjusting for other school characteristics. Existing 2007-08 THSP schools also tended to have a marginally significant ($p < .10$) lower percentage of students taking SAT or ACT and lower attendance rate. In addition, compared with non-THSP schools, pre-existing 2007–08 THSP schools tended to have a marginally significant ($p < .10$) larger proportion of schools serving some combination of grades 6 to 12 versus solely grades 9 to 12.

Compared with all non-THSP schools in Texas, newly opened 2007–08 THSP schools tended to have proportionally more African American students and fewer special education students, adjusting for other school characteristics. There was a marginally significant ($p < .10$) lower proportion of students who passed 8th grade TAKS reading in newly opened 2007–08 schools than in non-THSP schools. There was a larger percentage of teachers in their first year of teaching and a smaller percentage of African-American teachers in newly opened 2007–08 THSP schools than in non-THSP schools. In addition, newly opened 2007–08 THSP schools generally tended to be smaller than non-THSP schools and to have a larger proportion of schools serving some combination of grades 1 to 12 versus solely grades 9 to 12 than did non-THSP schools. Newly opened 2007–08 THSP schools were also less likely to be Title 1 schools than non-THSP schools.

We can see that THSP schools tend to be more disadvantaged and higher risk than average non-THSP Texas schools. Therefore, comparing THSP schools with the rest of Texas high schools is not appropriate when evaluating the effects of THSP schools. Propensity score matching is a widely used technique to address the above treatment selection bias (Rosenbaum & Rubin, 1983; Dehejia & Wahba, 2002). By finding "statistical twins" of each THSP schools, propensity score matching methods can yield unbiased estimate of the treatment impact (Dehejia & Wahba, 2002; Caliendo & Kopeinig, 2006).

We next selected a comparison group of schools that are very similar to each THSP school on a number of key school and district characteristics. Exhibit B-4 and B-5 presents the selection criteria on variables that were used to choose comparison schools for pre-existing schools and newly opened schools respectively. The variables are listed in order of priority that

---

subsequent matching. We used only exact variable matching for newly funded schools in 2006–07 since the number of such schools is too small for valid propensity score modeling.

we used for matching. Order of priority was determined by balancing achievement and structural measures that researchers deemed important indicators of a school culture of achievement. We followed the criteria in the majority of cases. However, for THSP schools that do not have enough comparison schools due to differences in grade span, urbanicity, or total enrollment, we relaxed the criteria to obtain a sufficient number of comparison schools (a target of six comparisons for each THSP school).

For some THSP schools, it is impossible to find a comparison group of more than six schools that satisfy the criteria for all the listed variables. We therefore proceeded to find matches starting with the top priority on the variable list until the number of comparison schools dropped close to six. We then matched the THSP school with six comparison schools that have the closest propensity scores (1-to-*k* nearest neighbor matching). This procedure enabled us to acquire six comparison schools that are as similar as possible[119] to the THSP school on most important school characteristics, as well as on the combination of variables used in propensity score modeling. In addition, each comparison school is uniquely matched to a THSP school and no THSP schools share the same comparison school.

Exhibits B-6 and B-7 present detailed information on THSP schools funded in 2006–07 and 2007–08, respectively, and on their matching status in this analysis.

Student Outcomes Analysis

To address the nested nature of the data, we applied the same two-level hierarchical linear model with student and school levels to study each of the continuous student outcomes, for repeaters and nonrepeaters separately. For the dichotomous outcome variable, passing Algebra I at ninth grade, we used a two-level hierarchical model with a logit link function. For all the models, we used the same set of student and school-level predictors where possible.[120] To estimate THSP effects at the same level of student characteristics, we applied grand-mean centering for all student level predictors as well as continuous school-level predictors. The models are described below.

HLM for continuous student outcomes (TAKS reading and math and percentage of days absent) is shown below.

[119] What Works Clearinghouse standard 2.0 (2008) specifies that treatment and comparison groups are equivalent if their differences on the characteristics are less than 0.25 of a standard deviation (standard deviation is defined as the standard deviation of the pooled sample). In addition, the effects must be statistically adjusted for baseline difference in the characteristics if the difference is greater than 0.05 of a standard deviation. In this study, the evaluation team follows the above WWC procedures. THSP schools and the matched comparison schools are less than 0.25 standard deviations away on most school and district characteristics. The analysis also statistically controlled for the differences that are greater than 0.05 of a standard deviation. Therefore, the evaluation team is confident in saying that THSP and matched comparison schools are very similar.

[120] Although THSPE specifies the use of five ethnicity categories, Native American (NA) are excluded from the HLM models. The number of NA students in these analyses was quite small, and including them had no impact on the HLM. In order to increase the power of the analyses, evaluators eliminated predictors that did not impact any of the HLM models, as was the case with the NA ethnicity category.

Student-level model:

$$
\begin{aligned}
Y_{ij} = \;& \beta_{0j} + \beta_{1j}\,(\text{Reading\_g8})_{ij} + \beta_{2j}\,(\text{Math\_g8})_{ij} \\
& + \beta_{3j}\,(\text{Science\_g8})_{ij} + \beta_{4j}\,(\text{Social\_g8})_{ij} \\
& + \beta_{5j}\,(\text{Female})_{ij} \\
& + \beta_{6j}\,(\text{African-American})_{ij} + \beta_{7j}\,(\text{Hispanic})_{ij} + \beta_{8j}\,(\text{Asian})_{ij} \\
& + \beta_{9j}\,(\text{English learner})_{ij} + \beta_{10j}\,(\text{Immigrant})_{ij} \\
& + \beta_{11j}\,(\text{At risk})_{ij} + \beta_{12j}\,(\text{Economically disadvantaged})_{ij} \\
& + r_{ij}
\end{aligned}
$$

School-level model:

$$
\begin{aligned}
\beta_{0j} = \;& \gamma_{00} + \gamma_{01}\,(\text{THSP})_{j} + \gamma_{0k}\,(k\text{th school level predictor})_{j} + u_{0j} \\
\beta_{pj} = \;& \gamma_{p0} \qquad \text{for } p > 0.
\end{aligned}
$$

(continued on next page)

Where

Y_{ij} is the value of the outcome variable for student *i* in school *j*.

β_{0j} is the expected value of the outcome variable for school *j*, controlling for student and school level variables.

β_{pj} is the effect of the pth predictor on the outcome for school *j*, controlling for student and school-level variables. This effect is constrained to be the same (γ_{p0}) across schools.

γ_{00} is the average outcome, controlling for student and school-level variables.

γ_{01} is the effect of THSP schools on the outcome, controlling for student and school-level variables.

γ_{0k} is the effect of the *k*th predictor on the outcome, controlling for student and school-level variables.

r_{ij} is the unique effect of student *i* in school *j* on outcome, which is assumed to be normally distributed with a mean of 0 and a homogenous variance δ^2 across schools.

u_{0j} is the unique effect of school *j* on the outcome. It is assumed to be normally distributed with a mean of 0 and a homogenous variance of $\tau_{00.}$ A significant τ_{00} would indicate that the difference in the outcome between the students varies across schools.

Hierarchical model with logit link function for passing algebra 1 in ninth grade is shown below.

Student-level model:

$$\begin{aligned}\eta_{ij} = \; & \beta_{0j} + \beta_{1j}\,(\text{Reading\_g8})_{ij} + \beta_{2j}\,(\text{Math\_g8})_{ij} \\ & + \beta_{3j}\,(\text{Science\_g8})_{ij} + \beta_{4j}\,(\text{Social\_g8})_{ij} \\ & + \beta_{5j}\,(\text{Female})_{ij} \\ & + \beta_{6j}\,(\text{African-American})_{ij} + \beta_{7j}\,(\text{Hispanic})_{ij} + \beta_{8j}\,(\text{Asian})_{ij} \\ & + \beta_{9j}\,(\text{English learner})_{ij} + \beta_{10j}\,(\text{Immigrant})_{ij} \\ & + \beta_{11j}\,(\text{At risk})_{ij} + \beta_{12j}\,(\text{Economically disadvantaged})_{ij}\end{aligned}$$

School-level model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\,(\text{THSP})_j + \gamma_{0k}\,(\text{kth school level predictor})_j + u_{0j}$$

$$\beta_{pj} = \gamma_{p0} \qquad \text{for } p > 0.$$

Where

η_{ij} is the log-odds of passing algebra 1 for student *i* in school *j*.

β_{0j} is the expected log-odds of passing algebra 1 for school *j*, controlling for student and school-level variables.

β_{pj} is the effect of the *p*th predictor on log-odds of passing algebra 1 for school *j*, controlling for student and school-level variables. This effect is constrained to be the same (γ_{p0}) across schools.

γ_{00} is the average log-odds of passing algebra 1, controlling for student and school-level variables.

γ_{01} is the effect of THSP schools on the log-odds of passing algebra 1, controlling for student and school-level variables.

γ_{0k} is the effect of the *k*th predictor on the log-odds of passing algebra 1, controlling for student and school-level variables.

u_{0j} is the unique effect of school *j* on the outcome. It is assumed to be normally distributed with a mean of 0 and a homogenous variance of $\tau_{00.}$ A significant τ_{00} would indicate that the difference in the outcome between the students varies across schools.

To investigate whether THSP schools have a larger effect on students with certain characteristics, such as economically disadvantaged status or being African-American, we added interaction terms between THSP and the student characteristics whenever THSP schools were estimated to have a statistically significant effect on an outcome variable. The equation for β_{pj} thus becomes:

$$\beta_{pj} = \gamma_{p0} + \gamma_{0p}\,(\text{THSP})_j$$

where γ_{0p} indicates the extra effect THSP has on the *p*th student characteristics. To maintain a parsimonious model, we removed the interaction term if it was not statistically significant.

Because of limited sample size, there is not enough statistical power to include all available school-level variables in the analyses. We therefore included school-level variables we are most interested in, and that are not aggregated student demographics because we already included student demographics at the student-level model. The school-level variables we included in the final models are urbanicity, accountability rating (entered as a set of categorical variables, with Academically Acceptable as the reference category), percentage of mobile students, percentage of special education students, and percentage of teachers in their first year of teaching, with an additional percentage of passing algebra 1 before ninth grade for the passing algebra 1 analysis.

Principal, Teacher, and Student Surveys

As part of the overall research activity, surveys of principals, teachers, and students were conducted in THSP-supported schools. The surveys were designed to serve two purposes: (1) provide quantifiable data on implementation, school attributes, and classroom attributes for each of the different reform models and (2) provide information to help us assess the extent to which the different reform models lead to improved student outcomes. In this first year of the THSP evaluation, surveys were sent to all principals and a sample of teachers and students from THSP schools serving ninth-grade students. The surveys were administered online to principals and teachers, with a paper-based survey sent as requested. All student surveys were paper-based and administered in students' classrooms. Incentives were provided to principals and teachers to complete the survey, as well as to schools that completed administration of the student surveys.

In this section we describe (1) survey development, (2) school selection, (3) school contact, (4) principal, teacher, and student sampling, (5) survey administration procedures and response rates, and (6) analytic methods.

Survey Development

Principal, teacher, and student survey items were developed to measure the constructs in the THSP TOC.[121] For each construct in the TOC, survey items were selected from existing, validated, and reliable scales, and modified as necessary to most closely measure the relevant constructs. As possible, individual items and answer scales were kept consistent both within and across surveys in order to facilitate later comparison across sources. Survey items were drawn from the following surveys: The BMGF's National School District and Networks Grants Program (principal, teacher, and student surveys) (AIR/SRI, 2004b), the Consortium on Chicago School Research (CCSR) (principal, teacher, and student surveys) (CCSR, 2005), and the Surveys of Enacted Curriculum (teacher surveys of math, science, and English language arts) (Council of Chief State School Officers and the Wisconsin Center for Education Research, 2005). Surveys were pilot tested to evaluate the modifications made to individual items as well as the overall flow, readability, and time to complete the surveys.

As is shown in Exhibit A-1, the principal, teacher, and student surveys measured the following constructs.[122]

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121 The Theory of Change is described more fully in Chapter 1 of the report.

122 The evaluation team developed items on for those constructs in the theory of change that could conceptually be assessed using a survey. Other constructs were assessed with the site visits, interviews, and/or the student achievement analysis.

Exhibit A-1
Crosswalk Between Survey Topics and Surveys Items

Survey Topics	Survey Item by Respondent		
	Principal	**Teacher**	**Student**
District and External Supports			
District leadership (administration, instructional)	1	1, 2	
Role and effectiveness of the network	3–6	2–5	
Role and effectiveness of external support providers	7	6–8	
School Organizational Characteristics			
School leadership	8–12	9–11	
Professional development	11–14	9, 12–14	
Common focus and collaboration	8, 11–12, 15–17	9, 15–17	
Academic/social support for students – remediation, counseling, differentiation	18	18–19	
Data management and accountability	19–21		
Parent/community involvement	20, 21	22, 23	11, 12
School Climate			
High expectations – expectations for achievement and educational attainment	24	22–23	1–2
Respect and responsibility – degree of respect, responsibility, and relational trust	25–27	24–25	3–6
Personalization – nature of relationships between teachers and students, and among students	28	26–28	7–8
Safe environment	29	29–30	9–10
Classroom Attributes			
Coursework rigor and relevance		31–35	13–20
Formative assessments – Used to inform instruction		36, 37–38	21–22
Technology – Used in coursework		39, 40	23–24
Instructional practices (e.g., enacted curriculum, engaging instruction)		41	
Student Experiences			
Enrollment in advanced courses (AP, IB, AVID, college)			25–26, 29
Internship/work study participation			27–28
Peer attitudes towards academics			30–31
Student Attitudes			
Attitudes towards academics – Engagement in learning		41, 43–45	32–35
Educational aspirations - High school and college		46	36–41
Reform Progress/Implementation			
Challenges in implementation and Sustainability of reforms	30*	47*	

School Selection

The schools selected for inclusion in the survey sample were those schools that received THSP funding for either the 2006–07 or 2007–08 school years and served ninth grade students in the 2007–2008 academic year.[123] TEA provided the research team with a list of 83 schools that received funding during these years; however, 10 of these schools did not have a ninth-grade cohort during the 2007–08 school year. In addition, one school had not fully implemented its program, another had lost its funding, and another school was removed from the sample. In all, there were 70 schools remaining in the survey sample.

Principal, Teacher, and Student Sampling

Surveys were sent to each of the principals at the 70 schools eligible for inclusion in the sample. However, both to minimize cost and to minimize impact on the schools, only a sample of teachers and students were included. In addition, we also wanted to be sure we had sufficient numbers of teachers and students so that we could disaggregate any analyses by subject matter. We also wanted to link students to teachers and therefore needed to ensure that we had a minimum number of students per teacher. In consultation with statisticians and through power analyses, it was determined that we should include a random sample of between 12 to 15 ninth-grade English, math, and science teachers.[124] However, in practice we found that in order to get the required linkages with a sufficient number of students, it was necessary to include each instructor who taught English 9, Biology, or Algebra I at the school.

For our student sampling strategy, it was determined that we would need to ensure adequate sample sizes for each subject area—both because students' attitudes toward school and their classroom experiences were likely to differ by subject areas, and any potential linkages to student achievement data was to be analyzed by subject area. While initially we intended on randomly sampling students from within those 12 to 15 teachers' classes, we were unable to obtain classroom rosters. Without rosters, we were unable to implement a random sample. Therefore, we sampled all students from within the selected teachers' classrooms. Sampling for teacher and student surveys was done based on school schedules obtained directly from the schools.

Student Sample and Administration

The student survey examined the students' classroom experiences and detailed their goals for the future. For the administration of the student survey, the research team worked toward its key goals of collecting responses from a sufficient number of students to make valid conclusions, while minimizing disruption to the schools' instructional time. The following sample design was intended to balance these two competing goals.

- **Student Sample.** In order to reduce the effect the survey had on classroom time, care was taken to ensure that no student was surveyed in multiple classes (i.e. in both their math and English classes). To accomplish this, students were sampled either within one period or from only one subject. Because students have only one class per period and take individual subjects once throughout the day, this design ensured that the vast

[123] Surveys will be administered every other year of the study. In 2007–08 the survey included ninth-grade students from schools in cohorts 1 and 2. In 2009–10 the survey will include ninth-grade students from schools in cohorts 1 through 4 and 11th-grade students from schools in cohorts 1 and 2.

[124] For small schools, this number of teachers meant that all teachers in those disciplines would be surveyed.

majority of the students would lose no more than one class period to the survey. Where possible we avoided selecting the first or last period of the day, except in cases where it was the only period available or where it was greatly superior in terms of the courses being offered in that period.

- In order to ensure sufficient numbers of students participated in the survey, for all but the smallest schools, at least six classrooms were sampled. For those schools whose sizes prevented six classes being sampled, each ninth grade student in the school was included in the sample. In order to accomplish this in a systematic manner, a three-pronged sample design was created. The three sample strategies used are detailed below, in descending order of preference.[125]

- **Single Period.** The preferred method of sampling was to survey at least three English I classes and at least three Algebra I classes within one class period. This approach assures that there is a sufficient number of Math and English classes and prevents surveying the same student multiple times. While this method is preferred, only larger schools were able to utilize this approach due to the large number of students required to make three Math and English classes within one period practical. When there were more than one period where three English I and Algebra I classes were offered, the sample was based on researcher discretion that attempted to maximize the number of classrooms sampled and to provide for representation of advanced, honors, and advanced placement courses. When no difference in class periods was available on these factors, the class period was randomly selected.

  A total of 20 schools were sampled using the single period method.

- **Complete Sample.** In any survey design, a complete sample eliminates biases caused by a poor sample distorting results; however, for most schools a complete sample would be inefficient and reduce school participation. Smaller schools, though, contained small enough numbers of students that a complete sample was prudent. The key difficulty in a complete sample is creating a sample of classes that eliminates the possibility of sampling a student multiple times and reducing the sampling of students in grades other than ninth. The utilization of English I classes provided a favorable avenue for sampling ninth grade students as students in Texas are required to have four years of English and that nearly all ninth grade students were in English I. Only in unusual circumstances would a non-ninth grade student attend an English I class. For those schools that offered six or fewer English I courses, each of the classes were sampled, providing a complete sample of each ninth grade student.

  A total of 45 schools were sampled using the complete sample method.

- **Random Selection of English Classes.** Mid-size schools presented the most challenges for sampling. When no period exists that has three Algebra I and three English I classes, then the number of English I classes to be randomly selected was determined based upon the size of the freshmen class. Monte Carlo simulations were utilized to predict the number of English I classes that should be sampled that would ensure that any Algebra I class that is randomly selected would have at least five students represented in the surveyed English I classes. The responses of students

[125] One school did not provide us with a schedule in time to participate in the student survey, resulting in a total of 69 schools receiving the student survey.

were linked to the appropriate Math teacher using questions that are added to the survey instrument. Additionally, in order to minimize the disruption for students and teachers, if only one of a teacher's classes was not sampled, the non-sampled course was included into the sample.

A total of four schools were sampled using the random selection approach.

Student Survey Administration

Once the classrooms were sampled, the research team shipped each school contact a box containing the necessary supplies to administer the survey. The package included a memorandum for the survey coordinator that detailed the other contents and highlighted the procedures for survey administration.

More detailed instructions were provided for the survey coordinator including details concerning the timeline for administering the survey. Schools had the ability to implement the surveys at a time of their choosing within broad limitations: parental notifications were required to be sent one week prior to survey administration and the surveys needed to be completed before the end of the school year. The more detailed instructions included instructions for contacting parents and draft parental notifications.

The survey contacts delivered envelopes to each sampled classroom. The cover of the envelopes contained brief instructions for the teacher and a description of the contents of the package. For each class, the package contained the following:

- Detailed administration instructions
- 31 student surveys
- Surveys for each student and five extra students sent when rosters were available
- An additional envelope to seal de-identified student surveys to the survey administrator

Following completion of the surveys, each teacher returned the surveys to the primary survey contact. The contact then packaged all surveys together, completed verification of the parental notification form, provided basic payment information for the school incentive, and sent all materials to the research team. Once the completed surveys were received, the data were coded using the TeleForm system and hand verified when necessary. Each school that completed the survey (including the parental notification verification and submission of a tax identification number for the school) was provided with a $1,000 token of appreciation for their efforts.

As shown in Exhibit A-2, student surveys were sent to 69 schools; 61 of these schools returned their surveys, for a response rate of 88%. Unfortunately, 12 of the schools did not return confirmation of parental consent. Due to privacy concerns, responses from these schools were removed, resulting in 49 schools included in the analyses, an effective response rate of 71%. The research team made repeated requests to these schools in an effort to obtain these forms. In all, 5,592 surveys were completed by THSP students. However, due to lack of completed confirmation of parental consent forms, 4,543 student surveys are included in the analyses.

Exhibit A-2
School Response Rate for Student Survey

	Number of Schools	Response Rate
Received survey	69	–
Returned survey	61	88.4%
Returned permission form	49	71.0%

Teacher Survey Sample and Administration

Ninth-grade English, math, and science teachers were surveyed to determine their views concerning the educational environment of the school, resources available and the fidelity of the THSP reform implementation. Teachers who completed the survey were provided a $30 gift card as a token of appreciation.

The survey was web-based, created utilizing the LimeSurvey platform. This approach allows for questions to be tailored to the teachers' responses to prior questions. For instance, teachers who indicate they teach science courses were not asked about the learning environment in math classes. Web-based surveys also facilitate the contact of many teachers in a cost-effective manner.

Teacher e-mails were collected from school websites. For those schools that did not provide e-mails via the web, schools were phoned to collect the addresses. Also, patterns were identified in school district e-mails and used to predict a teacher's e-mail address. For instance, many school districts used the teachers first initial and last name to begin their e-mail address and the districts' web address following. As an example John Doe at Fake High School in the Texas Independent School District might have jdoe@texasisd.org as an address. To the extent that these patterns existed, they were utilized.

Each sampled teacher was sent an e-mail that contained a link to the web-based survey. The e-mail gave a brief overview of the survey and noted that those who complete the survey would receive a $30 gift card as a token of appreciation. LimeSurvey utilizes a "token" based system where the e-mail to the teacher is linked to a survey specifically for the individual. Upon completion of the survey, the teacher is automatically removed from the pending survey list. Teachers were also able to start and stop the survey at their leisure, with their prior responses saved for them.

Teachers who had not completed the surveys were sent regular e-mail reminders. Also, due to the possibility of bad e-mail addresses, the teachers were mailed a request to participate, including the web address of the survey. As a final attempt, principals were sent e-mails and letters noting which teachers were sampled, and requesting they indicate their support of the survey to the teachers at their school.

In all, 665 teachers were sampled; 372 educators responded to the survey by the Spring 2008 deadline, for a response rate of 56%. Because many teachers received the survey requests at the end of the school year when their schedules become more hectic than usual, the research team provided the teachers with another opportunity to participate in August 2008. Teachers were e-mailed and sent a hard-copy request to participate. In addition, teachers were sent two e-mail reminders. Thirty-one teachers took advantage of this extended period, increasing the response rate to 60%.

The surveys were sent to teachers once the research team had access to their school schedules and could adequately sample them. Unfortunately, for a large number of teachers that was late in the school year. Nearly two-thirds of the teachers were sampled after May 20, 2008. Not surprisingly, those teachers who were sampled late were much less likely to participate. As Exhibit A-3 indicates, this group had a response rate of 46%, while the teachers sampled earlier had a response rate of 80%.

Exhibit A-3
Response Rate by Sample Date for Teacher Survey

	Sampled Prior to May 20	Sampled After May 20	Total
Total Sampled	280	385	665
Completed in spring 2008	216	156	372
Completed in August 2008	9	22	31
Total completed	225 (80%)	178 (46%)	402 (60%)
Unduplicated total			399 (60%)

Although the total number of completed teacher surveys was 402, examination of the teacher data indicated that 3 of these were duplicates. These 3 duplicates were removed for purposes of analyses resulting in an overall response rate of 60%.

Principal Survey Sample and Administration

Each principal of a school that qualified for the student survey was sampled to take a survey detailing the educational environment in the school and the supports available to them. As with the teacher survey, the research team created the web-based instrument using LimeSurvey. Principals were initially provided with e-mail invitations using addresses provided by TEA. For those administrators for whom TEA did not have valid e-mail addresses, the research team searched websites for addresses or phoned the school to obtain the proper contact information.

Those principals who did not respond were sent letters requesting participation. Prior to ending the survey, each non-responding principal also was contacted and given the opportunity to take the survey over the phone. Those principals who completed the survey were given a $50 gift card as a token of appreciation. As shown in Exhibit A-4, 56 principals completed the survey, for a response rate of 81.2%. However, upon examination of the data, two principal surveys were removed from the data—one from a school that was not serving ninth graders and one duplicate survey. This resulted in a total of 54 principal surveys for analysis purposes, a response rate of 78.3%.

Exhibit A-4
Response Rate for Principal Survey

Received Survey	**69**
Completed	56 (81.2%)
Total usable	*54 (78.3%)*

Data Cleaning

The research team utilized technologies that minimize data entry error. For instance, the student surveys were scanned using the TeleForm optical scan system. Where TeleForm was unable to make a clear determination, the entry was hand checked. The teacher and principal surveys were collected via LimeSurvey. This platform ensures that data are directly entered by the individual, greatly reducing the likelihood of data-entry error.

Due to the low number of schools who provided school rosters, the research team asked students to write in which English, math and science course they took and who taught the class. The students' responses were then linked by hand to the rosters used to sample the teacher survey. This process was performed twice, with an initial agreement of 95.1%, the discrepancies in teacher assignment were identified, revisited, and recoded.

In addition, in order to link the student data to the statewide student achievement data provided by TEA, SRI undertook a matching procedure to match each student survey to a unique identifier provided by TEA. This unique identifier would enable us to match individual students to their student achievement data. We began by conducting a matching procedure to match student surveys to TEA data using their name, date of birth, and school. Initially matching by computer produced 2,418 matches. Where it was not possible to match with the computer (e.g., multiple students with the same name, students with the same name listed in different districts), SRI implemented a hand matching process. Additional matching by hand resulted in 3,099 total matches (out of a total of 4,543 student surveys).

As is true in all surveys, bias can be introduced into analyses as a result of patterns in the response rates. For the student surveys, one source of bias was that respondents who completely and legibly filled out surveys represent a nonrandom subsample of those in the sample. Another possible source of bias in the student sample comes from the process of linking the student survey data to the TEA administrative data used in the outcomes analyses discussed in Chapter 2. This linking was necessary to analyze the relationship between implementation factors as measured by the surveys and student achievement outcomes provided by TEA administrative data. Seventy percent of the student survey sample was linked to the TEA achievement outcome data.[126]

To determine whether there was bias due to the non-random student sample, evaluators compared the students in the sample linked to TEA data to those from the unlinked sample on a series of student survey variables. The purpose of this analysis was to determine if there were differences in the data from the two groups – linked students and unlinked students. Compared with the unlinked students (approximately 30% of the sample), students in the sample linked to TEA data reported higher parental expectations for college attendance, less access to

[126] As described above the linking process used first, middle, and last names as well as birthdate, school name, and district name. However, about 30% of the sample could not be matched due to missing data either from the student survey or from the TEA data, or duplicate data for which an exact match could not be determined.

postsecondary preparation at their school, more classroom instruction in basic math skills, more positive attitudes toward academics, a higher level of positive attitudes toward academics among their peers, and lower levels of uncertainty about attending and graduating from college.

Survey Analysis

The first analytic step was to run descriptive statistics on school characteristics, classroom attributes, and student experiences to understand how they are manifested in THSP schools. Data tables showing these descriptives are summarized at the state level for all THSP schools and by program.

The development of summary implementation and outcome measures was then done with factor analysis using principle component analysis. This resulted in 7 principal survey factors, 27 teacher survey factors, and 19 student survey factors. Once the factors had been created, we merged the principal, teacher, and student files to conduct analyses using Hierarchical Linear Model. For the HLM relating implementation factors to intermediate teacher factors, this resulted in 347 teachers in 53 schools. For the HLM relating implementation factors to intermediate student outcomes, this resulted in approximately 4,000 students (range from 3,871 to 3,979) in 44 schools. To account for the nesting of students and teachers within schools, we applied a two-level hierarchical model for each student and teacher outcome, with student/teacher and school factors included at their respective levels. We included implementation variables at different levels where appropriate.

Factor Analysis Procedures

Factor analysis was conducted using data from the principal, teacher and student surveys to create scales from multiple survey items measuring key constructs within the THSP theory of change. Broadly they fall into the following categories: district and school leadership, organizational structures and practices, normative climate, classroom attributes and student attitudes. Items within surveys considered to capture these constructs were identified and principal component factor analysis was used to refine the choice of items in within each individual scale. Analysis used varimax rotation and listwise deletion, and was conducted in SAS.

The reliability, as measured by Cronbach's alpha, and items in each scale are presented in Exhibits A-5, A-6, and A-7 below[127]. When similar constructs were measured across surveys, similar items were used across surveys when possible. In some cases, items were not as highly correlated within particular surveys possibly due to differences in sample sizes and perceptions of respondents. Cross item averages for each observation were taken to create a mean value for each construct to create new variables. These measures are used in two ways within this study, presented as descriptive statistics to characterize THSP schools as perceived by principals, teachers, and students and as variables within the HLM analysis described later.

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[127] The factor analysis that was used to create the factors described in these exhibits was based on a larger sample of high schools from Texas than included in the final analyses. This larger sample included all THSP schools as well as the schools participating from the Austin Independent School District. We compared the factor scores for the THSP sample to the larger sample and found only minor differences in alpha scores (RELIABILITY COEFFICIENTS). The alpha scores presented here are for the initial, larger sample on which the factors were created.

Relating Implementation to Student Outcomes Analysis

There are five student outcomes of interest. Three of the student outcomes were factors created from combining student survey items: Student Attitude Towards Academic Improvement; Student Attitude Towards Effort-Based Learning; and Student Attitude Towards the Importance of School. We applied the same hierarchical linear model for each of these continuous student outcome factors averaged from multiple Likert-scale items. The remaining two student outcomes were responses to single survey items including Student Aspiration to Graduate from High School, Student Plan to Attend College. We applied a hierarchical model with a logit link function for these two dichotomous outcome variables (yes as 1, no or don't know as 0). We used the same final set of predictors for each outcome using the following.

We entered predictors in five steps. In Step 1, we posited a model without any predictors to show the between-student and between-school variance components. In Step 2, we added school level demographics and achievement indicators as well as Student Report of Parent Expectations for Attending College at the student level. In Step 3, we added program indicators to show program differences on the outcomes, controlling for differences in school and student characteristics. In Step 4, we added school level implementation factors to explain the remaining differences in the outcomes. And finally in Step 5, we added student level factors that are supposed to be associated with implementation.

We are interested in studying the effect of many implementation factors on the student outcomes. After qualitatively selecting factors that may be related to the student outcomes and that are not highly correlated with each other, we still had a large number of school-level predictors. Because there is not a large enough sample size to reliably estimate the effects of so many predictors, we applied backward stepwise selection to include only predictors that significantly predict any of the five outcomes.[128] We applied the selection procedure in steps 2 to 5 as described above. Once a predictor is selected in a step, we keep it in the model in the subsequent steps. Results from these analyses are discussed in the next section.

Relating Implementation to Teacher Outcomes Analysis

We analyzed three general teacher outcomes[129]: Teachers' Responsibility for Student Learning, Frequency of Collaboration with Colleagues, and Frequency of Teaching Advanced Skills. We applied the same hierarchical linear model for each of these continuous teacher outcome factors averaged from multiple Likert-scale items. We applied the same five steps and used stepwise selection of predictors the same way as in the student outcome analysis.

[128] Because stepwise selection is not available for hierarchical modeling, the evaluation team conducted the stepwise selection using multiple regression, without distinguishing the levels. While multiple regression tends to yield smaller standard errors of higher level (school) predictors than hierarchical modeling, the evaluation team may have included more predictors that are not statistically significant in hierarchical modeling.

[129] The evaluation team also tried to analyze three subject-specific teacher outcomes, only to find that the sample sizes are too small to yield reliable results.

Exhibit A-5
Texas High School Project Student Survey Factors

Scales	Survey Items	Reliability (α)
Access to Postsecondary Support and Preparatory Experiences	17g: College entrance exam prep assistance 17h: Career guidance 18b: College tours 18c: Enrollment in college courses (offered on a college campus, online, or at my school) 18d: Job shadowing or visits to observe work sites 18f: Internships	0.74
Access to Academic Supports	17a: One-to-one tutoring 17b: Classes and/or seminars on how to improve academically (e.g., homework strategies, organization, time management) 17d: Academic counseling 17e: Academic remediation 17h: Career guidance 17j: Advanced Placement Strategies (e.g., tutoring, prep sessions, or summer academies supporting your work in AP classes)	0.76
Student Report on Instruction Relevance	6a: Made connections between what I was learning in class to life outside the classroom. 6b: Made connections between what was covered in my class and what I covered in other classes. 6c: Made connections between what was covered in class and what I plan to do in life.	0.77
Student Report on Instruction - English Advanced Skills	9d: Used my point of view about something I have read. 9e: Wrote papers and essays. 9f: Proposed an argument and supported it with ideas from books or other readings. 9h: Gathered information on a topic using books or materials other than my text book. 9i: Worked on assignments, reports, or projects that take multiple days to complete.	0.82
Student Report on Instruction - English Basic Skills	9a: Answered factual questions about passages the class has read. 9b: Learned parts of speech or how to diagram sentences. 9c: Edited text for grammar and clarity. 9g: Memorized and recalled literary facts (e.g., literary periods, authors, terms).	0.78
Student Report on Instruction - Math Basic Skills	13a: Watched the teacher demonstrate how to do a procedure or solve a problem. 13g: Took notes from lectures or the textbook. 13h: Completed exercises from a textbook or worksheet.	0.67

Exhibit A-5 (continued)
Texas High School Project Student Survey Factors

Scales	Survey Items	Reliability (α)
Student Report on Instruction - Math Advanced Skills	13c: Applied mathematical concepts to “real world” problems. 13d: Analyzed data to make inferences or draw conclusions. 13e: Explained to the class how I solved a math problem. 13k: Made estimates, predictions, or hypotheses. 13l: Work on projects or reports that take multiple days to complete.	0.79
Student Report on Instruction - Science Basic Skills	16c: Memorized facts. 16f: Found information from graphs and tables. 16h: Watched the teacher demonstrate or lecture.	0.74
Student Report on Instruction - Science Advanced Skills	16b: Wrote up results or prepared presentation from a lab activity, investigation, or experiment. 16d: Generated my own hypotheses. 16e: Used evidence/data to support an argument or hypotheses. 16g: Worked on projects that take multiple days to complete.	0.85
Student Report - Course-taking Requirements	1f: Students in this school are expected to take four years of math in high school. 1g: Students in this school are expected to take more than four years of science in high school. 1h: Students in this school are expected to take more than two years of a foreign language.	0.69
Student Perception of Teacher Expectations for Student Success	1a: The teachers at this school believe that all students in this school can do well. 1b: The teachers at this school have given up on some of their students. 1c: The teachers at this school expect very little from students. 1d: The teachers at this school work hard to make sure that all students are learning. 1j: Teachers at this school only care about smart students.	0.75
Student Perception of Respect Between Students and Adults	2a: Teachers always try to be fair. 2b: Students feel safe & comfortable with teachers. 2c: Teachers treat me with respect. 2d: Teachers can't be trusted. 2e: Teaches care about my opinions 2f: Teachers would be willing to give me extra help. 2h: Teachers care about how I am doing in school. 2i: Teachers are not willing to help students with their personal problems. 2j: Teachers treat some groups of students better/more fairly than others.	0.84

Exhibit A-5 (continued)
Texas High School Project Student Survey Factors

Scales	Survey Items	Reliability (α)
Student Report – Personal Connection with Teachers	3a. During this school year, how often have you… Talked to a teacher about my friends or family. 3b. During this school year, how often have you… Talked to an adult from my school about something important to me in my life outside of school. 3c. During this school year, how often have you… Talked to an adult from my school about classes to take and/or graduation requirements. 3d. During this school year, how often have you… Talked to an adult from my school about college or a career. 3e. During this school year, how often have you… Worked one-on-one with a teacher when I was having difficulty in a class.	0.77
Attitudes of Students' Friends Toward Academics	19a. My friends… Try hard in school. 19b. My friends… Think that it is important to get good grades in school. 19c. My friends… Help each other with school work. 19d. My friends… Believe that they can do well in school. 19e. My friends… Value learning. 19f. My friends… Want to go to college.	0.89
Student Perception of Peer-Attitudes Towards Academics (English & Math Classes)	11a: Came to class on time. 11b: Attended class regularly. 11c: Came to class prepared with supplies and books. 11d: Regularly paid attention in class. 11e: Talked and shared ideas in class. 11g: Care about what grade they receive in class. 15a: Came to class on time. 15b: Attended class regularly. 15c: Came to class prepared with supplies and books. 15d: Regularly paid attention in class. 15e: Talked and shared ideas in class. 15g: Care about what grade they receive in class.	0.90
Student Attitudes Towards Academic Improvement	7a: Used suggestions from the teacher to change or make my work better. 7b: Kept track of my progress and improvement in class. 7c: Used suggestions from another student to change or make my work better. 7e: Talked to a teacher about what I could do to get better grades.	0.76

Exhibit A-5 (continued)
Texas High School Project Student Survey Factors

Scales	Survey Items	Reliability (α)
Student Attitudes Towards Effort-Based Learning	7f: Began to work harder to improve my grades. 7g: Spent enough time working on a school assignment to understand it really well. 23b: When my schoolwork became difficult I found a way to get help. 23c: I gave extra effort to challenging assignments or projects. 23d: I kept trying to do well on my schoolwork even when it wasn't interesting to me.	0.79
Student Attitudes Towards the Importance of School	22a: Getting good grades is important to me. 22b: I always study for tests 22c: I manage my time well enough to get all of my work done. 22d: High school teaches me valuable skills. 22e: Grades in high school matter for success in college 22f: Working hard in high school matters for success in the work force. 22h: I find my schoolwork interesting. 22i: I generally feel well prepared to complete my schoolwork.	0.86
Parental Involvement	20a: Talked to you about how you are doing in your classes. 20b: Talked to you about what you are studying in class. 20c: Talked to you about your homework assignments.	0.89

Exhibit A-6
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported Distributed School Leadership	Indicate whether you agree or disagree with the following statements about your school. 9a: Teachers are involved in making the important decisions in this school. 9b: Teachers have a lot of informal opportunities to influence what happens. 9c: Teachers are encouraged to express their opinions without fear of criticism or retaliation.	0.89
Teacher-Reported Overall School Leadership	Indicate how effective the school leadership has been at each of the following activities. 8a: Ensuring that the school runs smoothly. 8b: Inspiring the very best in the job performance of all teachers. 8c: Setting high standards for teaching. 8d: Making expectations for meeting instructional goals clear to the staff. 8e: Setting high standards for student learning. 8f: Supporting regular use of student assessment data. 8g: Promoting teachers' ongoing professional development (including the development of teacher professional learning communities). 8h: Identifying and implementing supports for improved student learning. 8i: Providing time and resources for teachers to collaborate and plan together. 8j: Knowing what's going on in my classroom. 8k: Developing and communicating a clear vision for school reform. 8l: Clearly articulating and implementing specific strategies to achieve reform in our school.	0.93
Teacher-Reported Access to Professional Development	How often have you done the following during the current academic year? 11a: Created or reflected on individual professional development plans with the assistance of the school leadership (e.g., principal, lead teachers). 11b: Participated in professional development during regularly scheduled time during the school day. 11g: Had opportunities to work productively with teachers from other schools. 11h: Attended professional development activities sponsored by your school/district. 11i: Attended professional development activities provided by an organization other than your school/district.	0.72

Exhibit A-6 (continued)
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported District Leadership for School Effectiveness	To what extent do you agree or disagree with the following statements about the district office? The district office… 1a: Demonstrates its commitment to high standards for every student. 1b: Supports my school's reform efforts. 1c: Respects school-based decision making. 1d: Promotes the professional development of teachers (including the development of teacher professional learning communities in our school). 1e: Allows high schools the flexibility to choose and adapt new programs and practices. 1f: Seeks input from teachers and listens to their ideas and concerns. 1g: Is committed to high quality in the implementation of its policies, programs, and procedures. 1h: Clearly communicates its priorities. 1i: Has priorities consistent with this school's priorities. 1j: Allocates resources to schools equitably. 1k: Has a clear vision for school reform at my school. 1l: Has developed and implemented strategies to achieve reform at my school.	0.95
Teacher-Reported Frequency of Participating in High-Quality Professional Development	How often have you done the following during the current academic year? 11a: Attended professional development that has been sustained and coherent, rather than short term and disconnected. 11d: Attended professional development that has been closely connected to our school's improvement plan. 11e: Attended professional development that has built on your previous knowledge. 11f: Attended subject-matter-specific professional development.	0.86
Teacher-Reported Frequency of Collaboration with Colleagues	Indicate how often most teachers at your school do each of the following activities. 14a: Sharing ideas on teaching. 14b: Discussing what was learned at a workshop or conference. 14c: Sharing and discussing student work. 14d: Discussing beliefs about strategies for teaching and learning. 14e: Sharing and discussing research on effective teaching methods. 14f: Observing each other's classroom instruction. 14g: Planning lessons and units together in a formal meeting structure. 14h: Discussing student assessment data with other teachers to make instructional decisions.	0.89

Exhibit A-6 (continued)
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported Shared Vision and Common Focus Across School	Indicate the extent to which you agree or disagree with the following statements about your school. 12a: Most teachers in this school do not share a vision common for student learning. 12b: Most teachers in this school share my beliefs and values about what the central mission of the school should be. 12c: Most teachers in this school are committed to developing strong relationships with students. 12d: The school leadership and teachers share beliefs and values about the vision for the school.	0.78
Teacher-Reported Academic Support Offered to Students	Supports provided. . . 40a_a: One-to-one tutoring 40a_b: Academic classes and/or seminars 40a_d: Academic counseling 40a_f: Academic remediation 40a_g: AP Strategies	0.68
Teacher-Reported Postsecondary Support and Preparatory experiences	Supports Provided. . . 40a_i: College entrance exam preparation 40a_j: Career guidance 41b: College tours 41c: Enrollment in college courses (offered on a college campus, online, or at your school) 41d: Job shadowing or visits to observe work sites 41f: Internships (work experience or employment)	0.75
Teacher-Reported Climate of High Expectations	To what extent do you agree or disagree with the following statements about your school? 15a: Teachers set high standards for teaching. 15d: Teachers are continually seeking new ideas about teaching and learning in the classroom. 15f: Most teachers work very hard to make sure that all students are learning. 15g: Teachers help students plan for after graduation (e.g., college or employment). 15i Teachers feel that it is part of their job to prepare students to succeed both in high school and after graduation. 16h: Teachers can usually get through to even the most difficult students.	0.82

Exhibit A-6 (continued)
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported Climate of Respect at School	To what extent do you agree or disagree with the following statements about you school? 16a: Teachers trust and respect one another. 16b: Students treat one another with respect. 16c: The relationship between students and teachers is based on mutual trust and respect. 16d: The teachers, administrators, and other staff model responsible behavior for the students to see. 16i: The principal and other school administrators respect and support the teachers in their work. 17a: Teachers and parents think of each other as partners in educating children. 17b: Parents have confidence in the expertise of the teachers. 17c: Staff at this school work hard to build trusting relationships with parents. 17d: This school makes an effort to reach out to the community. 17e: The community respects the teachers at this school.	0.88
Teacher-Reported Familiarity with School's Students	Of the students in your school, please estimate the percentage for whom you know the following. 18a: Their first and last names 18b: Their academic aspirations 18c: Their academic background prior to this year (e.g., whether they were held back a year) 18d: Their home life (e.g., family situations that may affect their learning) 18e: Who their friends are 19f: Their cultural and linguistic backgrounds	0.95
Teacher-Reported Frequency of Interaction with Students Regarding Student Concerns	During this school year, how often have students in your class done each of the following? 19a: Talked to you about their progress in your class. 19b: Talked to you about what they are doing in other classes. 19c: Told you about getting good grades or other academic achievements. 19d: Talked to you about their friends or family. 19e: Asked you for help with personal problems.	0.90

Exhibit A-6 (continued)
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported Schoolwide Use of Data	To what extent do you use data to do the following? 31a: Help develop a school plan. 31b: Help set schoolwide goals for student achievement. 31i: Compare performance of different groups of students (i.e., race/ethnicity, gender, special education, etc.) 31j: Share information with parents.	0.79
Teacher-Reported Use of Data for Instructional Purposes	To what extent do you use data to do the following? 31c: Set goals for individual student achievement. 31d: Modify instructional strategies. 31e: Select instructional materials. 31f: Track students' academic progress. 31g: Develop individual learning plans for students. 31h: Arrange for remediation, tutoring, or special instruction for students.	0.87
Teacher-Reported Supports for Data Use	To what extent do you agree or disagree with the following statements about the support your school provides for using data. 32a: Administrators or other leaders are available to assist teachers with reading and interpreting data. 32b: Instructional coaches, consultants, or mentor teachers are available to assist teachers in making instructional changes based on data. 32c: Professional development is offered to help teachers use data in decision-making. 32d: Time is built into the school schedule to analyze and/or discuss data. 32e: Data are provided to teachers in a timely manner. 32f: The school's data system is useful for instructional planning. 32g: School leaders follow up with teachers about instructional or programmatic changes related to data analysis.	0.88
Teacher-Reported Student Engagement in Learning	How many students in your classes do each of the following? 37a: Come to class on time. 37b: Attend class regularly. 37c: Come to class prepared with the appropriate supplies and books. 37d: Regularly pay attention in class. 37e: Actively participate in class activities. 37f: Always turn in their homework. 37g: Take notes. 37h: Care about what grade they receive in this class.	0.88

Exhibit A-6 (continued)
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported Student Attitudes Toward Academics	To extent do you agree or disagree with the following statements? 38a: Most students do not show interest in their schoolwork. 38b: Most students believe that they can do well in school. 38c: Most students do not value learning. 38d: Most students want to go to college.	0.79
Teacher-Reported General Responsiveness to Student Differences	During this school year, how often have you done each of the following: 26a: Encouraged high-achieving students to do additional advanced work. 26b: Attempted to assess students' problem-solving processes, not just answers. 26c: Adjusted instructional strategies to respond to students' levels of understanding. 26d: Modified your lesson to meet students' needs.	0.80
Teacher-Reported Frequency of Teaching Advanced Skills	In an instructional period, how often are students asked to do the following? 24f: Evaluate and defend their ideas or views. 24h: Orally present their work to peers, staff, parents, or others. 24i: Work on multidisciplinary projects. How often are students asked to turn in assignments that require them to do the following? 25a: Use evidence to support their ideas. 25b: Report on or paraphrase a single text. 25c: Clearly state a main thesis or argument. 25d: Demonstrate original thought, ideas, or analysis. 25e: Consider multiple solutions or perspectives. 25f: Synthesize information from multiple sources. 25h: Present their own examples.	0.91
Teacher-Reported Instruction – Math Basic Skills	In a typical class, how often do students do each of the following types of activities? 27a_a: Practicing computations, procedures, or skills. 27a_b: Watching you demonstrate how to do a procedure or solve a problem. 27a_c: Taking notes from lectures or the textbook. 27a_d: Completing exercises from a textbook or a worksheet.	0.76

Exhibit A-6 (continued)
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported Instruction – Math Advanced Skills	In a typical class, how often do students do each of the following types of activities? 27a_e: Presenting or demonstrating solutions to a math problem to the whole class. 27a_f: Using manipulatives (e.g., geometric shapes or algebraic tiles), measurement instruments (e.g., rulers or protractors), or data collection devices. 27a_i: Applying math concepts to “real-world” problems. 27a_j: Making estimates, predictions, or hypotheses. 27a_k: Analyzing data to make inferences or draw conclusions 27a_l: Working on assignments, reports, or projects over an extended period of time.	0.83
Teacher-Reported Instruction – English Basic Skills	In a typical class, how often do students do each of the following types of activities? 27e_a: Answering factual questions about passages they and/or the class has read. 27e_d: Memorizing and recalling literary facts (e.g., literary periods, authors, terms). 27e_f: Learning parts of speech or diagramming sentences. 27e_g: Editing text for grammar and clarity.	0.72
Teacher-Reported Instruction - English Advanced skills	In a typical class, how often do students do each of the following types of activities? 27e_b: Proposing an argument and supporting it using text references. 27e_c: Debating interpretations of a text. 27e_e: Gathering information on a topic from primary sources (besides the text book). 27e_h: Working on assignments, reports, or projects over an extended period of time. 27e_i: Writing a paper or essay.	0.74
Teacher-Reported Instruction - Science Basic Skills	In a typical class, how often do students do each of the following types of activities? 27b_a: Watching you demonstrate or lecture. 27b_j: Memorizing facts. 27b_k Finding information from graphs or tables.	0.62

Exhibit A-6 (concluded)
Texas High School Project Teacher Survey Factors

Scales	Survey Items	Reliability (α)
Teacher-Reported Instruction - Science Advanced Skills	In a typical class, how often do students do each of the following types of activities? 27b_b: Using probes, computers, calculators or other educational technology to learn science. 27b_e: Making predictions or hypotheses. 27b_f: Doing a laboratory activity, investigation, or experiment. 27b_g: Writing up results or preparing a presentation from a laboratory activity, investigation, experiment, or research project. 27b_h: Working on assignments, reports, or projects over an extended period of time.	0.73
Teacher-Reported Teachers' Responsibility for Student Learning	To what extent do you agree or disagree with the following statements about your school? 15a: Teachers set high standards for teaching. 15b: Teachers make their expectations for meeting instructional goals clear to students. 15c: Teachers carefully track students' academic progress. 15d: Teachers are continually seeking new ideas about teaching and learning in the classroom. 15e: Most teachers believe that all students in this school can do well academically. 15f: Most teachers work very hard to make sure that all students are learning. 15g: Teachers help students plan for after graduation (e.g., college or employment). 15i: Teachers feel that it is part of their job to prepare students to succeed both in high school and after graduation.	0.89

Exhibit A-7
Texas High School Project Principal Survey Factors

Scales	Survey Items	Reliability (α)
Principal-Reported Overall School Leadership	Indicate how effective you have been at each of the following activities. 12a: Ensuring that the school runs smoothly 12b: Inspiring the very best in the job performance of all teachers. 12c: Setting high standards for teaching. 12d: Making clear my expectations of staff for meeting instructional goals. 12e: Setting high standards for student learning. 12f: Supporting regular use of student assessment. 12g: Promoting teachers' ongoing professional development (including the development of teacher professional learning communities). 12h: Identifying and implementing supports for improved student learning. 12i: Providing time and resources for teachers to collaborate and plan together. 12j: Knowing what's going on in the classroom. 12k: Developing and communicating a clear vision for school reform. 12l: Clearly articulating and implementing specific strategies to achieve reform in our school.	0.87
Principal-Reported School Instructional Leadership	How often do you or your instructional leadership team (assistant principals, lead teachers, etc.) perform each of the following functions? 9a: Observe the instruction of individual teachers. 9b: Initiate new instructional improvement activities. 9c: Coordinate or organize specific instructional improvement activities. 9d: Monitor the progress of specific instructional improvement activities 9e: Establish or improve schoolwide or gradewide assessments. 9f: Examine and discuss data on students' academic performance	0.73

Exhibit A-7(continued)
Texas High School Project Principal Survey Factors

Scales	Survey Items	Reliability (α)
Principal-Reported District Leadership for School Effectiveness	To what extent do you agree or disagree with the following statements about the district office? 1a: Demonstrates its commitment to high standards for every student. 1b: Supports our school's reform efforts. 1c: Respects school-based decision making. 1d: Ensures that student learning is the primary focus in our school. 1e: Promotes the professional development of teachers. 1f: Supports the development of teacher professional learning communities in our school (e.g., administrators and/or teachers working/learning collaboratively). 1g: Allows high schools the flexibility to choose and adapt new programs and practices. 1h: Seeks input from teachers and listens to their ideas and concerns. 1i: Is committed to high quality in the implementation of its policies, programs, and procedures. 1j: Clearly communicates its priorities. 1k: Has priorities consistent with this school's priorities. 1l: Establishes policies and procedures that help address important needs at our school. 1m: Provides the school with an adequate amount of resources for reform efforts. 1n: Allocates resources to schools equitably. 1o: Allows schools flexibility in allocating resources. 1p: Has a clear vision for school reform at our school. 1q: Has developed and clearly articulated a plan to achieve this vision. 1r: Has developed and implemented strategies to achieve this vision.	0.97

Exhibit A-7 (concluded)
Texas High School Project Principal Survey Factors

Scales	Survey Items	Reliability (α)
Principal-Reported Support for Use of Data	To what extent do you agree or disagree with the following statements about the support your school provides for using data? 20a: Administrators or other leaders are available to assist teachers with reading and interpreting data. 20b: Instructional coaches, consultants, or mentor teachers are available to assist teachers in making instructional changes based on data. 20c: Professional development is offered to help teachers use data in decision-making. 20d: Time is built into the school schedule to analyze and/or discuss data. 20e: Teachers are provided opportunities to think about the implications of data for instruction. 20f: Data is provided to teachers in a timely manner. 20g: The school's data system is useful for instructional planning. 20h: Teachers are provided opportunities to discuss data with other teachers. 20i: School leaders follow up with teachers about instructional or programmatic changes related to data analysis.	0.92
Principal-Reported Data Use For Instructional Purposes	In general, to what extent do teachers and administrators at your school (including yourself) use data to do the following? 19c: Set goals for individual student achievement. 19d: Select instructional materials. 19g: Place students in particular courses. 19h: Track students' academic progress.	0.78
Principal-Reported Data Use for Program and Teacher Accountability	In general, to what extent do teachers and administrators at your school (including yourself) use data to do the following? 19e: Evaluate curricular or other programs (e.g., link instructional programs to student performance). 19f: Evaluate teachers. 19j: Examine student performance by teacher.	0.83
Principal-Reported School-Level Uses of Data	In general, to what extent do teachers and administrators at your school (including yourself) use data to do the following? 19a: Develop a school improvement plan. 19b: Set schoolwide goals for student achievement. 19i: Compare performance of different groups of students (i.e., race/ethnicity, gender, special education, etc.). 19k: Share information with parents.	0.70

Qualitative Methods

One of the core research activities in the first year of the evaluation was the conduct of site visits at a sample of THSP schools as well as at non-THSP comparison schools. The site visits were intended to serve a number of purposes—provide in-depth information on schools implementing various reform models in order to enable us to examine process and outcomes of educational change promoted by THSP initiatives, identify factors that led to success or posed challenges, and identify patterns for further exploration and examination in coming years of the evaluation). The site visit data complemented the survey data in identifying and examining key themes, as well as generated findings on how implementation transpired on the ground. In this first year of the evaluation, site visits were conducted at a sample of Cohort 1 (those funded in 2006–07) schools following a structured set of protocols for interviewing district staff, school staff, and support providers from each of the corresponding partners. Teachers and guidance counselors from THSP and non-THSP schools received gift certificates for their participation. In addition, non-THSP schools received additional incentives to host the site visit.

In this section, we describe (1) protocol development—both identification of respondents and development of the instruments, (2) school selection, (3) school contact, (4) school visit procedures, and (5) analytic methods.

Protocol Development

The semistructured protocols used for the site visits featured a common set of questions representing the overall theory of change, plus questions that reflect reform components specific to the elements underlying each model.

Identifying Respondents

Although a core of respondent types were common to all site visits (see Exhibit A-8), we also tailored the site visit protocols to the specific reform model and the local context. Thus, for example, ECHS sites necessarily include interviews with the higher education partners, and charter school operators are key informants for charter expansion models.

Exhibit A-8
Sample Respondent Types for Site Visits and Other Interviews

Level	Sample Respondent Types
District	Administrators for: • Curriculum and instruction • Professional development • Assessment • Accountability
School	• Principal/assistant principals • Teachers • Instructional coaches/professional developers • Students
External Intermediaries	As applicable: • Professional development partners/technical assistance providers • Higher education partners • Curriculum partners • Charter operators • Community activists
State Level	• Policymakers • Program officers and leaders

Instrument Development

The common interview topics were keyed to the major components of the THSP conceptual framework and were informed by data collection instruments from prior studies of high school reform. Tailored questions were developed to address issues specific to reform models. At the end of this chapter, Exhibit A-10 details sample interview and focus group topics by type of respondent, and Exhibit A-11 provides illustrative examples of questions tailored to the specific reform models.

School Selection

The schools selected for site visits were selected from schools that began implementation in the 2006–07 academic year, in order to focus these initial site visits on schools that had been implementing the THSP reforms for at least 1 year, giving the schools some time to put into place certain reform structures and practices. TEA provided the research team with a list of 27 schools from which 17 were selected for a site visit. Fifteen of these schools were selected from a stratified random sample based on grant programs. Two schools were added to ensure coverage of program models of interest. In addition, we randomly selected six comparison schools to visit—roughly 25% of the THSP sample—drawn from the schools matched to THSP schools for the comparative student outcomes analysis. See Exhibit A-9 for the number of schools visited by reform model.

Exhibit A-9
Site Visit Sample by THSP Program

THSP Program	Site Visits Conducted in 2007-08
School and District Site Visits	
T-STEM	5
HSTW	8
NSCS	2
HSRD	5 (principal interviews only)*
Total THSP schools	15 (plus 5 principal interviews)
In-Depth District Interviews	
Dallas ISD	X
Houston ISD	X
San Antonio ISD	X
Comparison Schools (non-THSP)	6

*Data collection at HSRD schools consisted of one principal interview only as the decision to include them in the evaluation occurred after site visiting began.

Setting Up and Conducting the Visits

Study leaders began the school contact process by notifying districts and school sites of their participation in the THSP evaluation both during an initial THSP conference and with a follow-up letter and informational packet in the fall of 2007. Site visitors began scheduling their visits in January of 2008. Contact protocols were followed for either THSP or non-THSP contact procedures. Once a school contact was established, an interview schedule template was sent to the school for purposes of scheduling the visit.

Depending on school size, we assigned one senior or two researchers (one senior and one junior) to each site. All site visitors were trained to ensure data collection consistency. Each visit took approximately 1.5 days on site and involved interviews with a subset of the following respondents: (1) school (e.g., principal and guidance counselor) and district (e.g., superintendent and/or assistant superintendent, administrators for secondary education, assessment and evaluation, and curriculum and instruction) leadership; (2) a sample of at least six teachers, two each from English language arts (ELA), mathematics, and science, and (3) respondents from relevant intermediaries (e.g., school-based instructional coaches or professional developers). The visitors also conducted focus groups with additional teachers in the core subjects in large schools, and with students. In addition, researchers examined relevant documents such as grant applications, school improvement plans, strategic plans, professional development plans, and formative data reports to supplement the interview data. Each interviewee was provided with information about the study, had confidentiality procedures explained to them, and was asked to sign a consent form. All interviews and focus groups were digitally recorded to back up the notes taken in real time. All interview and focus groups files were logged and kept in a secure, central repository at SRI.

Within- and Cross-Site Analyses

Analysis occurred both at the within-site level as well as at the cross-site level in order to best understand factors at individual schools as well as factors common across schools and programs participating in the THSP initiative. After each school visit, visitors completed a structured debriefing form for each site. Debriefing forms were developed for each school reform model to include analyses specific to the model. The debriefing forms were organized around analytic categories reflecting key components of the THSP conceptual framework such as school and district context, school organization, normative climate, classroom attributes, and student experiences. Completing the debriefing forms represented within-site analysis, triangulating across all interviews, focus groups, and documents for that site. All completed debriefing forms were entered into Atlas.ti, a qualitative data software tool. The major topics for the debriefing guide constituted the descriptive codes for sorting qualitative data across cases.

Examining the data by key topics was the first step in cross-site analysis. Researchers determined emerging analytic themes, noting differences in these themes among models and between THSP sites and the comparison schools.

Exhibit A-10
Sample Core Topics for Site Visit Protocols

Sample Core Topics	District Administrators	Principals	Instructional Coaches/ Professional Developers	Teachers	Students	External Intermediaries
District and External Supports						
Nature of district reform leadership	x	x	x	x		x
District policy supports for and barriers to school-level reform	x	x	x	x		x
Role and effectiveness of the network	x	x	x	x		x
Role and effectiveness of external support providers	x	x	x	x		x
School Organization				x		
Nature of school leadership	x	x	x	x		x
Supports for leadership development	x	x	x	x		x
Nature of and structures for distributed leadership	x	x	x	x		x
Teachers' professional learning needs and professional development supports			x	x		x
Normative Climate						
High expectations, i.e., expectations for achievement and educational attainment		x	x	x	x	x
Personalization, nature of relationships between teachers and students		x		x	x	
Degree of respect, responsibility, and relational trust		x		x		
Professional learning community, nature of collaboration		x	x	x		

Exhibit A-10 (concluded)
Sample Core Topics for Site Visit Protocols

Classroom Attributes						
Curriculum and instruction: changes in rigor		x	x	x	x	x
Curriculum and instruction: attempts to improve relevance to students		x	x	x	x	x
Use of formative assessments and other data to inform instruction		x	x	x		
Student Experiences						
Student engagement in learning, monitoring progress				x	x	
Perceived changes in student engagement in academics		x		x	x	x
Changes in educational aspirations				x	x	
Access to and participation in AP, IB, AVID, college coursework		x		x	x	
Access to and participation in internships/work study		x		x	x	
Reform Progress						
Challenges in implementation, understanding of and implementation fidelity to the school model	X	x	x	x		x
Sustainability of reforms	X	x	x	x		x

Note: This exhibit is for illustrative purposes only. Each respondent was asked about topics applicable to his or her role.

Exhibit A-11
Sample Tailored Topics for Specific Reform Models

Reform Model	Sample Tailored Protocol Topics
T-STEM Academies	Student access to advanced mathematics and science courses Partnerships providing school capacity and real-world connections in mathematics, science engineering, and technology Teacher capacity and training in mathematics, science, engineering, and technology
ECHSs	Student access to academic courses at the college level Academic and social supports available for traditionally underserved students to attend college courses District/school and higher ed partnership to develop curricula and programs
Charter School Expansions/Start-Ups	Distribution of decisionmaking power between school leadership and charter operators Scaling up of practices from one or few schools to many Student and community needs served by charter, demand for education program offered by charter school
Redesigned High Schools	Student personalization afforded by smaller learning communities Nature of teacher collaboration in small learning communities (SLCs) SLCs' facilitation of changes in instruction
Redesigned District	Coherence in district reform strategy District policies and capacity to support school reform Consistency in reforms across schools

Appendix B. Models Relating Implementation to Teacher and Student Intermediate Outcomes

Exhibit B-1
Coefficients and Standard Errors of the Relationship Between Implementation Factors and Intermediate Teacher Outcomes

	Responsibility for Student Learning (284 teachers in 44 schools)		Collaboration with Colleagues (284 teachers in 44 schools)		Frequency of Teaching Advanced Skills (284 teachers in 44 schools)	
Fixed Effects	Coefficient	*SE*	Coefficient	*SE*	Coefficient	*SE*
Model for school means						
Intercept	2.97 *	0.04	2.70 *	0.05	3.12 *	0.06
Accountability rating Unacceptable	-0.01	0.14	-0.18	0.19	0.17	0.22
Accountability rating Recognized/Exemplary	0.04	0.09	0.12	0.12	-0.10	0.14
Rural	0.11	0.09	-0.09	0.12	-0.03	0.14
Small	-0.28 *	0.11	-0.38 *	0.16	-0.07	0.19
School divided into small groups (e.g., "houses")	-0.07	0.08	-0.24 *	0.11	-0.04	0.12
Teacher-level model						
2–3 years experience	-0.04	0.10	-0.14	0.15	-0.23	0.18
4–9 years experience	-0.13	0.09	-0.03	0.14	-0.08	0.16
10+ years experience	-0.04	0.09	-0.20	0.14	-0.26 ◊	0.16
Teacher-reported student engagement in learning	0.13 *	0.05	-0.02	0.08	0.29 *	0.09
Teacher-reported supports for data use	0.02	0.15	0.26	0.22	-0.07	0.26
Teacher-reported district leadership for school effectiveness	-0.16	0.16	-0.17	0.22	-0.34	0.26
Teacher-reported climate of respect at school	0.64 *	0.21	0.13	0.30	-0.06	0.35
Teacher-reported use of data for instructional purposes	0.10 *	0.04	0.31 *	0.07	0.40 *	0.08
Teacher-reported access to professional development	0.12 *	0.05	0.45 *	0.08	0.36 *	0.09

Random Effects	Variance Component	*SE*	Variance Component	*SE*	Variance Component	*SE*
School mean	0.01	0.01	0.00	0.02	0.00	0.00
Student effect	0.17	0.02	0.44	0.04	0.60	0.05

*$p < 0.05$, ◊$p < .10$

Exhibit B-2
Coefficients and Standard Errors of the Relationship Between Implementation Factors and Intermediate Student Outcomes

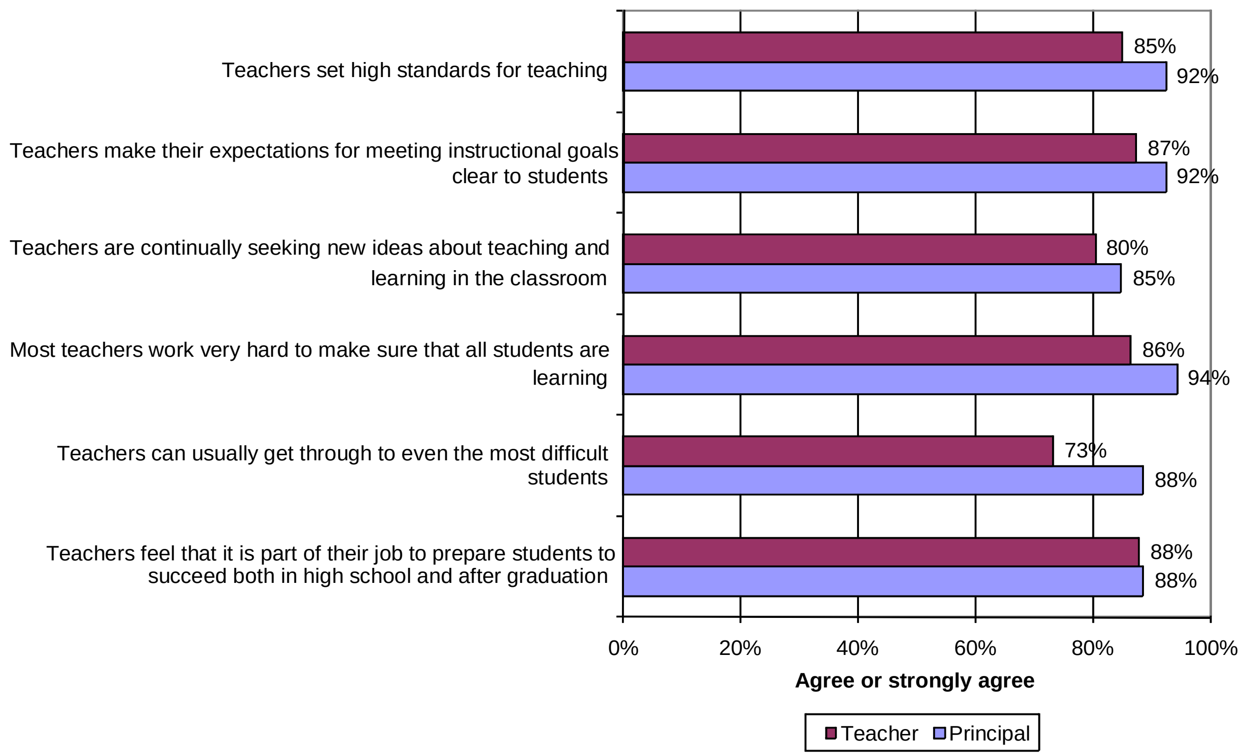
Fixed Effects	Academic Improvement (3,352 students in 39 schools)		Attitude Towards Effort-Based Learning (3,363 students in 39 schools)		Attitude Towards the Importance of School (3,327 students in 39 schools)		Plan to Attend College (3,263 students in 39 schools)		Aspiration to Graduate from High School (3,270 tudents in 39 schools)	
	Coefficient	*SE*	Coefficient	*SE*	Coefficient	*SE*	Coefficient	*SE*	Coefficient	*SE*
Model for school means										
Intercept	2.76 *	0.02	3.31 *	0.02	2.97 *	0.01	2.23 *	0.09	3.82 *	0.15
Accountability rating - Unacceptable	-0.29 *	0.11	-0.18	0.12	-0.05	0.05	-0.80	0.51	-0.98	0.77
Accountability rating - Recognized/Exemplary	0.00	0.07	-0.03	0.08	0.03	0.03	-0.16	0.30	-0.04	0.42
Rural	-0.07	0.07	-0.03	0.08	-0.09 *	0.04	-0.25	0.34	-0.46	0.53
Small	-0.05	0.07	-0.02	0.07	0.07 ◊	0.03	-0.17	0.31	0.21	0.42
District leadership for school effectiveness	0.04	0.06	0.05	0.06	0.08 *	0.03	0.64 *	0.27	0.62	0.40
Students remain with same teacher for two or more years	-0.01	0.05	0.13 *	0.06	0.01	0.03	-0.24	0.26	-0.13	0.40
Schoolwide use of data	0.14 *	0.06	0.10	0.07	0.01	0.03	-0.37	0.28	-0.66	0.42
Teacher-reported distributed school leadership	-0.19 *	0.07	-0.05	0.08	-0.01	0.03	-0.26	0.34	0.18	0.51
Teacher-reported access to professional development	-0.07	0.22	-0.04	0.24	0.15	0.11	-1.02	1.03	-2.81 ◊	1.59
Teacher-reported frequency of participating in high-quality professional development	0.19	0.13	0.17	0.15	-0.03	0.07	0.53	0.67	1.47	1.11
Teacher-reported frequency of collaboration with colleagues	0.07	0.09	0.10	0.10	-0.04	0.04	0.08	0.41	1.28 ◊	0.72
Teacher-reported supports for data use	-0.06	0.11	-0.04	0.13	0.09	0.05	0.28	0.53	0.46	0.70
Teacher-reported sense of responsibility for student learning	0.02	0.14	0.16	0.15	0.02	0.07	0.29	0.62	0.52	0.87
Teacher-reported overall school leadership	-0.05	0.12	0.05	0.13	-0.11 ◊	0.06	0.23	0.53	0.82	0.78
Teacher-reported familiarity with school's students	0.09	0.17	-0.22	0.19	-0.04	0.08	-0.68	0.77	-2.35 *	1.06
Teacher-reported frequency of teaching advanced skills	0.06	0.07	-0.09	0.08	-0.01	0.03	0.54	0.34	-0.11	0.50
Student-level model										
Parental involvement	0.16 *	0.01	0.22 *	0.01	0.11 *	0.01	0.30 *	0.04	0.35 *	0.07
Access to social supports	0.97 *	0.40	0.37	0.43	-0.01	0.20	1.29	1.72	-2.16	2.67
Teacher expectations for student success	-0.23	0.19	-0.39 ◊	0.21	-0.11	0.10	0.12	0.91	-1.45	1.54
Course-taking requirements	-0.16	0.16	0.08	0.18	0.11	0.08	0.33	0.78	0.17	1.29
Personal connection with teachers	0.47 *	0.02	0.27 *	0.02	0.06 *	0.01	0.27 *	0.09	0.26 ◊	0.15
Access to academic and postsecondary supports	0.32 *	0.06	0.29 *	0.06	0.16 *	0.04	0.12	0.27	-1.07 *	0.37
Respect between students and adults	0.23 *	0.03	0.45 *	0.03	0.37 *	0.02	0.83 *	0.13	1.45 *	0.21

Random Effects	Variance Component	SE	Variance Component	SE	Variance Component	SE	Variance Component	SE	Variance Component	SE
School mean	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.09	0.10
Student effect	0.62	0.02	0.59	0.01	0.20	0.01				

$*p < 0.05$, $◊p < .10$

Appendix C.
Supporting Data for Chapter 3. High School Reform as Organizational Change

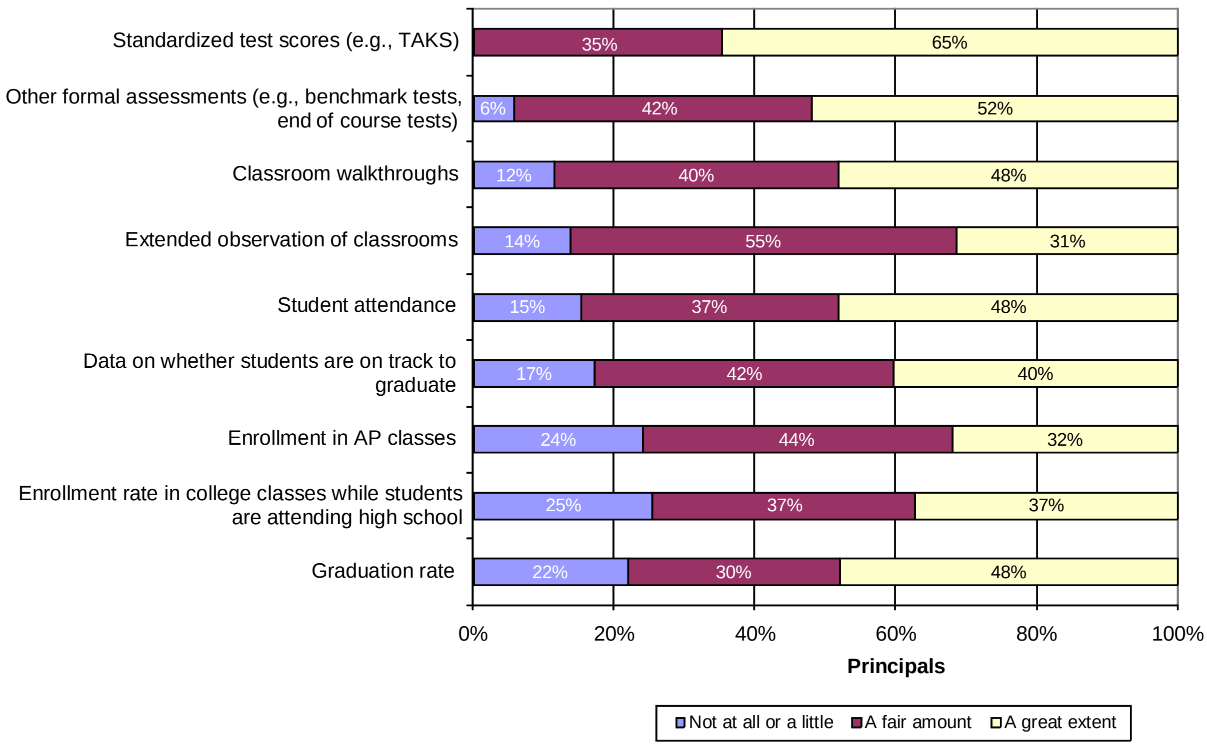
Exhibit C-1
Teacher and Principal Perceptions of Teachers' Commitment to Student Learning



Note: Survey items used a 4-point scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree.

Source: Evaluation of the Texas High School Project principal and teacher surveys, spring 2008.

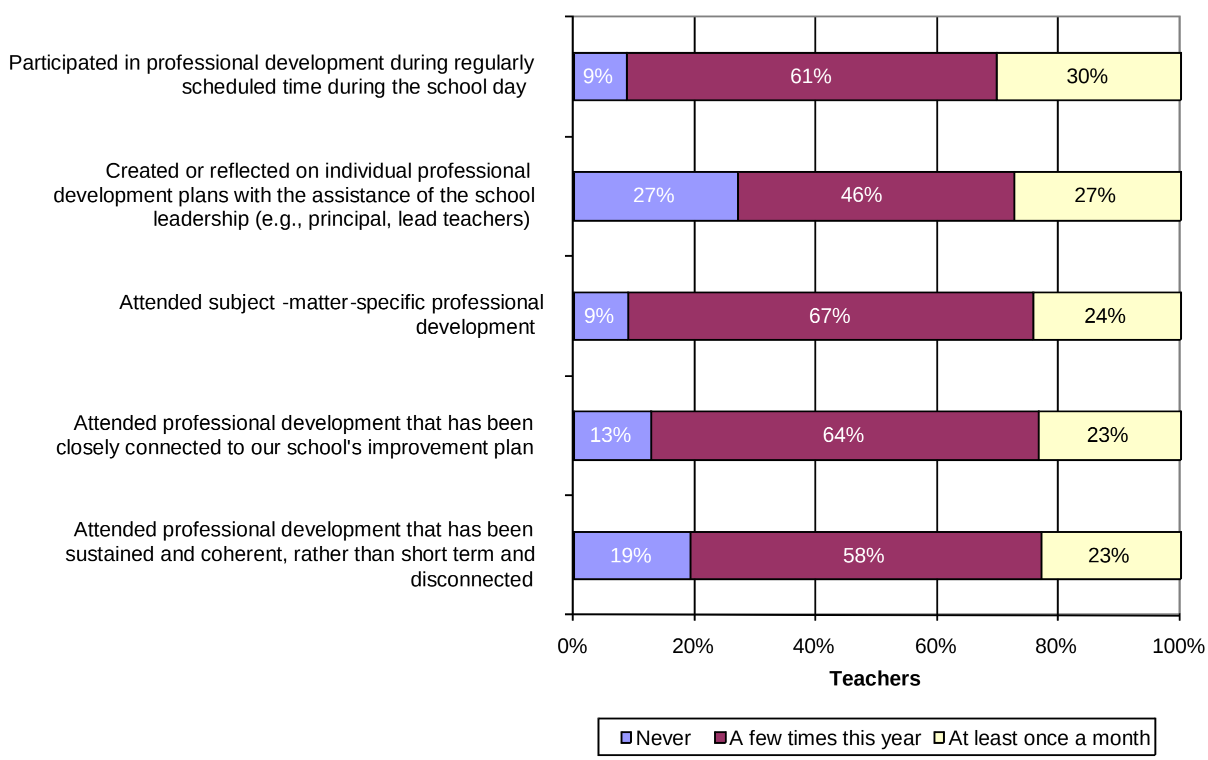
Exhibit C-2
Influence of Various Data Sources on Instructional Improvement Efforts



Note: Survey items used a 4-point scale, where 1 = Not at all, 2 = A little, 3 = A fair amount, and 4 = A great extent.

Source: Evaluation of the Texas High School Project principal survey, spring 2008.

Exhibit C-3
Teachers' Access to High Quality Professional Development

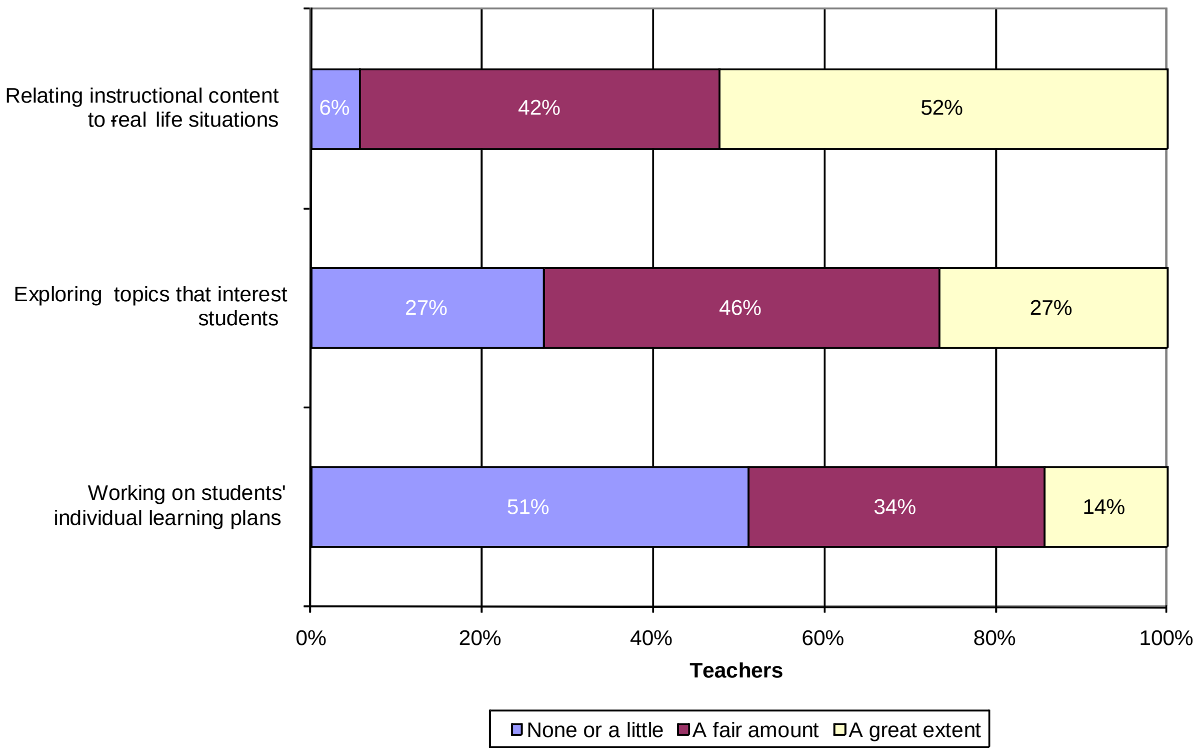


Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

Source: Evaluation of the Texas High School Project teacher survey, spring 2008

Appendix D.
Supporting Data for Chapter 4. Instructional Reform and Supports for Student Success

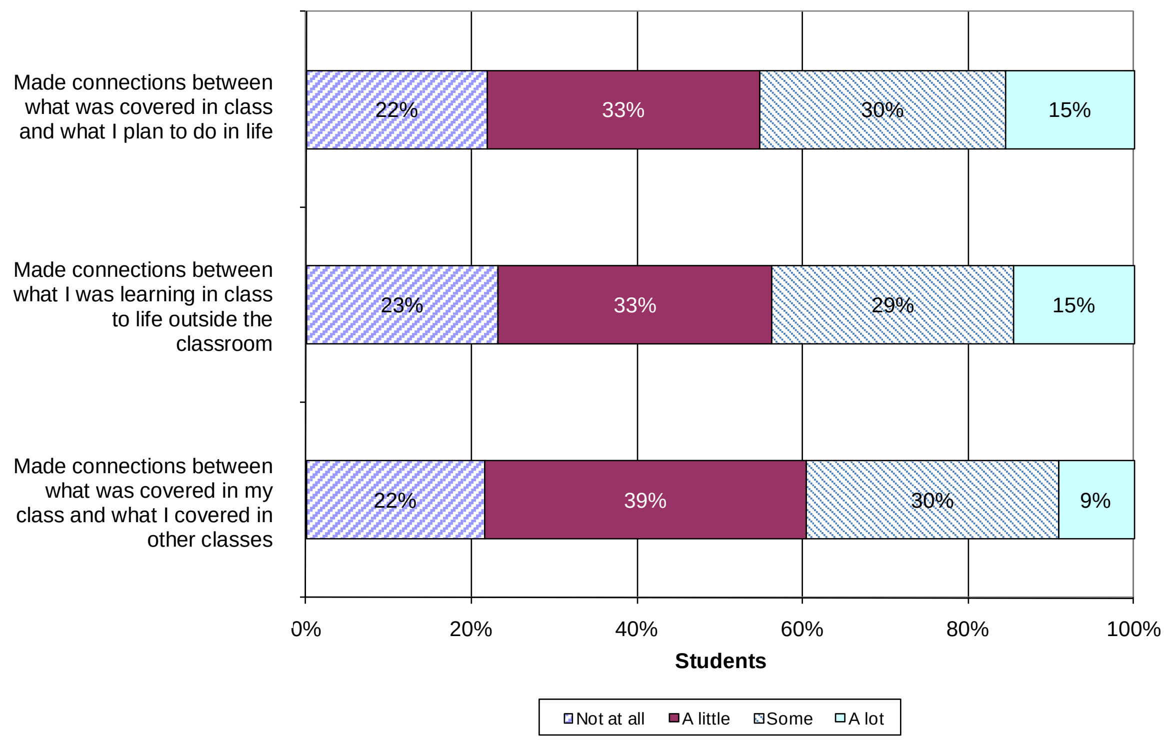
Exhibit D-1
Teachers' Reports of Emphasis on Curricular Relevance



Note: Survey items used a 4-point scale, where 1 = Not at all, 2 = A little, 3 = A fair amount, and 4 = A great extent.

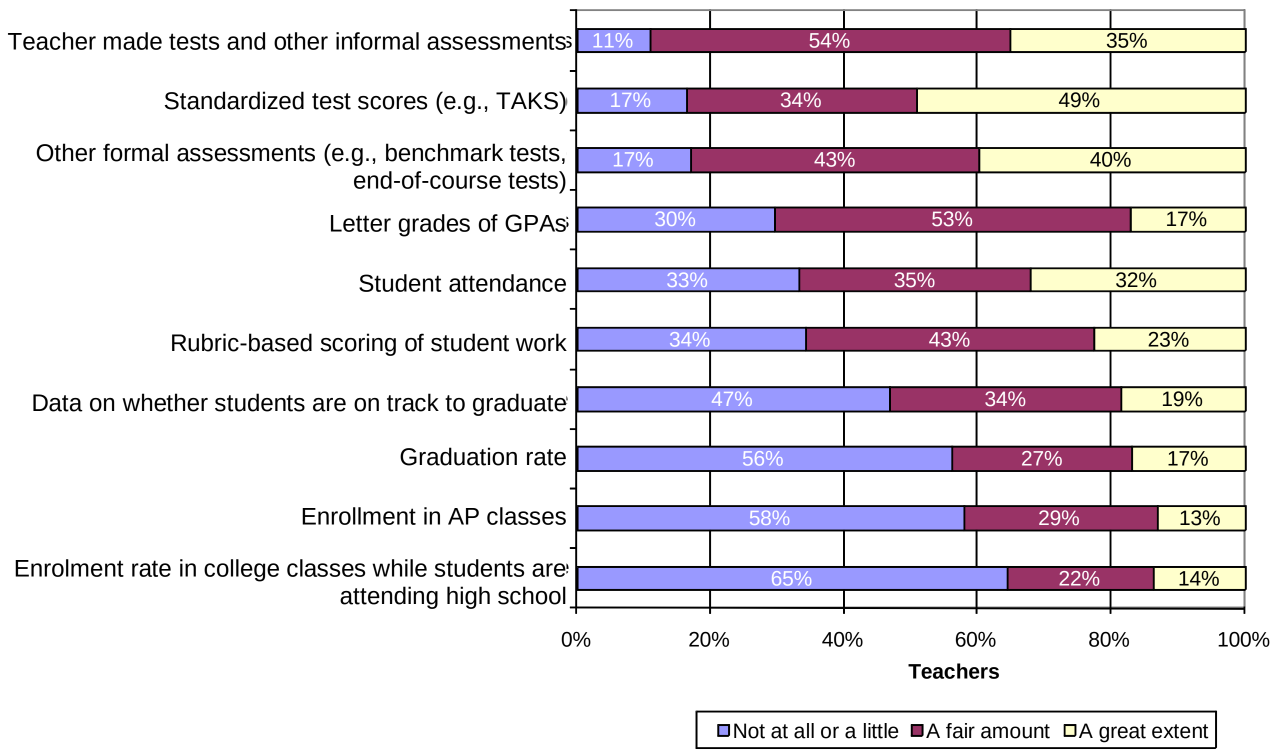
Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

Exhibit D-2
Students ' Reports of Relevant Coursework



Source: Evaluation of the Texas High School Project student survey, spring 2008.

Exhibit D-3
Teachers' Sources of Data



Note: Survey items used a 4-point scale, where 1 = Not at all, 2 = A little, 3 = A fair amount, and 4 = A great extent.

Source: Evaluation of the Texas High School Project teacher survey, spring 2008.

Exhibit D-4
Frequency of Activities in Ninth-Grade English Classes

In a typical class, how often do students do each of the following types of activities?		Never	A few times this year	Once or twice a month	At least once a week
Answered factual questions about passages the class has read.	Students	9%	28%	25%	38%
	Teachers	1%	–	19%	80%
Memorized and recalled literary facts (e.g., literary periods, authors, terms).	Students	22%	36%	21%	21%
	Teachers	2%	19%	29%	50%
Edited text for grammar and clarity.	Students	12%	32%	25%	31%
	Teachers	2%	17%	31%	50%
Write papers or essays.	Students	6%	33%	32%	28%
	Teachers	–	17%	40%	43%
Discussed my point of view about something I have read.	Students	17%	29.72%	21%	32%
	Teachers	5%	15%	23%	56%
Proposed an argument and supported it with ideas from books or other readings.	Students	22%	33%	22%	23%
	Teachers	1%	9%	21%	69%
Gathered information on a topic using books or materials other than my text book.	Students	12%	36%	25%	27%
	Teachers	3%	37%	29%	31%
Worked on assignments, reports, or projects that take multiple days to complete.	Students	9%	36%	29%	26%
	Teachers	2%	30%	31.9%	36%

Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

Source: Evaluation of the Texas High School Project teacher and ninth-grade student surveys, spring 2008.

Exhibit D-5
Frequency of Activities in Algebra I Classes

In a typical class, how often do students do each of the following types of activities?		Never	A few times this year	Once or twice a month	At least once a week
Watched the teacher demonstrate how to do a procedure or solve a problem.	Students	6%	10%	7%	77%
	Teachers	0%	0%	1%	99%
Took notes from lectures or the textbook.	Students	17%	22%	17%	44%
	Teachers	2%	2%	6%	91%
Completed exercises from a textbook or worksheet.	Students	7%	15%	14%	64%
	Teachers	0%	2%	5%	93%
Practicing computations, procedures, or skills.	Students	–	–	–	–
	Teachers	1%	5%	4%	90%
Worked individually on math exercises, problems, investigations, or tasks.	Students	5%	13%	13%	69%
	Teachers	0%	1%	10%	89%
Used manipulatives (such as geometric shapes or tiles), measuring instruments (such as rulers or protractors), and data collection devices.	Students	10%	24%	20%	46%
	Teachers	4%	11%	38%	47%
Applied mathematical concepts to “real world” problems.	Students	13%	21%	19%	46%
	Teachers	0%	3%	17%	80%
Analyzed data to make inferences or draw conclusions.	Students	10%	22%	21%	46%
	Teachers	0%	10%	28%	63%
Explained to the class how I solved a math problem./ Presenting or demonstrating solutions to a math problem to the whole class.	Students	17%	24%	16%	44%
	Teachers	4%	8%	12%	75%
Made estimates, predictions, or hypotheses.	Students	14%	26%	21%	38%
	Teachers	0%	9%	30%	62%
Work on projects or reports that take multiple days to complete.	Students	30%	26%	21%	19%
	Teachers	15%	34%	31%	20%

Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost every day.

Source: Evaluation of the Texas High School Project teacher and ninth-grade student surveys, spring 2008.

Exhibit D-6
Frequency of Activities in Ninth-Grade Science Classes

In a typical class, how often do students do each of the following types of activities?		Never	A few times this year	Once or twice a month	At least once a week
Watching you demonstrate or lecture.	Students	8%	16%	16%	60%
	Teachers	0%	5%	23%	72%
Memorizing facts.	Students	12%	25%	22%	41%
	Teachers	0%	10%	32%	58%
Finding information from graphs or tables.	Students	10%	29%	29%	32%
	Teachers	0%	2%	43%	55%
Using probes, computers, calculators or other educational technology to learn science.	Students	15%	28%	21%	35%
	Teachers	7%	23%	35%	35%
Making predictions or hypotheses.	Students	12%	31%	26%	31%
	Teachers	0%	10%	34%	55%
Doing a laboratory activity, investigation, or experiment.	Students	11%	30%	30%	29%
	Teachers	0%	7%	31%	63%
Writing up results or preparing a presentation from a laboratory activity, investigation, experiment, or research project.	Students	11%	30%	31%	28%
	Teachers	0%	20%	42%	38%

Note: Survey items used a 5-point scale, where 1 = Never, 2 = A few times this year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost everyday.

Source: Evaluation of the Texas High School Project teacher and ninth-grade student surveys, spring 2008.

Appendix E. Human Capital Development Programs

THSP also invested in other human capital development programs, which we review here.

THSP capacity-building activities have included a focus on the development of principals and teachers, particularly math and science teachers, to work in low performing schools. Both school leaders who can effectively manage the challenges of large high schools and classroom teachers who can effectively engage students in learning to high standards are critical needs, according to district respondents. The Pilot High School Principal Certification Program and the UTeach Replication Grants are designed to increase the supply of well-qualified administrators and teachers in THSP schools and throughout the state. THSP's Education Leadership Initiative has funded five pilot principal certification programs developed by university systems to create more rigorous certification requirements and more specialized training for high school principals. Some of the pilot programs received seed money from TEA, but current grants are administered by CFT. Through TEA funding and that of several other partner organizations, three UTeach replication programs were launched in Texas in 2008 modeled after the successful program at the University of Texas at Austin. TEA has also provided seed money to the UT Austin UTeach program.

Pilot High School Principal Certification Program

The goal of the Pilot High School Principal Certification Program was to develop high school principals capable of leading change in districts with high minority, low socioeconomic student populations. Building on best practices developed across the country, program designs were to incorporate innovative elements such as multi-disciplinary curriculum, learning experiences in authentic contexts, mentors and cohort groups, and extensive collaboration with local schools. Programs were also to be based on business leadership practices and emphasize issues related to serving high-need students. The program could be one of the following, but not a combination:

- Principal certification program for candidates not currently certified as administrators but interested in becoming high school principals.
- High school specialist re-certification program for candidates currently holding administrator certification but not currently working as high school principals.
- Charter school leadership certification program for candidates seeking to lead a charter middle or high school.

Additionally, there were a number of non-negotiable elements that were to be part of the program design:

- Joint program of the business school and education school to address issues of instructional leadership and effective high school management.
- Formalized partnership with local school district(s) to provide assistance in targeting potential candidates, placement for the residency component, and induction support (if applicable).
- Highly selective recruitment and acceptance of small cohorts of students from a variety of academic backgrounds, including those currently not holding Master's degrees (although discussions were being held on this issue), and with an emphasis on leadership aptitude.
- Full-time internship component with significant responsibility lasting one full school year, including placement as an assistant principal on a district campus or a leadership position in a charter school.
- Accelerated schedule such that no candidate is in the program longer than 18 months, including the internship.
- Emphasis on serving economically disadvantaged student population.

Thirteen grant applications were sent out by TEA and five programs were awarded three-year grants plus an additional five months for planning and recruitment beginning in January 2006; grants were awarded for up to $400,000. The partnering school districts were to agree to pay the salary of the candidate during their internship period.

Interviews with three of the grantees in 2008 suggest that their programs continued to be fine-tuned and faced uncertain futures without continued outside funding. While each of the programs had similar elements given the requirements of the grant, directors also put their own individual stamp on their programs. For example, one of the programs has placed an emphasis on a "democratic leadership" style and project learning, while another has an emphasis on developing an appreciation and sensitivity for cultural diversity as well as math and science instruction, and the third on training principals to work in the charter school environment. The integration of education and business coursework also varied to some degree. For example, one of the programs included a one week field experience with a CEO while another culminated in a 10 point school design plan that participants must develop.

Although tracking the experiences is not a requirement of the grants, program directors indicated that they have either informally or more explicitly (e.g., hired an outside consultant) kept track of what has happened to their graduates. At the time of our interviews (during the second year of program implementation) not all graduates had been hired as principals or vice principals (e.g., some returned to the classroom).

In addition to making contributions to increased numbers of trained school leaders, an added benefit of the pilot program has been to get participating universities to rethink how to structure their more traditional principal preparation programs, including skills that they have traditionally not included such as team building and marketing, and having education faculty trained by business and school faculty. The program has also built stronger ties with participating districts and charter school organizations, and in some cases with regional service centers. For example, program staff are advising one of the local school districts on revising their principal academy based on the grant work and another indicated that they have improved communications with their participating school district partner--the program director stated "we are much more involved in each other's work." At the same time, some grantees questioned the viability of continuing collaborations with their business schools given cost disparities--market demand for business school faculty increases program costs at a time when there is increased competition from other types of providers--not to mention the challenges of inter-disciplinary work. One respondent also suggested that these programs are more costly for participants who are faced with the financial challenges of trying to pay for a condensed program without a salary increase (the majority of participants in his program are classroom teachers).

Program Impacts

Respondents indicated that the inter-disciplinary principal certification programs developed through their grants are much more rigorous than those previously offered. Today's high school principal is increasingly challenged to meet both the management demands of running a large, complex organization and serving as its instructional leader, a job made even more difficult in low-performing schools that are facing sanctions. The Pilot High School Principal Certification Program holds promise in meeting these needs through its dual focus on management and instructional leadership training, but the program is of such a small scale (grantees are producing 15 to 31 graduates over 3 years) that it is not likely to meet the increasing number of vacancies for high school principals. Data from the National Center for Education Statistics (2007) show that the majority of principals (58%) are over the age of 50 and the U.S. Bureau of Labor Statistics (2008-09) projects an 8% increase in job openings for elementary and secondary school principals between 2006 and 2016. Statewide, about 61% of high school principals leave their schools or the field within 3 years; within 5 years, that figure increases to 76%. In urban districts, the annual turnover rate of principals averages between 18% and 25%. The Houston area alone has about 160 annual job openings for principals.

Large districts such as Dallas and Houston have sponsored their own principal training programs—a grow-your-own approach—that can generate comparable numbers of graduates with skills specifically tailored to their urban setting and a thorough indoctrination in the district's vision of reform without heavy tuition burdens on participants. These local programs present an attractive alternative to more traditional university-based certification programs. Additionally, these districts are partnering with other organizations (e.g., Broad and Wallace Foundations, Rice University, National Institute for School Leadership) to develop alternatives to traditional principal preparation programs. As a result, the Pilot High School Principal Certification Program may contribute to the mix of leadership development programs that reflect both a demand for a new breed of principal and a policy environment conducive to proliferating innovative programs.

UTeach Replication Grants

The UTeach program has become a nationally recognized model as a non-traditional teacher preparation program because their graduates stay in the teaching field longer than other new teachers. Program graduates have a 70% retention rate after 5 years of teaching compared to the national average of 50%. The UTeach Institute, created to help colleges and universities across the country replicate UTeach, is partnering with the National Math and Science Initiative (NMSI) through a $125 million commitment from the ExxonMobil Corporation to scale up the program nationally. In Texas, replication efforts are also receiving support from TEA, THSP, the Greater Texas Foundation, the MSDF, and Exxon Mobil.

The UTeach program was created in 1997 by the University of Texas at Austin by the dean of the College of Natural Sciences in response to the realization that its current teacher preparation system was not inspiring many math and science students to teach. A group of high school teachers and administrators were convened to design the "dream teacher preparation program." As a result, a new cross-university partnership with the College of Education and the College of Liberal Arts was created to completely re-engineer and streamline teacher preparation with a focus on providing a new way to prepare secondary science, math, and computer science teachers. UTeach offers a compact degree program that allows students to graduate in four years having completed both a math, science, or computer science degree and the requirements for secondary teacher certification. The program differs from other teacher preparation programs in a number of ways, beginning with the collaboration between science and education faculty and the compact degree program. Other differences include:

1. Active recruitment of science and math majors to take the two initial one-hour courses (a tuition rebate is offered).
2. Early and intensive field experiences.
3. A focus on developing deep-levels of understanding of subject matter and incorporating effective teaching strategies (e.g., modeling best teaching practices, acquire skills with instructional technology, providing research experience).
4. Intensive coaching by faculty and master teachers.
5. Integrated courses that emphasize the connections between subjects.
6. Financial support and the support of a cohort of students. The program emphasizes collaboration among participants so that they get experience in working with others as a model for how to work in their schools.
7. Ongoing program evaluation (an end of year report by a program evaluator and ongoing feedback from participants).

All participants get the experience of writing a grant and model lesson plans. The program maintains close partnerships with districts that are essential for providing field experiences to participants and for providing mentor teachers. Program graduates are provided induction support--an online mentoring program, advice, classroom visits, a lending library of materials and equipment, regularly scheduled professional development sessions at the university and other locations. A number of graduates are beginning to enroll in the UTeach Masters to learn more about content and to become better teachers.

Since the program's inception in 1997, UTeach has doubled the number of math and science teachers that it produces--as of 2008 they certified about 70 students a year (half math and half science). The program has seen a steady increase of participants since 2001 and had an enrollment of 470—with a goal of 500—at the time of our interview. Among students who enroll in the program, about 60% see it through to completion. Program staff systematically gather and report data on the characteristics of its students and graduates as well as their retention rates in teaching, but have mostly anecdotal data on the quality of the teaching performed by graduates (the latter is not a requirement of their grants).

The replication of the UTeach program is considered a critical element in the Texas T-STEM initiative. With this goal in mind, the UTeach Institute under the auspicious of the

T-STEM initiative (TEA) is supporting grant awards to three Texas universities for two years, with other funders providing three additional years of funding. The five-year grants include an initial planning year followed by four years of implementation of courses. In the future, additional Texas universities will be eligible for five years of funding supported by NMSI.[130] NMSI has a matching funding component that will help with sustainability—they will match up to $1 million raised through other sources for each grantee (not part of the TEA grants). A description of the initial Texas UTeach replication grants is included in Exhibit I-1.

Exhibit E-1
UTeach Replication Grants

The goals of the replication grants of up to $1.4 million are to: (1) provide direction, leadership, and support to universities starting new UTeach programs; (2) increase the quantity and quality of math and science majors being recruited, trained and certified to become teachers at the replication sites; (3) provide sub-grants to replication sites for costs associated with the start-up and implementation of the program; (4) facilitate the creation of support structures to ensure the placement and success of program graduates from the replication sites in high-need secondary schools; and (5) engage school districts serving high-need students in the preparation of high-quality math and science teachers through mentoring, supervision of student teaching, induction and ongoing support at the replication sites. Grant awards are reviewed annually and are dependent on successful implementation of the UTeach Elements of Success. Students participating in the program are also eligible for the Robert Noyce Scholarship funded by a $500,000 grant from the National Science Foundation.

- The University of Houston received the first replication grant and began their program, *teach*HOUSTON, with an enrollment of 14 participants in spring 2007 through a TEA grant. The program is a collaboration between the College of Natural Sciences and Mathematics and the College of Education. The university is partnering with three local districts--Fort Bend, Houston, and Spring Branch.
- UTeach Dallas, housed in the School of Natural Sciences and Mathematics at the University of Texas at Dallas, began their program in spring 2008 through a grant from NMSI, with additional funds from the MSDF, the Sid W. Richardson Foundation, the Greater Texas Foundation, and Tellabs. The university is partnering with two local school districts--Dallas and Garland. The new program will become the sole entity responsible for the preparation of science, mathematics, and computer science teachers. UTeach Dallas is part of larger effort by the university to improve math and science education.
- Teach North Texas (TNT), launched in spring 2008, is a collaborative effort between the College of Arts and Sciences and the College of Education at the University of North Texas also launched through a NMSI grant. The university formed a Field Experience Committee with Fort Worth ISD to prepare the field experiences for program participants (at least three research-based teaching opportunities) and develop courses for TNT. This program replaces all existing undergraduate programs leading to certification for teachers in secondary mathematics, science, or computer science.

The UTeach Institute is creating a number of resources to help replication sites, including a UTeach Operations Manual and a framework for collecting demographic data and conducting evaluations. Institute staff are also building and supporting a community and network of faculty

[130] At the time of our interviews the number of awards and funding sources were still in flux so these data are only estimates. Information will be updated during the 2009 data collection cycle.

and Master Teachers who teach the UTeach courses to facilitate the sharing of successful practices. Other support activities provided by UTeach Institute staff include monthly conference calls, on-demand email and phone support, and two site visits per year. The Institute will try and build a number of collaboratives among grant participants (e.g., annual conference to share experiences for each type of staff). Replication sites will become official members of the UTeach Institute Council. A development work group of fundraising representative from replication sites will be appointed with contributing members from all replicating institutions to coordinate statewide private fundraising. A national research consortium comprised of representatives from the replication sites will oversee and coordinate external research and evaluation of the replication project and studies involving the UTeach programs at replication sites.

In January 2009, TEA has allocated funding to support an upcoming round of Texas UTeach replication grants. Invitations to universities to submit full proposals will be made no later than May 1, 2009.

As part of the Texas replication grants the UTeach Institute will collect evaluation data from replication sites that will model the kind of information they collect at UTeach Austin, plus data on implementation progress. All of this data will be housed in a database to be launched in January 2009. The database will generate automatic reports for the sites, and will have a survey function that will allow sites to send out surveys to students. These data will then be provided to funders and sponsors. As part of the NMSI grant process, the Institute will also collect qualitative data on implementation.

Program Impacts. The UTeach replication grantees are not expected to produce graduates for 4 to 5 years (the program at the University of Houston is on a faster track) and thus will not have much of an impact on capacity-building activities in the near future, although program participants will be participating in field experiences in partnering districts as they move through the program. In larger districts (those with the most low-performing schools), teacher preparation programs currently rely on district-sponsored capacity building strategies, but the expansion of programs like UTeach hold promise for making increased contributions since UTeach graduates, on average stay in teaching longer than other new teachers. Hence it remains to be seen how the expansion of the UTeach program through the replication grants will contribute to the capacity-building activities of local school districts.

One issue that stands in the way of expanding the employment of alternatively-certified teachers involves the attitudes of district administrators regarding alternative certification programs. Differences of opinion were expressed by district administrators about the value of these programs; a similar debate is occurring at state and national levels. For example, one large urban district was focused on hiring teachers with alternative certification because administrators felt that these graduates offered enhanced skills, particularly when they brought with them experience in the work world. These experiences allowed teachers to provide concrete examples to students on how concepts or skills applied to real life situations. In another urban district, administrators expressed a preference for hiring teachers that participated in traditional certification programs because of their greater confidence in the quality of training offered through these programs--especially given the proliferation of new teacher preparation programs by a wide range of organizations.

Issues for Consideration

Currently there are no plans to continue with the Pilot High School Principal Certification Program after the completion of their three-year grant cycle in 2009.[131] The knowledge gained from current investments could be enhanced by measures to assess the quality of graduates produced by these programs or to network grantees to assess the lessons learned for future development (the latter is something the CFT Program Officer is considering). Much can be learned from these experiments that could contribute to the research base about what is needed to develop new school leaders and to address requirements and resources necessary to secure high-quality training throughout a principal's career. If THSP leadership development programs are to be funded in the future, they may hold greater promise for smaller districts that do not have the capacity to develop their own principal and teacher training programs.

If alternative certification programs are to serve as a viable source for teacher preparation, then the attitudes about these types of graduates need to be addressed. Research on the effectiveness of alternative-certification teachers has not been conclusive, although the most recent report published by the Institute of Education Sciences (Constantine et al., 2009) suggests that students of teachers who chose to enter teaching through an alternative route did not perform statistically different from students of teachers who chose a traditional route to teaching. Recent changes adopted by the State Board for Educator Certification (October 2008) regarding minimum standards for all education preparation programs to ensure consistency across the state, as well as minimum admission requirements for candidates accepted into an educator preparation program, may alleviate some concerns regarding the quality of graduates from alternative certification programs.

The State Board for Educator Certification that licenses teachers in Texas has specified a number of new requirements for education preparation programs to go into effect during the 2009–10 school year (19 TAC Chapter 228), including:

- Minimum preparation program coursework and/or training requirements for initial teacher certification, including a required minimum of 300 clock-hours of training, specifying the different types of field experiences that may be available through a program, and establish the expectations for each type of experience (e.g., must include more than observation, must be ongoing and relevant). Each new educator preparation program candidate must be assigned a campus mentor and that mentors are provided training by the program, and specifies what constitutes program supervision (minimum formal observations each semester to ensure support and instructional feedback).
- All alternative certification programs seeking approval to implement a clinical teaching component must submit a description of the following elements of the program for approval by TEA staff: (1) general clinical teaching program description, including conditions under which clinical teaching may be implemented; (2) selection criteria for clinical teachers; (3) selection criteria for mentor teachers; (4) description of support and communication between candidates, mentors, and the alternative certification program; (5) description of program supervision; and (6) description of how candidates are evaluated.

[131] The CFT-funded portion of Region 13 funding for principal training and coaching is also coming to an end (TEA-supported training from Region 13 is ongoing).

The minimum admission requirements for education candidates seeking an initial certification adopted by the State Board for Educator Certification (19 TAC Chapter 227), also to go into effect during the 2009–10 school year, include the following:

- A baccalaureate degree earned from and conferred by an institution of higher education that is recognized by one of the regional accrediting agencies of the Texas Higher Education Coordinating Board (THECB).
- A minimum GPA requirement of at least 2.5 or at least 2.5 in the last 60 semester credit hours; and a minimum of 12 semester credit hours in the subject-specific content area or a passing score on a content examination.
- Candidates must pass the basic skills test in reading, written communication, and mathematics or demonstrate equivalent performance on a college entrance examination based on one of four specified assessment instruments; and must demonstrate specified oral communication skills and critical-thinking skills measured by acceptable scores on an instrument on the TEA-approved vendor list.

Some argue that these requirements will negatively impact the pool of applicants to alternative certification programs. Concurrently, the implementation of state policies such as the "four by four" curriculum and increased demand for AP classes may outstrip the supply of teachers that present program levels can provide—this is especially true in the areas of math and science where education institutions are competing with business for a small labor pool.

Appendix F. Propensity Score Models for Comparative Outcomes Analysis

Exhibit F-1
Propensity Score Model to Predict School-Level THSP Participation for Existing THSP Schools in 2006–07 (N = 1170)

Variable	Coefficient		*SE*	*p*
Intercept	-13.47		20.91	0.52
Grade span with grades 6-12 versus 9-12	-1.55		1.32	0.24
School size (log transformed))	1.41	*	0.62	0.02
Ninth graders passing TAKS math (%)	0.03		0.02	0.31
Ninth graders passing TAKS reading (%)	0.03		0.05	0.59
Students taking SAT or ACT (%)	-0.01		0.02	0.52
SAT/ACT takers scoring better than 1110/24 (%)	-0.03		0.03	0.41
Attendance rate	0.06		0.20	0.77
Mobile students (%)	-0.03		0.05	0.55
Limited-English-proficient students (%)	-0.06		0.05	0.22
Economically disadvantaged students (%)	0.07	*	0.03	0.02
African-American students (%)	-0.06	◊	0.03	0.07
Hispanic students (%)	-0.01		0.02	0.55
Special education students (%)	0.10	◊	0.06	0.10
Students graduating with recommended diploma (%)	0.02		0.02	0.32
Average teacher base salary	0.00		0.00	0.11
Average years experience of teachers	-0.40	*	0.16	0.01
Teachers in first year of teaching (%)	-0.13	*	0.06	0.03
African-American teachers (%)	0.05		0.03	0.17
Hispanic teachers (%)	-0.02		0.02	0.26
Student-teacher ratio	-0.25	◊	0.13	0.06
Rural	-1.32		0.95	0.17
Accountability rating - Acceptable	0.50		0.97	0.61
Accountability rating - Unacceptable	0.91		1.39	0.51
Title 1	-0.55		0.76	0.47
District teacher turnover ratio	-0.03		0.06	0.64
District size (log transformed))	-0.24		0.30	0.43

*$p < .05$, ◊$p < .10$.

Exhibit F-2
Propensity Score Model to Predict School-Level THSP Participation for Existing THSP Schools in 2007–08 (N = 1288)

Variable	Coefficient	*SE*	*p*
Intercept	10.08	8.20	0.22
Grade span with grades 6-12 versus 9-12	-1.66 ◊	0.85	0.05
School size (log transformed))	-0.08	0.29	0.79
Ninth graders passing TAKS math (%)	0.00	0.02	0.85
Ninth graders passing TAKS reading (%)	-0.01	0.02	0.72
Students taking SAT or ACT (%)	-0.02 ◊	0.01	0.09
Attendance rate	-0.13 ◊	0.07	0.07
Mobile students (%)	-0.02	0.02	0.48
Limited-English-proficient students (%)	0.00	0.03	0.95
Economically disadvantaged students (%)	0.00	0.02	0.80
African-American students (%)	0.03 ◊	0.02	0.08
Hispanic students (%)	0.03 ◊	0.02	0.05
Special education students (%)	0.05	0.03	0.13
Students graduating with recommended diploma (%)	0.00	0.01	0.75
Average teacher base salary	0.00	0.00	0.83
Average years experience of teachers	-0.05	0.08	0.53
Teachers in first year of teaching (%)	0.02	0.02	0.48
African-American teachers (%)	-0.01	0.02	0.46
Hispanic teachers (%)	-0.01	0.01	0.64
Student-teacher ratio	-0.03	0.07	0.62
Rural	-0.30	0.56	0.59
Accountability rating - Acceptable	-0.26	0.71	0.72
Accountability rating - Unacceptable	-0.03	0.85	0.97
Title 1	-0.46	0.47	0.33

$^*p < .05$. ◊$p < .10$.

Exhibit F-3
Propensity Score Model to Predict School-Level THSP Participation for Newly Opened THSP Schools in 2007–08 (N = 1249)

Variable	Coefficient		*SE*	*p*
Intercept	0.28		7.33	0.97
Grade span with grades 1-12 versus 9-12	2.43	*	1.22	0.05
School size (log transformed))	-1.10	*	0.45	0.02
Students passing 8th grade TAKS math (%)	0.02		0.04	0.64
Students passing 8th grade TAKS reading (%)	-0.15	◊	0.08	0.08
Students passing 8th grade TAKS science (%)	0.02		0.04	0.65
Students passing 8th grade TAKS social studies (%)	0.05		0.07	0.51
Limited-English-proficient students (%)	-0.16		0.11	0.14
Economically disadvantaged students (%)	0.01		0.04	0.88
African-American students (%)	0.15	*	0.05	0.01
Hispanic students (%)	0.04		0.04	0.31
Special education students (%)	-0.39	*	0.16	0.02
Teachers in first year of teaching (%)	0.09	*	0.03	0.00
African-American teachers (%)	-0.14	*	0.05	0.01
Hispanic teachers (%)	0.04		0.03	0.17
Rural	-1.89		1.57	0.23
Title 1	-2.61	*	1.13	0.02

*$p < .05$. ◊$p < .10$.

Exhibit F-4
Selection Criteria for Variables Used for Matching Existing THSP Schools Funded in 2006–07 and 2007–08

Variable	Matching Criteria
Grade span	Matching within the same group
Campus rating	Exact matching
Ninth grade TAKS math passing rates	Within 15% difference
Ninth grade TAKS reading passing rates	Within 12% difference
Urbanicity	Exact matching
Enrollment	Within 500 difference
Title I status	Exact matching
Percentage African-American and Hispanic students	Within 20% difference

Exhibit F-5
Selection Criteria for Variables Used for Matching Newly Opened THSP Schools Funded in 2006–07 and 2007–08

Variable	Matching Criteria
Grade span	Matching within the same group
Aggregated 8th grade TAKS math passing rates	Within 15% difference
Aggregated 8th grade TAKS math passing rates	Within 12% difference
Urbanicity	Exact matching
Enrollment	Within 500 difference
Title I status	Exact matching
Percentage African-American and Hispanic students	Within 40% difference

Exhibit F-6
THSP Schools Funded in 2006–07 and Included in Student Outcomes Analyses

Campus name	District name
Early College High Schools	
Hidalgo Early College High School	Hidalgo ISD
University Preparatory High School Program	Flour Bluff ISD
ECHS at Brookhaven College	Carollton-Farmer's Branch ISD
Collegiate High School	Corpus Christi ISD
Trini Garza Early College High School at Mountain View College	Dallas ISD
East ECHS	Houston ISD
Laredo ECHS at TAMIU	Laredo ISD
Mission ECHS	Socorro ISD
High Schools That Work	
Barbara Jordan High School	Houston ISD
Birdville High School	Birdville ISD
Diboll High School	Diboll ISD
Galena Park High School	Galena Park ISD
Haltom High School	Birdville ISD
Iowa Park High School	Iowa Park ISD
Law Enforcement-Criminal Justice High School	Houston ISD
Los Fresnos High School	Los Fresnos CISD
Lubbock-Cooper High School	Lubbock-Cooper ISD
Mabank High School	Mabank ISD
Mount Pleasant High School	Mount Pleasant ISD
Reagan High School	Houston ISD
Richland High School	Birdville ISD
Wheatley High School	Houston ISD
High School Redesign	
Akins High School	Austin ISD
Bel Air High School	Ysleta ISD
Dunbar High School	Fort Worth ISD
Houston High School	San Antonio ISD
Lanier High School	San Antonio ISD
Northside High School	Fort Worth ISD
New Schools/Charter Schools	
Peak Advantage	Uplift
T-STEM	
New Deal High School	New Deal ISD
YES Prep - Southeast	YES Prep

Exhibit F-7
THSP Schools Funded in 2007–08 and Included in Student Outcomes Analyses

	Campus name	District name
District Engagement		
	Austin High School	Houston ISD
	Furr High School	Houston ISD
	Jones High School	Houston ISD
	Worthing High School	Houston ISD
Early College High School		
	Legacy Early College High School: Hutto High School	Hutto ISD
	Legacy Early College High School: Taylor High School	Taylor ISD
	Panola Charter School	Panola Charter
	Progreso High School	Progreso ISD
	Bryan Collegiate High School	Bryan ISD
	Clear Horizons Early College High School	Clear Creek ISD
	Early College High School	Harlingen CISD
	Victory Early College HS	Aldine ISD
	Valle Verde Early College High School	Ysleta ISD
High Schools That Work		
	Burton High School	Burton ISD
	Graham High School	Graham ISD
	J M Hanks High School	Ysleta ISD
	Kermit High School	Kermit ISD
	La Villa High School	La Villa ISD
	Pasadena Memorial High School	Pasadena ISD
	Sam Rayburn High School	Pasadena ISD
	South Grand Prairie High School	Grand Prairie ISD
	Stars High School	Waco ISD
	West Orange-Stark High School	West Orange Cove CISD
High School Redesign and Restructuring		
	Blue Ridge High School	Blue Ridge ISD
	Cotulla High School	Cotulla ISD
	Crockett High School	Crockett ISD
	Hargrave High School	Huffman ISD
	Harlandale High School	Harlandale ISD
	Everman (Joe C. Bean) High School	Everman ISD
	John Tyler High School	Tyler ISD
	Kenedy High School	Kenedy ISD
	L.G. Pinkston High School	Dallas ISD
	Manor High School	Manor ISD
	Moody High School	Corpus Christi ISD
	Pampa High School	Pampa ISD
	PSJA North High School	Pharr-San Juan-Alamo ISD
	Sealy High School	Sealy ISD
	Shepherd High School	Shepherd ISD

Exhibit F-7 (concluded)
THSP Schools Funded in 2007–08 and Included in Student Outcomes Analyses

Campus name	District name
New Schools/Charter Schools	
Mathis High School for International Studies	Asia Society
Sharpstown International High School (Houston)	Asia Society
IDEA Frontier College Prep	IDEA
IDEA Quest College Prep	IDEA
Hampton Preparatory (South Dallas Uplift)	Uplift
Summit International Preparatory School	Uplift
YES Prep - Southwest	Houston
T-STEM	
Berkner High School	Richardson ISD
Emmett Conrad High School	Dallas ISD
KIPP Academy Middle School and High School	KIPP
Lee High School	North East ISD
Turner High School	Carrollton-Farmer's Branch ISD
Rapoport Academy-Quinn Campus	Rapoport Charter
Moody High School	Corpus Christi ISD
Harmony School of Excellence	Harmony
Harmony Science (El Paso)	Harmony
Harmony Science (Fort Worth)	Harmony
Harmony Science (San Antonio)	Harmony
Manor New Technology High	Manor ISD
Waxahachie Global High	Waxahachie ISD

Note. All schools in this table first received funding in 2007–08.
Moody High School has a T-STEM school-within-a-school and supports the remainder of the student population with an HSRR grant.
All schools listed, except Taylor and Hutto High Schools, are matched with six comparison schools. Because Taylor High School and Hutto High School feed into the same Legacy Early College High School, each is matched with just three comparison schools.

Appendix G. Baseline Data for 2006–07 and 2007–08 THSP Schools

The goal of the matching process was to create comparison groups that are similar to THSP schools on as many dimensions as possible. School characteristics from the AEIS data were used to match THSP schools to non-THSP schools. This appendix describes the quality of the matches for schools included in the outcomes analysis.

Comparison of THSP Schools with Their Matched Non-THSP Schools

Schools Beginning Implementation in 2006–07

Thirty-one schools began implementation of THSP reforms in 2006–07, including seven new schools that are matched separately from existing schools.[132] The existing THSP schools are well matched to the non-THSP comparison schools on a wide range of characteristics as evidenced by the descriptive statistics presented in Exhibit G-1. Specifically, existing THSP schools and their comparison schools are closely matched in terms of urbanicity (20.8% of THSP and 22.9% of comparison schools are rural), enrollment (an average of 1,342 for THSP and 1,387 for comparison schools), and Title I status (62.5% for THSP and 59.0% for comparison). On average, one percentage point or less separate THSP schools and comparison schools in the percent African-American (16.5% and 17.5%, respectively), special education (13.5% and 13.1%, respectively), limited English proficient (7.1% and 7.5%, respectively), and mobile students (20.7% and 21.3%, respectively).[133] THSP schools have five percentage points more Hispanic students and six percentage points more economically disadvantaged students than the comparison schools, but these differences are smaller than those between THSP schools and the rest of schools in Texas: Nineteen percentage points in Hispanic students and 16 percentage points in economically disadvantaged students separate THSP schools and all other schools in Texas serving similar grade spans.

The matched THSP and non-THSP schools are within one percentage point of each other in terms of the percentage of first-year teachers. There is also less than half a year difference in average teaching experience and a $222 difference in teacher base salary, approximately 15% and 6% of a standard deviation, respectively. Differences in school performance and achievement indicators are minimal: the same percentages of THSP and comparison schools were ranked as AU (12.5%) and Academically Acceptable (AA, 72.5%); 4.2% THSP schools were recognized compared with 7.6% of the comparison schools; and 4.2% of the THSP schools were exceptional compared with 0.7% of the comparison schools. The difference in ninth-grade students' attendance rate is less than one percentage point. The differences in school-level means between THSP and comparison schools for the percentage of ninth-grade students passing

132 Seven additional schools began receiving funds in 2006–07 but did not serve ninth-graders that year. Six of these schools served ninth-graders in 2007–08. Assuming it has a suitable non-THSP match, the remaining one school will be added to the analysis when it begins serving ninth-graders.

133 A student is considered to be mobile if he or she has been in membership at the school for less than 83% of the school year (i.e., has missed six or more weeks at a particular school). The campus percentage mobile is calculated by dividing the number of mobile students by the number of students who were in membership at any time during the academic year.

TAKS reading and mathematics, taking the SAT Reasoning Test (SAT)/ACT, scoring 1110/24 on the SAT/ACT, and the percentage of students graduating with recommended diplomas were all within three percentage points.

Due to their distinguishing features, we were able to match closely THSP new schools beginning implementation in 2006–07 with comparison schools on some key indicators but not others. As is shown in Exhibit G-3 in Appendix G, the THSP new schools and comparison schools were matched on grade span categories and very closely on student prior achievement (only one point difference in both the percentages of students passing Grade 8 TAKS mathematics and reading tests). There were also less than five point differences in the percentages of rural and small schools and limited English proficiency students. There were substantial differences in the percentages of Title 1 schools (0.0% THSP new schools and 28.6% comparison schools), Hispanic students (86.8% in THSP new schools and 28.6% in comparison schools), economically disadvantaged students (81.0% in THSP new schools and 37.7% in comparison schools), and teachers in their first year of teaching (21.1% in THSP new schools and 6.6% in comparison schools), and in the average years of teachers' teaching experience (8.6 years for THSP new schools and 13.6 years for comparison schools).

Any interpretation of the outcomes analyses presented in this report must be taken cautiously where THSP new schools are included. Notwithstanding, we made sure that the schools are closely matched on prior student achievement, which is supposed to be the best predictor of future achievement. In addition, we used as predictors a wide range of student and school background variables in the final model in order to adjust for the remaining differences in school and student characteristics after matching and to further ensure comparability when estimating the effect of THSP reform efforts on student outcomes.

Schools Beginning Implementation in 2007–08

Fifty-seven THSP schools began implementation in 2007–08 and were matched with the available data. Among them 16 schools were newly opened schools and were matched separately. Exhibit G-2 shows that, like the schools beginning implementation the prior year, the existing THSP schools and their matched comparison schools are similar in terms of school characteristics, student demographic composition, teacher characteristics, and academic indicators.[134] The main exceptions are that a larger proportion of 2007–08 THSP schools are Title 1 schools compared with the matched non-THSP schools (a difference of six percentage points), and 2007–08 THSP schools have five percentage points more students taking SAT or ACT than their matched non-THSP schools.

Similar to the THSP new schools beginning implementation the prior year, we were able to match THSP new schools beginning implementation in 2007–08 with comparison schools closely on some key indicators but not others. As is shown in Exhibit G-3, the THSP new schools and comparison schools were matched exactly on grade span and closely on student prior achievement (less than five point differences in both the percentages of students passing Grade 8 TAKS mathematics and reading tests). There were also less than five point differences in percentages of Title 1 schools and limited English proficiency students. The differences between THSP new schools and comparison schools in percentages of disadvantaged students

[134] Seven schools beginning implementation in 2007–08 were excluded from the analysis because they hadn't yet served ninth-graders. These schools will be added to the analysis when they begin serving ninth-graders.

and students with limited English proficiency were 8.5% and 7.2% respectively. More than 10-point differences existed between THSP new and comparison schools in the percentages of small schools (68.6% and 84.4%,respectively), rural schools (18.8% and 86.5%, respectively), Hispanic students (54.1% and 39.5%, respectively), and teachers in their first year of teaching (29.1% and 10.9%, respectively). The difference in the average years of teachers' teaching experience is over six years (4.8 years for THSP new schools and 11.4 years for comparison schools).

Student Characteristics of THSP Schools and Their Matched Comparisons

Student-level descriptive statistics provide additional verification that the school-level matching produced similar student groups across the matched THSP and comparison sites. In the subsequent analyses, these similarities ensure that any identified THSP effects on student outcomes are not due to prior differences in the observable characteristics of students, although they may be influenced by differences in unobserved characteristics.

Exhibits G-4 and G-5 present student-level descriptive statistics for the demographic and prior achievement variables of students attending THSP and comparison schools. Statistics are presented separately for first-time ninth-graders and ninth-grade repeaters (i.e., students who were ninth-graders in 2006–07 and repeating ninth-grade in 2007–08). Ninth-graders in THSP schools beginning implementation in 2007–08 were generally very similar, with a few exceptions, to their counterparts in the matched comparison schools. For nonrepeaters, THSP schools had a higher proportion of Hispanic students than comparison schools (61.8% versus 53.5%) and a lower proportion of White students (21.6% versus 27.6%).

Tenth-grade students in THSP schools beginning implementation in 2006–07 were also close in demographics and prior achievement to students at the matched non-THSP schools. Exhibit G-6 presents student-level descriptive statistics for the demographic and prior achievement variables of students who were promoted to tenth grade in 2008 and for those who were not, both at THSP and matched comparison schools.

For both the ninth-grade and tenth-grade sample, evaluators further ensured comparability by controlling for additional student-level variables in the hierarchical models when estimating the overall THSP and program effects.

Exhibit G-1
Baseline School Information (2005–06) for THSP Existing Schools Funded in 2006–07, Their Matched Comparison Schools, and Non-THSP Schools in Texas

Mean (SD)	THSP All	Comparison Schools	Non-THSP All	T-STEM	HSTW	HSRD	ECHS
N of schools	24	144	1220	2	14	6	2
Number of ninth-grade students	427.7	447.2	274.6	77.5	435.6	526.5	426.0
	(234.6)	(234.6)	(311.8)	(38.9)	(244.9)	(159.6)	(230.5)
School size	1,342.1	1,387.7	905.5	419.5	1,367.8	1,621.3	1,247.5
	(669.6)	(687.0)	(921.0)	(337.3)	(682.6)	(559.0)	(618.7)
Small (% of schools)	4.2	13.2	44.8	50.0	0.0	0.0	0.0
Serving grades 9-12 (% of schools)	91.7	95.8	76.1	50.0	92.9	100.0	100.0
Serving grades below 9 (% of schools)	8.3	4.2	23.9	50.0	7.1	0.0	0.0
Rural (% of schools)	20.8	22.9	63.0	50.0	28.6	0.0	0.0
Title I (% of schools)	62.5	59.0	53.4	50.0	57.1	83.3	50.0
Student-teacher ratio	14.4	14.7	12.9	11.4	14.6	15.1	14.0
	(2.1)	(2.5)	(4.4)	(2.5)	(2.0)	(1.7)	(3.3)
African-American students (%)	16.5	17.5	11.5	4.1	15.2	28.3	2.8
	(24.2)	(23.8)	(17.4)	(0.4)	(19.2)	(37.6)	(3.9)
Hispanic students (%)	52.4	47.1	32.9	66.7	43.6	65.2	61.7
	(33.3)	(34.1)	(28.0)	(38.0)	(29.5)	(38.0)	(54.2)
Economically disadvantaged students (%)	62.2	55.8	45.9	64.2	57.8	72.7	60.1
	(23.7)	(25.4)	(22.2)	(14.3)	(25.0)	(19.4)	(42.0)
Limited English proficiency students (%)	7.1	7.4	4.7	0.0	6.3	9.3	13.9
	(7.3)	(7.7)	(6.4)	(0.00)	(5.8)	(6.8)	(17.5)
Special education students (%)	13.5	13.2	13.6	11.3	14.0	14.7	8.7
	(6.2)	(4.5)	(5.1)	(12.9)	(6.1)	(5.5)	(2.7)
Mobile students (%)	20.7	21.3	18.5	12.6	18.3	29.7	18.6
	(9.2)	(6.9)	(8.4)	(7.7)	(8.0)	(8.5)	(0.00)
Teachers in first year of teaching (%)	6.2	6.7	8.1	12.0	5.2	6.9	5.5
	(4.5)	(4.9)	(7.9)	(14.7)	(2.8)	(3.4)	(0.2)
Average years experience of teachers	12.0	12.4	12.4	8.9	12.9	11.3	11.1
	(2.3)	(2.3)	(2.8)	(6.0)	(1.7)	(1.3)	(2.7)
Average teacher base salary ($)	43,464.1	43,242.6	40,101.3	39,094.5	44,127.1	44,311.0	40,651.5
	(3,925.2)	(3,801.6)	(4,479.1)	(3,093.6)	(4,434.5)	(2,208.6)	(542.4)

Exhibit G-1 (concluded)
Baseline School Information (2005–06) for THSP Existing Schools Funded in 2006–07, Their Matched Comparison Schools, and Non-THSP Schools in Texas

Mean (SD)	THSP All	Comparison Schools	Non-THSP All	T-STEM	HSTW	HSRD	ECHS
Achievement Indicators							
Accountability rating (% of schools)							
Exemplary	4.2	0.7	1.1	50.0	0.0	0.0	0.0
Recognized	4.2	7.6	19.9	0.0	7.1	0.0	0.0
Academically Acceptable	79.2	79.2	72.0	50.0	78.6	83.3	100.0
Academically Unacceptable	12.5	12.5	6.9	0.0	14.3	16.7	0.0
Attendance rate (%)	94.0	94.0	95.1	96.2	94.3	92.0	95.3
	(2.0)	(2.1)	(1.7)	(1.8)	(1.7)	(1.5)	(0.4)
Ninth-graders passing TAKS reading (%)	87.5	86.8	90.8	97.5	90.1	78.5	87.0
	(8.2)	(8.2)	(9.1)	(3.5)	(6.4)	(6.2)	(5.7)
Ninth-graders passing TAKS math (%)	54.2	53.8	61.3	81.0	56.7	38.5	57.0
	(19.1)	(18.7)	(18.8)	(19.8)	(18.2)	(11.6)	(4.2)
Students taking SAT or ACT (%)	62.4	63.7	66.4	83.4	56.0	67.7	70.6
	(19.5)	(15.0)	(21.0)	(33.1)	(14.0)	(25.6)	(6.4)
SAT/ACT takers scoring better than 1110/24 (%)	14.0	16.4	21.6	15.9	15.7	8.5	16.9
	(11.0)	(13.1)	(16.1)	(12.0)	(12.2)	(6.5)	(15.2)
Students graduating with recommended diploma (%)	78.2	76.6	69.9	92.0	76.8	74.2	87.0
	(10.1)	(11.2)	(17.9)	(11.3)	(9.2)	(8.6)	(9.8)

Notes. Baseline statistics reflect demographic characteristics in the year prior to implementation.
Means and standard deviations are presented for continuous variables. Values reported for dichotomous variables represent the percentages.
Data Sources: Academic Excellence Indicator System (AEIS), TAKS, and PEIMS data for 2005–06.

Exhibit G-2
Baseline School Information (2006–07) for THSP Existing Schools Funded in 2007–08, Their Matched Comparison Schools, and Non-THSP Schools in Texas

Mean (SD)	THSP All	Comparison Schools	Non-THSP All[1]	T-STEM[2]	HSTW[3]	DIEN	HSRR[2]	ECHS[3]	NSCS
N of schools	41	240	1227	6	10	4	15	4	2
Number of ninth-grade students	379.1	435.2	274.3	473.2	407.2	402.3	364.5	183.0	412.5
School size	1,132.2	1,337.4	913.2	1,347.0	1,294.4	1,177.8	1,075.9	570.8	1,131.0
	(877.3)	(974.4)	(916.5)	(1,106.0)	(1,251.2)	(456.2)	(715.7)	(329.1)	(775.0)
Small (% of schools)	17.1	19.2	44.7	16.7	30.0	0.0	13.3	25.0	0.0
Serving grades 9-12 (% of schools)	95.1	95.0	75.3	83.3	90.0	100.0	100.0	100.0	100.0
Serving grades below 9 (% of schools)	4.9	5.0	24.7	16.7	10.0	0.0	0.0	0.0	0.0
Rural (% of schools)	34.1	37.1	62.0	0.0	40.0	0.0	46.7	50.0	50.0
Title I (% of schools)	61.0	54.6	54.6	66.7	60.0	100.0	53.3	25.0	100.0
Student-teacher ratio	13.8	13.9	12.7	12.1	13.9	16.1	13.6	14.4	14.7
	(3.3)	(2.8)	(3.4)	(5.0)	(4.3)	(0.7)	(2.3)	(2.5)	(1.5)
African-American students (%)	19.4	16.9	11.8	18.3	14.9	46.7	18.0	11.8	17.2
	(22.4)	(20.1)	(17.2)	(11.7)	(20.3)	(40.6)	(21.7)	(8.1)	(23.5)
Hispanic students (%)	51.6	48.0	34.2	54.5	51.0	51.4	50.3	43.4	73.0
	(32.3)	(30.4)	(28.1)	(28.2)	(33.7)	(40.1)	(33.8)	(40.9)	(21.9)
Economically disadvantaged students (%)	58.7	54.0	46.5	65.8	48.7	75.0	57.2	55.0	73.0
	(20.9)	(21.7)	(22.0)	(20.2)	(17.7)	(11.3)	(22.0)	(29.5)	(0.4)
Limited English proficiency students (%)	8.5	7.5	4.8	14.5	6.5	8.0	7.3	8.4	10.8
	(9.4)	(8.1)	(6.6)	(17.8)	(6.8)	(6.4)	(6.0)	(12.5)	(12.5)
Special education students (%)	13.3	12.6	13.1	9.2	12.9	17.2	14.6	11.7	12.2
	(4.2)	(4.5)	(5.0)	(3.4)	(3.9)	(5.7)	(2.9)	(5.1)	(1.6)
Mobile students (%)	25.5	21.9	19.0	21.0	27.4	32.8	22.2	28.8	28.8
	(13.7)	(10.2)	(8.6)	(1.6)	(20.4)	(7.6)	(5.5)	(24.7)	(19.1)
Teachers in first year of teaching (%)	10.8	9.6	8.4	16.7	7.1	6.3	11.7	10.4	14.3
	(9.6)	(7.0)	(8.6)	(18.8)	(6.1)	(4.6)	(7.2)	(10.1)	(7.0)
Average years experience of teachers	11.6	12.1	12.3	8.1	12.5	13.9	11.9	11.6	10.4
	(2.7)	(2.8)	(2.9)	(3.2)	(1.9)	(1.5)	(2.1)	(3.4)	(0.0)
Average teacher base salary ($)	44,665.1	44,924.7	43,263.2	44,177.2	43,500.6	50,472.3	44,976.7	40,888.8	45,553.5
	(4,195.5)	(3,895.7)	(4,460.7)	(6,631.6)	(3,747.8)	(1,483.0)	(2,602.9)	(3,208.5)	(3,937.9)

Exhibit G-2 (concluded)

Baseline School Information (2006–07) for THSP Existing Schools funded in 2007–08, Their Matched Comparison Schools, and Non-THSP Schools in Texas

Mean (SD)	THSP All	Comparison Schools	Non-THSP All[1]	T-STEM[2]	HSTW[3]	DIEN	HSRR[2]	ECHS[3]	NSCS
Achievement Indicators									
Accountability rating (% of schools)									
Exemplary	0.0	1.7	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Recognized	4.9	3.3	14.1	33.3	0.0	0.0	0.0	0.0	0.0
Academically Acceptable	73.2	80.8	78.6	50.0	80.0	75.0	93.3	50.0	0.0
Academically Unacceptable	17.1	13.3	5.5	16.7	10.0	25.0	6.7	25.0	100.0
Attendance rate (%)	92.5	93.8	94.9	94.6	91.0	90.8	93.4	92.6	92.0
	(4.7)	(2.5)	(1.9)	(2.9)	(8.6)	(1.1)	(2.0)	(2.0)	(1.0)
Ninth-graders passing TAKS reading (%)	79.4	83.0	89.2	87.7	75.9	74.3	79.8	82.0	74.0
	(15.2)	(10.3)	(9.4)	(10.7)	(27.8)	(6.2)	(5.8)	(11.5)	(2.8)
Ninth-graders passing TAKS math (%)	51.1	53.9	64.0	64.3	53.8	36.5	52.0	44.3	35.0
	(15.9)	(16.9)	(18.3)	(21.4)	(16.1)	(5.1)	(10.9)	(18.8)	(1.4)
Students taking SAT or ACT (%)	57.1	62.5	74.9	64.7	56.5	61.6	56.9	44.1	67.0
	(19.4)	(19.6)	(168.4)	(12.3)	(24.3)	(13.7)	(16.3)	(30.9)	(5.6)
SAT/ACT takers scoring better than 1110/24 (%)	12.9	17.3	20.2	32.7	10.7	2.9	13.0	17.6	7.0
	(11.0)	(13.1)	(14.8)	(14.9)	(7.8)	(1.0)	(9.3)	(14.5)	(1.7)
Students graduating with recommended diploma (%)	73.9	75.0	74.0	73.4	71.6	82.2	76.2	57.0	86.8
	(19.4)	(14.9)	(16.6)	(12.5)	(26.1)	(7.3)	(11.0)	(35.0)	(1.2)

Notes. Baseline statistics reflect demographic characteristics in the year prior to implementation.

Means and standard deviations are presented for continuous variables. Values reported for dichotomous variables represent the percentages.

Data Sources: Academic Excellence Indicator System (AEIS), TAKS, and PEIMS data for 2006–07.

[1]Regular Instructional public schools serving ninth grade

[2]One THSP campus receives funding for both T-STEM and HSRR. Because the TSTEM program serves a subset of students through a "school within a school," campus descriptives are included under HSRR only.

[3] Two HSTW and two ECHS schools are missing data for 2006–07, so statistics presented reflect 2005–06. A subset of these schools is alternative schools that are not rated using the standard formula, so campus ratings are missing for these schools.

Exhibit G-3
Baseline School Information for New Schools and Their Matched Comparison Schools

	Schools Funded in 2006-2007				Schools Funded in 2007-2008				
Mean (SD)	THSP All	ECHS	NSCS	Comparison Schools	THSP All	T-STEM	ECHS	NSCS	Comparison Schools
N of schools	7	6	1	42	16	6	5	5	96
Number of ninth-grade students	96.3	105.2	43.0	146.7	67.3	46.3	108.6	51.2	59.6
School size	117.0	105.2	188.0	443.5	268.9	327.3	126.8	340.8	290.8
	(34.2)	(15.1)	(n/a)	(200.9)	(146.3)	(159.7)	(46.1)	(97.3)	(170.7)
Small (% of schools)	28.6	16.7	100.0	33.3	68.8	83.3	20.0	100.0	84.4
Serving grades 9-12 (% of schools)	85.7	100.0	0.0	85.7	43.8	33.3	100.0	0.0	43.8
Serving grades below 9 (% of schools)	14.3	0.0	100.0	14.3	56.3	66.7	0.0	100.0	56.3
Rural (% of schools)	0.0	0.0	0.0	2.4	18.8	33.3	20.0	0.0	86.5
Title I (% of schools)	0.0	0.0	0.0	28.6	25.0	50.0	0.0	20.0	29.2
Student-teacher ratio	19.0	19.4	17.1	13.0	16.6	13.9	17.8	18.5	10.5
	(3.9)	(4.1)	(n/a)	(3.2)	(3.1)	(2.2)	(2.8)	(2.3)	(2.6)
African-American students (%)	5.5	5.2	7.4	14.7	18.5	10.2	17.4	29.5	7.8
	(6.2)	(6.8)	(n/a)	(17.4)	(23.2)	(7.7)	(21.9)	(34.8)	(14.4)
Hispanic students (%)	86.8	87.0	85.6	34.9	54.1	48.0	56.0	59.7	39.5
	(6.9)	(7.5)	(n/a)	(28.4)	(27.4)	(26.8)	(27.2)	(32.8)	(24.0)
Economically disadvantaged students (%)	81.0	81.4	78.2	37.7	55.1	47.0	61.6	58.4	46.6
	(10.2)	(11.1)	(n/a)	(21.8)	(21.6)	(22.8)	(28.1)	(12.0)	(21.0)
Limited English proficiency students (%)	3.3	3.7	1.1	1.5	5.1	2.6	1.3	11.9	4.0
	(4.1)	(4.3)	(n/a)	(2.8)	(6.5)	(2.5)	(1.6)	(7.8)	(5.4)
Special education students (%)	0.4	0.3	0.5	6.7	3.5	4.9	1.2	4.2	10.8
	(0.5)	(0.5)	(n/a)	(5.9)	(2.5)	(2.7)	(0.9)	(1.7)	(4.0)
Teachers in first year of teaching (%)	21.1	21.5	18.2	6.5	29.1	39.4	13.2	32.5	10.9
	(12.6)	(13.7)	(n/a)	(5.6)	(21.1)	(26.8)	(15.2)	(7.8)	(12.4)
Average years experience of teachers	8.5	9.6	2.0	13.6	4.8	3.8	6.3	4.5	11.4
	(4.2)	(3.4)	(n/a)	(4.3)	(3.5)	(4.6)	(3.8)	(0.9)	(3.8)
Average teacher base salary ($)	46,649.4	47,859.8	39,387.0	47,354.8	41,782.5	39,008.7	43,314.4	43,579.2	41,720.0
	(4,181.3)	(2,945.0)	(n/a)	(6,405.8)	(4,798.7)	(5,704.2)	(4,332.5)	(2,898.2)	(3,616.7)

Exhibit G-3 (concluded)
Baseline School Information for New Schools and Their Matched Comparison Schools

Mean (SD)	Schools Funded in 2006-2007				Schools Funded in 2007-2008				
	THSP All	ECHS	NSCS	Comparison Schools	THSP All	T-STEM	ECHS	NSCS	Comparison Schools
Achievement Indicators									
Eighth-graders passing TAKS reading (%)	96.9	97.6	92.1	95.5	92.7	95.8	97.7	84.0	92.0
	(2.8)	(2.0)	(n/a)	(4.0)	(9.3)	(5.4)	(2.5)	(11.7)	(6.3)
Eighth-graders passing TAKS math (%)	85.5	87.0	76.3	86.5	82.7	88.1	91.5	67.5	78.5
	(7.1)	(6.4)	(n/a)	(10.0)	(13.0)	(9.5)	(6.5)	(6.5)	(11.3)

Notes. Baseline statistics reflect demographic characteristics in the first year of implementation for new schools (or schools new to serving the ninth grade). Some of these new schools were funded in 2005–06.

Means and standard deviations are presented for continuous variables. Values reported for dichotomous variables represent the percentages.

[1] New schools do not have prior year achievement data nor prior year campus rating because campus rating is based on achievement data. For these schools, eighth grade TAKS scores provide an achievement baseline.

Data Sources: Academic Excellence Indicator System (AEIS), TAKS, and PEIMS data for 2006–07 and 2007-2008.

Exhibit G-4
Ninth-Grade Nonrepeater Information for THSP Schools Beginning Implementation in 2006–07 or 2007–08 and Their Matched Comparisons

Mean (SD)	T-STEM[1]	HSTW	HSRD	HSRR[1]	DIEN	NSCS	ECHS	THSP Overall	Comparison Schools
N of schools	14	23	6	15	4	17	8	87	512
N of students	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
At a new school (%)	26.3	0.0	0.0	0.0	0.0	64.5	59.9	9.9	0.3
Sample Demographics									
Female (%)	46.0	51.2	50.4	48.5	50.1	56.3	56.4	50.9	50.7
Male (%)	54.0	48.8	49.6	51.5	49.9	43.7	43.6	49.1	49.3
White (%)	22.6	31.3	5.2	20.1	0.8	5.0	23.0	21.6	27.6
African-American (%)	12.6	10.6	18.1	17.1	37.5	20.8	8.1	14.7	16.0
Hispanic (%)	59.7	56.0	75.7	61.8	61.3	72.4	65.7	61.8	53.5
Other ethnicity (%)	5.0	2.1	1.1	1.0	0.4	1.8	3.2	1.9	2.9
Economically disadvantaged (%)	67.0	66.3	84.6	76.3	93.3	79.8	71.5	73.5	63.0
Limited English proficiency (%)	3.5	5.3	8.8	7.0	10.3	9.1	4.2	6.3	6.2
At risk (nonrepeaters only) (%)	38.7	45.2	64.2	61.5	71.0	39.9	32.6	50.8	50.5
Special education (%)	2.6	2.1	1.4	2.2	4.1	2.3	1.6	2.1	2.4
Immigrant (%)	0.3	0.5	0.6	0.8	0.1	0.0	0.4	0.5	0.5

Exhibit G-4 (concluded)
Ninth-Grade Nonrepeater Information for THSP Schools Beginning Implementation in 2006–07 or 2007–08 and Their Matched Comparisons

Mean (SD) *N*	T-STEM	HSTW	HSRD	HSRR	DIEN	NSCS	ECHS	THSP Overall	Comparison Schools
Student Prior Achievement									
Eighth-grade TAKS reading score	2,343.6	2,298.2	2,238.1	2,251.8	2,216.2	2,292.4	2,353.0	2,284.2	2,295.4
	(167.6)	(174.5)	(188.4)	(185.0)	(166.4)	(165.2)	(169.2)	(181.5)	(185.3)
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
Eighth-grade TAKS math score	2,265.6	2,192.6	2,122.4	2,141.7	2,098.8	2,165.5	2,264.2	2,178.7	2,184.8
	(189.2)	(172.0)	(164.6)	(171.1)	(138.5)	(151.5)	(185.1)	(178.2)	(182.3)
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
Seventh-grade TAKS reading score	2,257.6	2,216.6	2,162.3	2,171.1	2,131.3	2,199.0	2,252.3	2,200.7	2,211.4
	(156.5)	(158.6)	(169.0)	(161.3)	(141.6)	(144.5)	(151.2)	(162.2)	(166.4)
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
Seventh-grade TAKS math score	2,250.9	2,185.2	2,129.7	2,145.3	2,102.9	2,173.3	2,243.6	2,174.8	2,181.0
	(165.6)	(147.0)	(145.2)	(148.9)	(119.0)	(141.8)	(159.3)	(153.7)	(159.1)
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
Student Outcomes									
Passed Algebra I by Ninth-Grade (%)	91.7	87.8	86.5	84.5	86.0	88.0	90.5	87.4	85.9
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
Percentage of days absent	3.3	4.5	6.5	6.1	6.0	2.8	3.1	4.9	4.7
	(3.8)	(6.0)	(8.1)	(7.8)	(7.7)	(2.8)	(4.9)	(6.7)	(6.1)
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
Ninth-grade TAKS reading score	2,335.0	2,274.2	2,220.5	2,233.3	2,186.6	2,276.6	2,345.2	2,265.5	2,274.1
	(154.7)	(155.3)	(164.7)	(156.8)	(140.1)	(132.8)	(155.5)	(161.6)	(162.7)
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
Ninth-grade TAKS math score	2,290.4	2,199.6	2,108.0	2,132.1	2,096.6	2,199.4	2,294.3	2,184.2	2,187.6
	(231.5)	(213.3)	(195.4)	(221.0)	(171.9)	(202.2)	(228.3)	(222.4)	(232.1)
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893
On track in "four by four" (%)	64.1	62.7	57.3	56.5	54.0	55.6	57.8	59.5	62.3
	879	6,190	2,009	3,364	969	341	1,824	15,576	119,893

Notes.The sample consists of students who were at the same school on the 12th day (in August) and during TAKS testing (in April).
Means and standard deviations (in parentheses) are presented for continuous variables. Values reported for dichotomous variables represent percentages.

Data source: PEIMS data from 2005–08.

[1]Moody HS students enrolled in the T-STEM program are included in the T-STEM descriptives, whereas other Moody students are included in HSRR descriptives.

Exhibit G-5
Ninth-Grade Repeater Information for THSP Schools Beginning Implementation in 2006–07 or 2007–08 and Their Matched Comparisons

Mean (SD) *N*	T-STEM	HSTW	HSRD	HSRR	DIEN	ECHS	THSP Overall	Comparison Schools
N of schools	5	20	6	14	4	4	53	292
N of students	16	951	150	519	234	74	1,944	15,976
Sample Demographics								
Female (%)	31.3	40.5	35.3	43.4	44.4	44.6	41.4	41.0
Male (%)	68.8	59.5	64.7	56.6	55.6	55.4	58.6	59.0
White (%)	12.5	14.9	6.0	7.3	1.3	44.6	11.7	12.4
African-American (%)	12.5	10.0	18.7	24.5	41.0	8.1	18.2	17.4
Hispanic (%)	75.0	74.0	75.3	68.2	57.7	45.9	69.5	69.0
Other ethnicity (%)	0.0	1.1	0.0	0.0	0.0	1.4	0.6	1.2
Economically disadvantaged (%)	81.3	80.8	91.3	86.1	91.5	73.0	84.0	80.0
Limited English proficiency (%)	12.5	14.4	18.7	13.9	10.3	12.2	14.0	16.9
Special education (%)	0.0	4.9	6.7	2.3	2.6	8.1	4.2	5.7
Immigrant (%)	0.0	3.0	0.0	2.5	2.6	4.1	2.6	4.1

Exhibit G-5 (concluded)
Ninth-Grade Repeater Information for THSP Schools Beginning Implementation in 2006–07 or 2007–08 and Their Matched Comparisons

Mean (SD) *N*	T-STEM	HSTW	HSRD	HSRR	DIEN	ECHS	THSP Overall	Comparison Schools
Student Prior Achievement								
Prior year ninth-grade TAKS reading score	2161.1	2067.4	1973.1	2002.9	2069.5	2064.0	2043.8	2037.8
	(270.4)	(280.3)	(299.8)	(290.3)	(241.3)	(333.6)	(284.3)	(289.8)
	16	951	150	519	234	74	1,944	15,976
Prior year ninth-grade TAKS math score	2,029.3	1,927.1	1,779.8	1,843.1	1,883.2	1,877.7	1,887.0	1,874.3
	(140.2)	(283.4)	(333.5)	(322.8)	(274.0)	(327.8)	(301.9)	(307.2)
	16	951	150	519	234	74	1,944	15,976
Student Outcomes								
Passed Algebra I by most recent ninth-grade year (%)	81.3	73.5	69.3	67.8	82.5	58.1	72.2	70.6
	16	951	150	519	234	74	1,944	15,976
Percentage of days absent	6.2	12.0	21.3	18.1	13.6	14.3	14.7	13.3
	(6.5)	(12.7)	(16.3)	(16.6)	(14.1)	(13.8)	(14.7)	(13.4)
	16	951	150	519	234	74	1,944	15,976
Ninth-grade TAKS reading score	2,262.8	2,168.6	2,090.5	2,119.2	2,158.9	2,210.0	2,150.7	2,155.3
	(245.9)	(159.8)	(157.8)	(146.5)	(144.6)	(183.1)	(158.7)	(158.0)
	16	951	150	519	234	74	1,944	15,976
Ninth-grade TAKS math score	2,125.4	2,019.9	1,948.5	1,958.4	1,990.7	2,007.2	1,996.1	1,991.0
	(196.0)	(177.9)	(150.3)	(152.4)	(170.6)	(145.7)	(170.8)	(164.5)
	16	951	150	519	234	74	1,944	15,976
On track in "four by four" (%)	26.7	14.3	10.2	10.4	18.7	1.5	13.2	14.5
	16	951	150	519	234	74	1,944	15,976

Notes.Students who were at the same school on the 12th day (in August) and during TAKS testing (in April).

Means and standard deviations (in parentheses) are presented for continuous variables. Values reported for dichotomous variables represent the percentages.

Data source: PEIMS data from 2005–08.

[1]At the school with both T-STEM and HSRR programs, students enrolled in the T-STEM program are included in the T-STEM descriptives, and all others are included in HSRR descriptives.

Exhibit G-6
Tenth-Grade Student Information for Schools Beginning Implementation in 2006–07

	Promoted to Tenth Grade in 2008							Not Promoted to Tenth Grade in 2008				
	T-STEM	HSTW	HSRD	NSCS	ECHS	THSP Overall	Comparison Schools	HSTW	HSRD	ECHS	THSP Overall	Comparison Schools
N of schools	2	14	6	1	8	31	185	12	6	4	24	155
N of students	126	3,574	1,960	31	1,097	6,788	41,761	680	164	50	899	6,464
Sample Demographics												
Female (%)	54.8	53.8	49.4	64.5	57.8	53.3	51.3	39.0	39.0	28.0	38.4	40.2
Male (%)	45.2	46.2	50.6	35.5	42.2	46.7	48.7	61.0	61.0	72.0	61.6	59.8
White (%)	11.1	37.3	5.3	0.0	22.5	25.0	28.6	16.5	7.3	32.0	15.6	14.1
African-American (%)	0.8	12.7	15.7	0.0	4.0	11.9	15.4	10.6	13.4	2.0	10.6	17.0
Hispanic (%)	88.1	47.4	77.7	100.0	70.6	60.9	52.9	72.4	79.3	62.0	73.2	67.8
Other ethnicity (%)	0.0	2.5	1.4	0.0	2.9	2.2	3.1	0.6	0.0	4.0	0.7	1.1
Economically disadvantaged (%)	73.0	60.6	82.0	96.8	69.8	68.7	61.6	80.7	90.9	68.0	81.9	80.4
Limited English proficiency (%)	0.0	4.8	6.7	0.0	2.1	4.8	5.0	10.3	20.1	18.0	12.5	12.7
At risk as ninth-grader in 2007 (%)	33.3	46.9	67.3	48.4	35.8	50.7	53.7	96.0	98.2	98.0	96.6	97.0
Special education (%)	0.8	3.2	2.6	0.0	1.0	2.6	3.2	4.3	6.7	6.0	4.8	5.7
Immigrant (%)	0.0	0.5	1.2	0.0	0.6	0.7	0.5	0.7	0.0	0.0	0.6	0.5

Exhibit G-6 (concluded)
Tenth-Grade Student Information for Schools Beginning Implementation in 2006–07

Mean (Standard Deviation) *N*	Promoted to Tenth Grade in 2008							Not Promoted to Tenth Grade in 2008				
	T-STEM	HSTW	HSRD	NSCS	ECHS	THSP Overall	Comparison Schools	HSTW	HSRD	ECHS	THSP Overall	Comparison Schools
Student Prior Achievement												
Eighth-grade TAKS reading score in 2006	2,317.3	2,261.2	2,203.5	2,331.7	2,311.5	2,254.0	2,256.3	2,158.1	2,079.1	2,176.1	2,144.7	2,123.3
	(155.2)	(158.0)	(160.9)	(150.1)	(137.9)	(160.1)	(158.7)	(159.5)	(150.5)	(168.7)	(161.1)	(153.3)
	126	3,574	1,960	31	1,097	6,788	41,761	680	164	50	899	6,464
Eighth-grade TAKS math score in 2006	2,300.0	2,197.7	2,109.4	2,307.0	2,253.6	2,183.6	2,176.1	2,008.9	1,913.3	1,958.5	1,988.4	1,967.9
	(176.1)	(205.2)	(190.4)	(149.8)	(200.1)	(206.4)	(211.6)	(163.1)	(143.5)	(156.9)	(163.5)	(142.8)
	126	3,574	1,960	31	1,097	6,788	41,761	680	164	50	899	6,464
Ninth-grade repeater in 2007 (%)	2.4	6.6	5.6	0.0	2.5	5.6	8.5	13.2	5.5	16.0	12.0	9.5
	126	3,574	1,960	31	1,097	6,788	41,761	680	164	50	899	6,464
Student Outcomes												
Passed Geometry or Algebra II by tenth grade (%)	89.7	87.2	82.9	100.0	91.8	86.8	85.1	33.4	28.9	22.9	32.2	33.9
	126	3,574	1,960	31	1,097	6,788	41,761	680	164	50	899	6,464
Percentage of days absent	3.0	4.4	6.0	1.9	3.3	4.7	4.8	9.8	15.2	12.8	10.9	11.5
	(3.1)	(5.2)	(7.1)	(2.3)	(4.8)	(5.8)	(5.9)	(11.1)	(13.5)	(13.5)	(11.9)	(11.9)
	126	3,574	1,960	31	1,097	6,788	41,761	680	164	50	899	6,464
On track in "four by four" (%)	42.1	52.3	42.4	74.2	46.3	48.4	46.7	0.7	0.6	2.0	0.8	0.6
	126	3,574	1,960	31	1,097	6,788	41,761	680	164	50	899	6,464
Tenth-grade TAKS reading score	2,324.2	2,279.8	2,233.0	2,318.4	2,312.6	2,273.2	2,270.2	N/A	N/A	N/A	N/A	N/A
	(103.4)	(134.0)	(128.2)	(103.7)	(120.6)	(132.5)	(126.9)	N/A	N/A	N/A	N/A	N/A
	126	3,574	1,960	31	1,097	6,788	41,761	N/A	N/A	N/A	N/A	N/A
Tenth-grade TAKS math score	2,330.2	2,194.5	2,124.2	2,269.9	2,248.3	2,186.7	2,178.6	N/A	N/A	N/A	N/A	N/A
	(174.4)	(179.0)	(169.8)	(145.3)	(173.3)	(181.4)	(181.5)	N/A	N/A	N/A	N/A	N/A
	126	3,574	1,960	31	1,097	6,788	41,761	N/A	N/A	N/A	N/A	N/A
Tenth-grade TAKS social studies score	2,382.1	2,310.0	2,237.3	2,330.3	2,362.9	2,300.0	2,302.7	N/A	N/A	N/A	N/A	N/A
	(143.4)	(173.5)	(159.9)	(119.1)	(159.0)	(172.3)	(172.5)	N/A	N/A	N/A	N/A	N/A
	126	3,574	1,960	31	1,097	6,788	41,761	N/A	N/A	N/A	N/A	N/A
Tenth-grade TAKS science score	2,255.4	2,157.1	2,102.1	2,173.3	2,219.4	2,154.2	2,158.9	N/A	N/A	N/A	N/A	N/A
	(142.8)	(167.2)	(162.5)	(112.8)	(157.8)	(168.7)	(170.6)	N/A	N/A	N/A	N/A	N/A
	126	3,574	1,960	31	1,097	6,788	41,761	N/A	N/A	N/A	N/A	N/A
Passed all four tenth-grade TAKS (%)	87.4	54.4	41.0	80.6	74.6	54.9	54.5	N/A	N/A	N/A	N/A	N/A
	126	3,574	1,960	31	1,097	6,788	41,761	N/A	N/A	N/A	N/A	N/A

Notes: The sample consists of students who were at the same school on the12th day (in August) and during TAKS testing (in April).
Means and standard deviations (in parentheses) are presented for continuous variables. Values reported for dichotomous variables represent the percentages.

The TSTEM and NSCS columns under Not Promoted to Tenth Grade in 2008 have been omitted to comply with privacy guidelines under FERPA.

Data source: PEIMS data from 2005–08.

Appendix H. THSP General Effect Analysis

Ninth-Grade Results[135]

Exhibit H-1
HLM Results for Ninth-Grade TAKS Math and Reading Achievement
(Nonrepeaters in 585 Schools)

	Math (*N*=122,438)		Reading (*N*=122,450)	
Fixed Effects	Coefficient	*SE*	Coefficient	*SE*
Model for school means				
Intercept	-60.44 *	9.62	847.38 *	8.05
THSP	4.06	5.38	-3.44	4.12
Small school	3.98	4.12	-4.25	3.20
THSP schools in the second year of implementation	3.70	7.84	8.81	5.97
Accountability rating - Unacceptable	-14.20 *	5.97	-12.81 *	4.57
Accountability rating - Recognized	26.88 *	4.54	14.87 *	3.52
Accountability rating - Exemplary	49.12 *	6.84	21.62 *	5.29
Rural	-0.74	3.72	-2.13	2.85
Mobile students (%)	-0.15	0.25	-0.02	0.19
Special education students (%)	0.42	0.37	-0.25	0.28
Teachers in first year of teaching (%)	-0.03	0.19	0.03	0.15
Student-level model				
Eighth-grade TAKS reading score	0.03 *	0.00	0.26 *	0.00
Eighth-grade TAKS math score	0.70 *	0.00	0.09 *	0.00
Eighth-grade TAKS science score	0.09 *	0.00	0.12 *	0.00
Eighth-grade TAKS social study score	0.21 *	0.00	0.17 *	0.00
Female	6.20 *	0.72	34.34 *	0.64
African-American	-11.42 *	1.38	0.59	1.21
Hispanic	-3.21 *	1.12 *	-0.68	0.99
Asian	40.57 *	2.30	5.17	2.02
Limited English proficiency	12.23 *	1.63	-48.06 *	1.43
Immigrant	30.52 *	4.95	2.11	4.34
At-risk status	-36.13 *	0.94	-23.16 *	0.82
Economically disadvantaged status	-10.02 *	0.91	-10.25 *	0.80

Random Effects	Variance Component	*SE*	Variance Component	*SE*
School mean	934.12	67.77	517.03	38.49
Student effect	14781.13	59.89	11,459.93	46.43

$^*p < .05$, ◊$p < .10$.

[135] Eighty eight THSP schools and 522 comparison schools comprise the complete ninth-grade student outcome analysis sample. The sample size for analyzing each specific outcome varies due to missing values. In general when a THSP school fell out of the sample, its matched comparisons were also dropped. Refer to the exhibits for sample sizes for specific outcomes.

Exhibit H-2
HLM Results for Ninth-Grade TAKS Math and Reading Achievement
(Repeaters in 298 Schools)

	Math (*N*=10,230)		Reading (*N*=10,580)	
Fixed Effects	Coefficient	*SE*	Coefficient	*SE*
Model for school means				
Intercept	1,990.36 *	2.76	2,154.23 *	2.40
THSP	**-15.40**	**9.62**	**-8.36**	**8.50**
THSP schools in the second year of	14.36	13.53	4.77	11.91
Accountability rating - Unacceptable	-12.76	9.72	-16.28 ◊	8.53
Accountability rating - Recognized	73.96 *	13.72	29.53 *	12.07
Accountability rating - Exemplary	153.21 *	53.61	103.45 *	48.66
Rural	-21.39 *	9.48	-6.74	8.41
Mobile students (%)	0.53	0.47	0.57	0.41
Special education students (%)	0.06	0.72	-0.54	0.63
Teachers in first year of teaching (%)	0.06	0.54	-0.29	0.47
Student-level model				
Ninth-grade TAKS reading score	0.08 *	0.01	0.18 *	0.01
Ninth-grade TAKS math score	0.21 *	0.01	0.08 *	0.01
Female	-12.21 *	2.97	24.99 *	2.68
African-American	-73.26 *	6.40	-68.82 *	5.77
Hispanic	-41.82 *	5.54	-42.66 *	4.99
Asian	17.43	14.85	-31.86 *	13.46
Limited English proficiency	-47.62 *	4.65	-106.04 *	4.20
Immigrant	145.99 *	10.97	72.17 *	10.11
Economically disadvantaged status	1.42	4.02	-14.82 *	3.63

Random Effects	Variance Component	*SE*	Variance Component	*SE*
School mean	707.51	122.74	507.93	97.45
Student effect	21350.22	302.17	17997.41	250.60

$^*p < .05$. ◊$p < .10$.

Exhibit H-3
HLM Results for Passing Algebra I in Ninth Grade
(128,849 Nonrepeaters in 592 Schools)

Fixed Effects	Coefficient	*SE*
Model for school means		
Intercept	2.69 *	0.06
THSP	**0.26**	**0.16**
Small school	0.31	0.12
THSP new school	-0.39	0.30
THSP schools in the second year of implementation	0.04	0.22
Accountability rating - Unacceptable	0.26	0.16
Accountability rating - Recognized	-0.05	0.13
Accountability rating - Exemplary	-0.19	0.22
Rural	0.07	0.10
Mobile students (%)	-0.01	0.01
Special education students (%)	0.02 ◊	0.01
Teachers in first year of teaching (%)	0.02 *	0.01
Passing Algebra I before ninth grade (%)	0.01 *	0.00
Student-level model		
Eighth-grade TAKS reading score	0.00 *	0.00
Eighth-grade TAKS math score	0.01 *	0.00
Eighth-grade TAKS science score	0.00 *	0.00
Eighth-grade TAKS social study score	0.00 *	0.00
Female	0.54 *	0.02
African-American	0.41 *	0.04
Hispanic	0.06 ◊	0.03
Asian	0.54 *	0.09
Limited English proficiency	0.28 *	0.03
Immigrant	0.17	0.12
At-risk status	-0.58 *	0.03
Economically disadvantaged status	-0.42 *	0.03

Random effects	Variance Component	*SE*
School mean	0.67	0.05

*p < .05. ◊p <.10.

Exhibit H-4
HLM Results for Passing Algebra I in Ninth Grade
(17,888 Repeaters in 341 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	1.02	*	0.05
THSP	**0.06**		**0.18**
New School	-0.37		0.26
THSP schools in the second year of implementation	0.16		0.25
Accountability rating - Unacceptable	0.34	◊	0.18
Accountability rating - Recognized	0.24		0.27
Accountability rating - Exemplary	-0.24		0.59
Rural	-0.19		0.15
Mobile students (%)	0.00		0.01
Special education students (%)	-0.01		0.01
Teachers in first year of teaching (%)	0.01		0.01
Passing Algebra I before ninth grade (%)	0.02	*	0.01
Student-level model			
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Female	0.25	*	0.04
African-American	0.20	*	0.08
Hispanic	-0.01		0.07
Asian	0.45	*	0.19
Limited English proficiency	0.06		0.06
Immigrant	1.27	*	0.11
Economically disadvantaged status	-0.09	◊	0.05

Random effects	Variance Component	*SE*
School mean	0.45	0.05

*$p < .05$, ◊$p < .10$.

Exhibit H-5
HLM Results for Percentage of Days Absent in Ninth Grade
(129,012 Nonrepeaters in 593 Schools)

Fixed Effects	Coefficient	*SE*
Model for school means		
Intercept	-3.11 *	0.01
THSP	**-0.03**	**0.04**
Small school	-0.06 ◊	0.03
THSP schools in the second year of	0.03	0.05
Accountability rating - Unacceptable	0.00	0.05
Accountability rating - Recognized/Exemplary	0.01	0.03
Rural	-0.03	0.02
Mobile students (%)	0.00	0.00
Special education students (%)	0.00	0.00
Teachers in first year of teaching (%)	0.00	0.00
Previous absence rate	-0.10 *	0.01
Student-level model		
Eighth-grade TAKS reading score	0.00 *	0.00
Eighth-grade TAKS math score	0.00 *	0.00
Eighth-grade TAKS science score	0.00 *	0.00
Eighth-grade TAKS social study score	0.00 *	0.00
Female	0.00	0.01
African-American	-0.39 *	0.02
Hispanic	-0.28 *	0.02
Asian	-0.56 *	0.03
Limited English proficiency	-0.21 *	0.02
Immigrant	-0.15 *	0.05
At-risk status	0.16 *	0.01
Economically disadvantaged status	0.23 *	0.01

*p < .05, ◊p <.10.

Exhibit H-6
HLM Results for Percentage of Days Absent in Ninth Grade
(17,629 Repeaters in 341 Schools)

Fixed Effects	Coefficient	*SE*
Model for school means		
Intercept	-1.91 *	0.02
THSP	**0.00**	**0.08**
Small school	-0.24	0.25
THSP schools in the second year of implementation	0.03	0.11
Accountability rating - Unacceptable	-0.08	0.07
Accountability rating - Recognized/Exemplary	-0.22 *	0.07
Rural	0.05	0.08
Mobile students (%)	-0.01 *	0.01
Special education students (%)	0.00	0.00
Teachers in first year of teaching (%)	-0.01	0.00
Previous absence rate	-0.14 *	0.01
Student-level model		
Ninth-grade TAKS reading score	0.00 *	0.00
Ninth-grade TAKS math score	0.00 *	0.00
Female	0.12 *	0.02
African-American	-0.16 *	0.04
Hispanic	-0.06 ◊	0.03
Asian	-0.18 *	0.08
Limited English proficiency	-0.34 *	0.03
Immigrant	-0.95 *	0.07
Economically disadvantaged status	0.10 *	0.03

*p < .05, ◊p <.10.

Exhibit H-7
HLM Results for "Four by Four" on Track in Ninth Grade
(Combine Repeaters and Nonrepeaters: 151,389 in 606 schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	0.23	*	0.09
THSP	**-0.24**		**0.22**
THSP Small school	0.51	*	0.17
THSP schools in the second year of implementation	0.18		0.34
Accountability rating - Unacceptable	-0.18		0.25
Accountability rating - Recognized	-0.34	◊	0.19
Accountability rating - Exemplary	-0.46		0.28
Rural	0.58	*	0.16
Mobile students (%)	-0.01		0.01
Special education students (%)	0.01		0.02
Teachers in first year of teaching (%)	0.00		0.01
Student-level model			
Repeater	-1.00	*	0.03
THSP repeaters	-0.19	*	0.08
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Female	0.40	*	0.01
African-American	0.16	*	0.03
Hispanic	-0.17	*	0.02
Asian	0.41	*	0.05
Limited English proficiency	-0.05	◊	0.03
Immigrant	0.47	*	0.09
At-risk status	-0.69	*	0.02
Economically disadvantaged status	-0.47	*	0.02
Random effects	**Variance Component**		***SE***
School mean	1.93		0.14

*p < .05, ◊p <.10.

Tenth-Grade Results[136]

Exhibit H-8
HLM Results for Tenth-Grade TAKS Math, English, Science, and Social Studies Achievement (Promoted Students in 215 Schools)

	Math (*N* = 42,788)			Reading (*N* = 42,824)			Science (*N*= 42,641)			Social Science (*N* = 42,463)		
Fixed Effects	Coefficient		*SE*	Coefficient		*SE*	Coefficient		*SE*	Coefficient		*SE*
Model for school means												
Intercept	2,184.12	*	2.67	2,274.61	*	2.08	2,163.79	*	2.28	2,306.87	*	2.45
THSP	**12.43**	*****	**5.84**	**7.42**		**4.55**	**3.48**		**4.99**	10.22	◊	5.36
Small school	-6.57		7.16	-10.49	◊	5.64	-6.02		6.27	-18.07	*	6.75
Accountability rating - Unacceptable	-15.76		9.61	-14.25	◊	7.49	-5.68		8.22	-13.59		8.84
Accountability rating - Recognized/Exemplary	23.44	*	6.25	6.78		4.89	16.61	*	5.39	18.65	*	5.80
Rural	0.30		6.20	11.56	*	4.84	-1.45		5.33	-5.33		5.73
Mobile students (%)	0.18		0.39	-0.33		0.30	0.19		0.33	0.93	*	0.36
Special education students (%)	-0.34		0.53	-0.60		0.42	-1.25	*	0.46	-1.58	*	0.49
Teachers in first year of teaching (%)	0.14		0.32	0.05		0.25	-0.32		0.28	0.16		0.30
Student-level model												
Ninth-grade TAKS reading score	0.10	*	0.00	0.23	*	0.00	0.28	*	0.00	0.32	*	0.00
Ninth-grade TAKS math score	0.61	*	0.00	0.15	*	0.00	0.34	*	0.00	0.27	*	0.00
Female	-7.94	*	1.02	28.78	*	0.87	-45.12	*	1.02	-37.57	*	1.11
African-American	-16.49	*	2.03	-1.58		1.72	-34.71	*	2.01	-27.61	*	2.20
Hispanic	-7.31	*	1.66	-3.49	*	1.40	-30.62	*	1.64	-25.93	*	1.79
Asian	28.79	*	3.13	19.80	*	2.65	-3.27		3.10	-6.28	◊	3.40
Limited English proficiency	13.94	*	2.98	-42.14	*	2.52	-9.32	*	2.96	-6.26	◊	3.24
Immigrant	45.10	*	9.62	0.84		8.14	28.01	*	9.54	8.68		10.52
At-risk status	-57.00	*	1.32	-32.13	*	1.11	-46.69	*	1.31	-47.06	*	1.43
Economically disadvantaged status	-7.16	*	1.34	-12.61	*	1.13	-12.51	*	1.32	-13.94	*	1.45

Random Effects	Variance Component	*SE*	Variance Component	*SE*	Variance Component	*SE*	Variance Component	*SE*
School mean	766.24	89.40	456.58	52.46	541.13	63.96	621.12	73.59
Student effect	10,915.05	74.84	7,813.91	53.54	10,722.46	73.64	12,839.11	88.36

**p* < .05, ◊*p* <.10.

[136] Thirty one THSP schools and 184 comparison schools comprise the complete ninth-grade student outcome analysis sample. The sample size for analyzing each specific outcome varies due to missing values. In general, when a THSP school fell out of the sample, its matched comparisons were also dropped. Refer to the exhibits for sample sizes for specific outcomes.

Exhibit H-9
HLM Results for Passing TAKS in Four Subjects in Tenth Grade
(41,472 Promoted Students in 215 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	0.55	*	0.05
THSP	**0.08**		**0.10**
Small school	-0.22		0.14
Accountability rating - Unacceptable	-0.20		0.17
Accountability rating - Recognized/Exemplary	0.58	*	0.11
Rural	0.07		0.11
Mobile students (%)	0.00		0.01
Special education students (%)	-0.01		0.01
Teachers in first year of teaching (%)	0.01		0.01
Student-level model			
Eighth-grade TAKS reading score	0.00	*	0.00
Eighth-grade TAKS math score	0.01	*	0.00
Female	-0.36	*	0.03
African-American	-0.24	*	0.06
Hispanic	-0.18	*	0.05
Asian	0.29	*	0.10
Limited English proficiency	-0.33	*	0.11
Immigrant	0.44		0.29
At-risk status	-1.16	*	0.03
Economically disadvantaged status	-0.18	*	0.04

Random effects	Variance Component	*SE*
School mean	0.19	0.03

**p* < .05, ◊*p* <.10.

Exhibit H-10
HLM Results for Passing Geometry or Algebra II in Tenth Grade
(44,086 Promoted Students in 215 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	2.57		0.08
THSP	**0.19**		**0.19**
Small school	0.31		0.24
Accountability rating - Unacceptable	0.43		0.30
Accountability rating - Recognized/Exemplary	-0.01		0.20
Rural	0.30		0.20
Mobile students (%)	0.02	◊	0.01
Special education students (%)	-0.02		0.02
Teachers in first year of teaching (%)	0.03	*	0.01
Passing Algebra I before ninth grade (%)	0.00	◊	0.00
Student-level model			
Eighth-grade TAKS reading score	0.00		0.00
Eighth-grade TAKS math score	0.00	*	0.00
Female	0.38	*	0.03
African-American	0.23	*	0.07
Hispanic	-0.06		0.06
Asian	0.23	◊	0.13
Limited English proficiency	0.16	*	0.07
Immigrant	-0.05		0.31
At-risk status	-1.13	*	0.05
Economically disadvantaged status	-0.45	*	0.04

Random effects	Variance Component	*SE*
School mean	0.71	0.08

**p* < .05, ◊*p* <.10.

Exhibit H-11
HLM Results for Percentage of Days Absent in Tenth Grade
(51,413 Promoted Students in 215 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	-2.95	*	0.01
THSP	**-0.02**		**0.03**
Small school	-0.06		0.05
Accountability rating - Unacceptable	-0.03		0.06
Accountability rating - Recognized/Exemplary	-0.04		0.04
Rural	-0.01		0.04
Mobile students (%)	-0.01		0.00
Special education students (%)	0.01	*	0.00
Teachers in first year of teaching (%)	0.00		0.00
Previous absence rate	-0.11	*	0.01
Student-level model			
Eighth-grade TAKS reading score	0.00		0.00
Eighth-grade TAKS math score	0.00	*	0.00
Female	0.08	*	0.01
African-American	-0.31	*	0.03
Hispanic	-0.22	*	0.02
Asian	-0.37	*	0.05
Limited English proficiency	-0.12	*	0.03
Immigrant	0.19		0.17
At-risk status	0.42	*	0.03
Economically disadvantaged status	0.25	*	0.02

**p* < .05, ◊*p* <.10.

Exhibit H-12
HLM Results for “Four by Four” On Track for Tenth-Graders
(Combined Repeaters and Nonrepeaters: 51,412 in 215 schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	-0.46	*	0.11
THSP	**0.15**		**0.24**
Small school	0.61	*	0.29
Accountability rating - Unacceptable	-0.29		0.40
Accountability rating - Recognized/Exemplary	-0.64	*	0.26
Rural	0.64	*	0.26
Mobile students (%)	-0.01		0.02
Special education students (%)	0.00		0.02
Teachers in first year of teaching (%)	0.01		0.01
Student-level model			
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Female	0.50	*	0.02
African-American	0.11	*	0.04
Hispanic	-0.18	*	0.04
Asian	0.28	*	0.07
Limited English proficiency	-0.15	*	0.07
Immigrant	0.21		0.20
At-risk status	-1.23	*	0.03
Economically disadvantaged status	-0.44	*	0.03

Random effects	Variance Component	*SE*
School mean	1.42	0.17

*p < .05, ◊p <.10.

Exhibit H-13
HLM Results for Promoting Tenth-Graders
(Combined Repeaters and Nonrepeaters: 51,413 in 215 schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	2.97	*	0.09
THSP	**0.41**	*****	**0.20**
Small school	1.15	*	0.32
Accountability rating - Unacceptable	0.30		0.31
Accountability rating - Recognized/Exemplary	-0.09		0.23
Rural	0.63	*	0.22
Mobile students (%)	-0.06	*	0.01
Special education students (%)	0.04	*	0.02
Teachers in first year of teaching (%)	0.01		0.01
Student-level model			
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Female	0.50	*	0.03
African-American	0.42	*	0.07
Hispanic	0.01		0.06
Asian	0.37	*	0.14
Limited English proficiency	0.14	*	0.06
Immigrant	0.35		0.26
At-risk status	-2.47	*	0.07
Economically disadvantaged status	-0.37	*	0.04
Random effects	**Variance Component**		***SE***
School mean	0.79		0.10

*$p < .05$, ◊$p < .10$.

Appendix I. Program Effect Analysis

Ninth-Grade Results

Exhibit I-1
HLM Results for Ninth-Grade TAKS Math and Reading Achievement
(Nonrepeaters in 585 Schools)

	Math (*N* = 122,438)		Reading (*N* = 122,450)	
Fixed Effects	Coefficient	*SE*	Coefficient	*SE*
Model for school means				
Intercept	-60.98	9.69	846.90 *	8.07
T-STEM	3.98	9.54	14.66 ◊	7.53
HSTW	-1.23	9.79	-12.00	7.43
HSRD	-2.85	16.80	-15.91	12.64
HSRR	-0.23	8.08	-9.77	6.18
DIEN	9.89	16.33	-16.00	12.23
NSCS	20.77	14.87	6.90	11.53
ECHS	12.03	11.36	12.80	8.74
Small school	3.56	4.15	-4.47	3.20
THSP schools in the second year of implementation	5.30	10.43	10.47	7.95
Accountability rating - Unacceptable	-14.08 *	6.03	-11.85 *	4.57
Accountability rating - Recognized	26.57 *	4.57	14.39 *	3.52
Accountability rating - Exemplary	48.91 *	6.99	18.61 *	5.36
Rural	-0.43	3.75	-2.31	2.85
Mobile students (%)	-0.17	0.25	-0.05	0.19
Special education students (%)	0.51	0.38	-0.07	0.29
Teachers in first year of teaching (%)	-0.05	0.20	-0.02	0.15
Student-level model				
Eighth-grade TAKS reading score	0.03 *	0.00	0.26 *	0.00
Eighth-grade TAKS math score	0.70 *	0.00	0.09 *	0.00
Eighth-grade TAKS science score	0.21 *	0.00	0.12 *	0.00
Eighth-grade TAKS social study score	0.09 *	0.00	0.17 *	0.00
Female	6.19 *	0.72	34.34 *	0.64
African-American	-11.44 *	1.38	0.60	1.21
Hispanic	-3.23 *	1.12	-0.70	0.99
Asian	40.57 *	2.30	5.16 *	2.02
Limited English proficiency	12.22 *	1.63	-48.05 *	1.43
Immigrant	30.55 *	4.95	2.14	4.34
At-risk status	-36.12 *	0.94	-23.15 *	0.82
Economically disadvantaged status	-10.03 *	0.91	-10.27 *	0.80

Random Effects	Variance Component	*SE*	Variance Component	*SE*
School mean	938.74	68.45	510.68	38.36
Student effect	14,781.19	59.89	11,459.35	46.43

*$p < .05$, ◊$p < .10$

Exhibit I-2
HLM Results for Ninth-Grade TAKS Math and Reading Achievement
(Repeaters in 298/299 Schools)

	Math (*N* =10,230)			Reading (*N* = 10,580)		
Fixed Effects	Coefficient		*SE*	Coefficient		*SE*
Model for school means						
Intercept	1,990.48	*	2.76	2,154.24	*	2.39
T-STEM	53.89		62.77	122.74	◊	69.67
HSTW	-31.08		19.28	-6.42		17.11
HSRD	-50.82		30.30	-35.99		26.61
HSRR	-20.58		13.25	-21.36	◊	11.52
DIEN	5.48		19.25	5.99		16.98
ECHS	-26.64		35.69	30.21		31.90
THSP schools in the second year of implementation	34.54		22.08	6.91		19.53
Accountability rating - Unacceptable	-14.26		9.79	-16.31	◊	8.55
Accountability rating - Recognized	72.61	*	13.77	28.46	*	12.06
Accountability rating - Exemplary	73.54		82.84	-30.68		85.26
Rural	-20.99	*	9.50	-6.89		8.40
Mobile students (%)	0.53		0.48	0.46		0.42
Special education students (%)	-0.04		0.73	-0.37		0.64
Teachers in first year of teaching (%)	0.12		0.54	-0.14		0.47
Student-level model	0.08	*	0.01			
Ninth-grade TAKS reading score	0.21	*	0.01	0.18	*	0.01
Ninth-grade TAKS math score	-12.20	*	2.97	0.08	*	0.01
Female	-73.18	*	6.40	25.03	*	2.68
African-American	-41.55	*	5.55	-68.46	*	5.78
Hispanic	17.58		14.85	-42.08	*	4.99
Asian	-47.62	*	4.65	-31.65	*	13.46
Limited English proficiency	145.94	*	10.97	-106.00	*	4.20
Immigrant	1.45		4.02	72.08	*	10.11
Economically disadvantaged status	-5.24		3.67	-14.81	*	3.62

Random Effects	Variance Component	*SE*	Variance Component	*SE*
School mean	704.15	123.57	496.17	96.43
Student effect	21,353.51	302.26	17,993.75	250.54

*p < .05, ◊p < .10

Exhibit I-3
HLM Results for Passing Algebra I in Ninth Grade
(128,849 Nonrepeaters in 592 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	2.68	*	0.06
T-STEM	-0.10		0.28
HSTW	0.03		0.28
HSRD	0.59		0.46
HSRR	0.34		0.22
DIEN	0.54		0.43
NSCS	0.42		0.46
ECHS	0.49		0.34
Small school	0.30	*	0.12
T-STEM new school	-0.35		0.32
THSP schools in the 2nd year of implementation	0.03		0.30
Accountability rating - Unacceptable	0.24		0.16
Accountability rating - Recognized	-0.03		0.13
Accountability rating - Exemplary	-0.21		0.22
Rural	0.08		0.10
Mobile students (%)	-0.01		0.01
Special education students (%)	0.02	◊	0.01
Teachers in first year of teaching (%)	0.02	*	0.01
Passing Algebra I before ninth grade (%)	0.01	*	0.00
Student-level model			
Eighth-grade TAKS reading score	0.00	*	0.00
Eighth-grade TAKS math score	0.01	*	0.00
Eighth-grade TAKS science score	0.00	*	0.00
Eighth-grade TAKS social study score	0.00	*	0.00
Female	0.54	*	0.02
African-American	0.41	*	0.04
Hispanic	0.06	◊	0.03
Asian	0.54	*	0.09
Limited English proficiency	0.28	*	0.03
Immigrant	0.17		0.12
At-risk status	-0.58	*	0.03
Economically disadvantaged status	-0.42	*	0.03

Random Effects	Variance Component	*SE*
School mean	0.67	0.05

**p* < .05, ◊*p* < .10

Exhibit I-4
HLM Results for Passing Algebra I in Ninth Grade
(17,888 Repeaters in 341 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	1.02	*	0.05
T-STEM	-0.22		0.80
HSTW	-0.35		0.32
HSRD	-0.34		0.52
HSRR	0.12		0.24
DIEN	0.71	◊	0.39
ECHS	-0.81		0.56
Small school	-0.32		0.26
THSP schools in the 2nd year of implementation	0.62		0.38
Rural	-0.16		0.15
Accountability rating Unacceptable	0.28		0.18
Accountability rating Recognized	0.22		0.27
Accountability rating Exemplary	-0.21		0.62
Mobile students (%)	0.00		0.01
Special education students (%)	-0.01		0.01
Teachers in first year of teaching (%)	0.01		0.01
Passing Algebra I before ninth grade (%)	0.02	*	0.01
Student-level model			
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Female	0.25	*	0.04
African-American	0.19	*	0.08
Hispanic	-0.02		0.07
Asian	0.45	*	0.19
Limited English proficiency	0.06		0.06
Immigrant	1.27	*	0.11
Economically disadvantaged status	-0.09	◊	0.05

Random Effects	Variance Component	*SE*
School mean	0.43	0.05

Exhibit I-5
HLM Results for Percentage of Days Absent in Ninth Grade
(129,012 Nonrepeaters in 593 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	-3.112	*	0.011
T-STEM	-0.070		0.058
HSTW	0.023		0.044
HSRD	0.138	◊	0.071
HSRR	0.021		0.037
DIEN	-0.195		0.145
NSCS	-0.515	*	0.153
ECHS	-0.083		0.108
Small school	-0.051	◊	0.030
THSP schools in the second year of implementation	-0.054		0.054
Accountability rating Unacceptable	0.004		0.046
Accountability rating Recognized/Exemplary	0.024		0.033
Rural	-0.031		0.024
Mobile students (%)	0.000		0.002
Special education students (%)	0.002		0.002
Teachers in first year of teaching (%)	-0.001		0.002
Previous absence rate	-0.096	*	0.006
Student-level model			
Eighth-grade TAKS reading score	0.000	*	0.000
Eighth-grade TAKS math score	-0.001	*	0.000
Eighth-grade TAKS science score	0.000	*	0.000
Eighth-grade TAKS social study score	-0.001	*	0.000
Female	0.000		0.009
African-American	-0.384	*	0.021
Hispanic	-0.276	*	0.016
Asian	-0.554	*	0.026
Limited English proficiency	-0.212	*	0.019
Immigrant	-0.158	*	0.054
At-risk status	0.157	*	0.015
Economically disadvantaged status	0.230	*	0.012

$^*p < .05$, $◊p < .10$

Exhibit I-6
HLM Results for Percentage of Days Absent in Ninth Grade
(17,629 Repeaters in 341 Schools)

Fixed Effects	Coefficient		*S.E.*
Model for School Means			
Intercept	-1.912		0.022
HSTW	0.086		0.054
HSRD	0.457	*	0.157
HSRR	0.062		0.111
DIEN	-0.228	*	0.068
Accountability rating - Unacceptable	-0.058		0.071
Accountability rating - Recognized/Exemplary	-0.180	*	0.067
Rural	0.044		0.077
Mobile students (%)	-0.014	*	0.005
Special education students (%)	0.006		0.005
Teachers in first year of teaching (%)	-0.007	◊	0.004
Student level model			
Ninth grade TAKS reading score	0.000	*	0.000
Ninth grade TAKS math score	-0.001	*	0.000
Female	0.123	*	0.016
African American	-0.152	*	0.040
Hispanic	-0.057	◊	0.033
Asian	-0.174	*	0.079
Limited English proficiency	-0.343	*	0.032
Immigrant	-0.944	*	0.065
Economically disadvantaged status	0.097	*	0.026

*p < .05. ◊p <.10

TSTEM and NSCS had too few repeaters to be included in the analysis

Exhibit I-7
HLM Results for "Four by Four" On Track for Ninth-Graders
(Combined Repeaters and Nonrepeaters: 151,389 in 606 schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	0.22	*	0.09
T-STEM	-0.77	◊	0.43
Small school	0.51	*	0.17
HSTW	-0.10		0.40
HSRD	0.06		0.73
HSRR	-0.02		0.37
DIEN	0.49		0.71
NSCS	-0.36		0.60
ECHS	-0.76		0.47
THSP schools in the second year of implementation	0.21		0.44
Accountability rating Unacceptable	-0.21		0.25
Accountability rating Recognized	-0.33	◊	0.19
Accountability rating Exemplary	-0.36		0.29
Rural	0.60	*	0.16
Mobile students (%)	-0.01		0.01
Special education students (%)	0.01		0.02
Teachers in first year of teaching (%)	0.00		0.01
Student-level model			
Repeater	-1.00	*	0.03
THSP repeaters	-0.19	*	0.08
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Female	0.40	*	0.01
African-American	0.16	*	0.03
Hispanic	-0.17	*	0.02
Asian	0.41	*	0.05
Limited English proficiency	-0.05	◊	0.03
Immigrant	0.47	*	0.09
At-risk status	-0.69	*	0.02
Economically disadvantaged status	-0.47	*	0.02

Random Effects	Variance Component	*SE*
School mean	1.91	0.13

$*p < .05$. $◊p < .10$

Tenth-Grade Results

Exhibit I-8
HLM Results for Tenth-Grade TAKS Math, English, Science, and Social Studies Achievement
(Promoted Students in 215 Schools)

	Math (*N* = 42,788)			Reading (*N* = 42,824)			Science (*N* = 42,641)			Social Science (*N* = 42,463)		
Fixed Effects	Cofficient		*SE*	Cofficient		*SE*	Cofficient		*SE*	Cofficient		*SE*
Model for school means												
Intercept	2,184.82	*	2.64	2,274.85	*	2.09	2,164.18	*	2.27	2,307.26	*	2.44
T-STEM	**49.31**	*****	**22.80**	**10.54**		**18.25**	**31.22**		**20.03**	**30.20**		**21.64**
Small school	-8.15		7.09	-11.06	◊	5.68	-7.64		6.25	-18.89	*	6.75
HSTW	**1.81**		**8.05**	**5.80**		**6.38**	**-8.72**		**6.90**	**6.88**		**7.44**
HSRD	**4.12**		**11.95**	**2.97**		**9.45**	**5.34**		**10.22**	**-7.39**		**11.00**
NSCS	**109.77**	*****	**37.89**	**64.29**	*****	**30.48**	**60.49**	**◊**	**33.69**	**57.13**		**36.45**
ECHS	**25.63**	*****	**11.02**	**9.96**		**8.76**	**16.51**	**◊**	**9.52**	**25.10**	*****	**10.27**
Accountability rating Unacceptable	-12.32		9.54	-12.61	◊	7.57	-4.31		8.21	-11.15		8.85
Accountability rating Recognized/Exemplary	20.90	*	6.25	5.93		4.98	15.29	*	5.43	17.27	*	5.86
Rural	0.29		6.12	11.45	*	4.87	-1.00		5.30	-5.64		5.71
Mobile students (%)	0.21		0.39	-0.32		0.31	0.20		0.33	1.00	*	0.36
Special education students (%)	-0.17		0.54	-0.54		0.43	-1.08	*	0.47	-1.44	*	0.50
Teachers in first year of teaching (%)	-0.33		0.36	-0.19		0.28	-0.61	*	0.31	-0.04		0.33
Student-level model												
Ninth-grade TAKS reading score	0.10	*	0.00	0.2289476	*	0.00294	0.28	*	0.00	0.32	*	0.00
Ninth-grade TAKS math score	0.61	*	0.00	0.1460759	*	0.0034	0.34	*	0.00	0.27	*	0.00
Female	-7.94	*	1.02	28.7766	*	0.86514	-45.11	*	1.02	-37.57	*	1.11
African-American	-16.44	*	2.03	-1.544506		1.71619	-34.69	*	2.01	-27.57	*	2.20
Hispanic	-7.42	*	1.66	-3.511076	*	1.39885	-30.76	*	1.64	-26.00	*	1.79
Asian	28.82	*	3.13	19.80853	*	2.64712	-3.27		3.10	-6.23	◊	3.40
Limited English proficiency	14.01	*	2.98	-42.12437	*	2.52419	-9.24	*	2.96	-6.23	◊	3.24
Immigrant	45.09	*	9.62	0.8420423		8.14243	27.97	*	9.54	8.67		10.52
At-risk status	-57.01	*	1.32	-32.13622	*	1.1138	-46.70	*	1.31	-47.06	*	1.43
Economically disadvantaged status	-7.18	*	1.34	-12.61601	*	1.12968	-12.54	*	1.32	-13.97	*	1.45
Random Effects	Variance Component		*SE*	Variance Component		*SE*	Variance Component		*SE*	Variance Component		*SE*
School mean	739.01		86.84	458.44		53.01	528.76		62.90	611.33		73.13
Student effect	10,914.72		74.84	7,813.81		53.54	10,722.13		73.63	12,839.01		88.36

*$p < .05$, ◊$p < .10$

Exhibit I-9
HLM Results for Passing TAKS in Four Subjects in Tenth Grade
(41,472 Promoted Students in 215 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	0.55	*	0.04
T-STEM	**0.84**	◊	**0.46**
Small school	-0.27	*	0.13
HSTW	**-0.25**	◊	**0.13**
HSRD	**-0.01**		**0.19**
NSCS	**1.64**	*****	**0.74**
ECHS	**0.70**	*****	**0.20**
Accountability rating Unacceptable	-0.16		0.16
Accountability rating Recognized/Exemplary	0.56	*	0.11
Rural	0.10		0.10
Mobile students (%)	0.00		0.01
Special education students (%)	-0.01		0.01
Teachers in first year of teaching (%)	0.00		0.01
Student-level model			
Repeater			
Eighth-grade TAKS reading score	0.00	*	0.00
Eighth-grade TAKS math score	0.01	*	0.00
Female	-0.36	*	0.03
African-American	-0.24	*	0.06
Hispanic	-0.18	*	0.05
Asian	0.29	*	0.10
Limited English proficiency	-0.33	*	0.11
Immigrant	0.43		0.29
At-risk status	-1.16	*	0.03
Economically disadvantaged status	-0.18	*	0.04

Random Effects	Variance Component	*SE*
School mean	0.17	0.02

**p* < .05, ◊*p* < .10

Exhibit I-10
HLM Results for Passing Geometry or Algebra II in Tenth Grade
(44,054 Promoted Students in 214 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	2.57	*	0.08
T-STEM	**-0.38**		**0.76**
Small school	0.27		0.24
HSTW	**0.10**		**0.26**
HSRD	**-0.19**		**0.37**
ECHS	**0.82**	*****	**0.37**
Accountability rating Unacceptable	0.45		0.30
Accountability rating Recognized/Exemplary	0.01		0.21
Rural	0.31		0.19
Mobile students (%)	0.02	◊	0.01
Special education students (%)	-0.01		0.02
Teachers in first year of teaching (%)	0.03	*	0.01
Passing Algebra I before ninth grade (%)	0.00	◊	0.00
Student-level model			
Eighth-grade TAKS reading score	0.00		0.00
Eighth-grade TAKS math score	0.00	*	0.00
Female	0.38	*	0.03
African-American	0.24	*	0.07
Hispanic	-0.06		0.06
Asian	0.23	◊	0.13
Limited English proficiency	0.15	*	0.07
At-risk status	-1.13	*	0.05
Economically disadvantaged status	-0.45	*	0.04

Random Effects	Variance Component	*SE*
School mean	0.69	0.08

**p* < .05, ◊*p* < .10

Exhibit I-11
HLM Results for Percentage of Days Absent in Tenth Grade
(51,413 Promoted Students in 215 Schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	-2.948	*	0.013
T-STEM	-0.014		0.080
Small school	-0.055		0.047
HSTW	-0.048		0.032
HSRD	0.033		0.050
NSCS	-0.399	*	0.120
ECHS	-0.048		0.064
Accountability rating Unacceptable	-0.031		0.056
Accountability rating Recognized/Exemplary	-0.039		0.042
Rural	-0.005		0.044
Mobile students (%)	-0.005		0.004
Special education students (%)	0.006	*	0.003
Teachers in first year of teaching (%)	0.000		0.002
Previous absence rate	-0.106	*	0.009
Student-level model			
Eighth-grade TAKS reading score	0.000		0.000
Eighth-grade TAKS math score	-0.001	*	0.000
Female	0.080	*	0.013
African-American	-0.314	*	0.030
Hispanic	-0.222	*	0.025
Asian	-0.369	*	0.052
Limited English proficiency	-0.117	*	0.031
Immigrant	0.192		0.166
At-risk status	0.422	*	0.025
Economically disadvantaged status	0.248	*	0.020

**p* < .05, ◊*p* < .10

Exhibit I-12
HLM Results for "Four by Four" On Track for Tenth-Graders
(Combined Repeaters and Nonrepeaters: 51,379 in 214 schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	-0.46	*	0.11
T-STEM	0.30		0.93
Small school	0.64	*	0.28
HSTW	0.26		0.34
HSRD	0.78		0.51
ECHS	-0.76		0.47
Accountability rating Unacceptable	-0.28		0.40
Accountability rating Recognized/Exemplary	-0.68	*	0.26
Rural	0.63	*	0.25
Mobile students (%)	-0.01		0.02
Special education students (%)	0.00		0.02
Teachers in first year of teaching (%)	0.00		0.01
Student-level model			
Ninth-grade TAKS reading score	0.0005203	*	0.0000735
Ninth-grade TAKS math score	0.0035555	*	0.0000935
Female	0.4961572	*	0.0219495
African-American	0.1103465	*	0.0433691
Hispanic	-0.1822976	*	0.0353519
Asian	0.2843843	*	0.0724627
Limited English proficiency	-0.1488279	*	0.066045
Immigrant	0.2083265		0.2035663
At-risk status	-1.23156	*	0.0268
Economically disadvantaged status	-0.4443448	*	0.0281029
Random Effects	**Variance Component**		***SE***
School mean	1.39		0.16

*p < .05, ◊p < .10

Exhibit I-13
HLM Results for Promoting Tenth-Graders
(Combined Repeaters and Nonrepeaters: 51,413 in 215 schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	2.95	*	0.09
T-STEM	0.37		1.02
Small school	1.09	*	0.32
HSTW	-0.20		0.26
HSRD	1.10	*	0.38
NSCS	0.25		1.56
ECHS	1.16	*	0.44
Accountability rating Unacceptable	0.25		0.30
Accountability rating Recognized/Exemplary	-0.06		0.23
Rural	0.69	*	0.21
Mobile students (%)	-0.07	*	0.01
Special education students (%)	0.05	*	0.02
Teachers in first year of teaching (%)	0.01		0.01
Student-level model			
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Female	0.50	*	0.03
African American	0.41	*	0.07
Hispanic	0.00		0.06
Asian	0.37	*	0.14
Limited English proficiency	0.14	*	0.06
Immigrant	0.35		0.26
At-risk status	-2.47	*	0.07
Economically disadvantaged status	-0.37	*	0.04

Random Effects	Variance Component	*SE*
School mean	0.72	0.10

**p* < .05, ◊*p* < .10

Appendix J. Models Relating Implementation to Student Outcomes

Exhibit J-1
Coefficients and Standard Errors for Relationships Between Implementation Factors and 9th-Grade TAKS Math and Reading Achievement

	Mathematics (1,940 students in 39 schools)		Reading (1,937 students in 39 schools)	
Fixed Effects	Coefficient	*SE*	Coefficient	*SE*
Model for school means				
Intercept	2198.81 *	16.47	2300.91 *	13.47
Accountability rating Exemplary/Recognized	27.58	27.82	-12.04	23.15
Accountability rating Unacceptable	-5.40	36.78	7.29	30.35
Rural	-13.92	21.49	16.23	17.83
Small	20.04	25.53	-25.24	21.04
Percent new teachers	1.48	1.10	0.27	0.92
THSP schools in the second year of implementation	-2.31	18.38	19.74	15.30
Principal-reported district leadership for school effectiveness	-15.05	20.60	-31.44 ◊	17.18
Principal-reported school divided into small groups (e.g., "houses")	-9.28	19.69	11.94	16.36
Teacher-reported student engagement in learning	-57.11	43.81	40.13	36.48
Teacher-reported access to professional development	-69.51	42.79	42.01	36.22
Teacher-reported frequency of collaboration with colleagues	-17.58	29.31	-34.86	24.73
Teacher-reported teachers' responsibility for student learning	-9.91	44.83	31.66	37.25
Teacher-reported supports for data use	84.49 *	37.11	47.63	30.73
Teacher-reported climate of respect at school	36.24	47.03	-41.29	38.95
Teacher-reported frequency of teaching advanced skills	-13.90	20.56	-34.20 *	17.02
Student-level model				
Parental involvement	-5.47 *	2.44	2.17	2.26
Eighth-grade TAKS reading score	0.12 *	0.02	0.32 *	0.02
Eighth-grade TAKS math score	0.79 *	0.02	0.21 *	0.02
Limited English proficiency	16.17	19.50	-43.53 *	18.06
At risk	-42.30 *	6.94	-33.58 *	6.43
Immigrant	14.59	48.01	110.26 *	44.46
African-American	-30.44 *	12.21	-20.52 ◊	11.27
Hispanic	-4.32	9.11	-23.05 *	8.44
Asian	72.62 *	19.73	23.45	18.32
Female	-7.73	5.78	26.33 *	5.35
Economically disadvantaged status	-20.34 *	6.91	-16.60 *	6.39
Teacher expectations for student success	81.06	52.14	7.28	42.80
Access to social supports	44.23	117.68	58.46	99.09
Respect between students and adults	-1.03	6.76	-1.95	6.30
Personal connection with teachers	8.28 *	4.19	5.13	3.86
Access to academic and postsecondary supports	-24.54 ◊	13.96	-26.80 *	12.95
Attitude towards the importance of school	30.79 *	6.44	14.31 *	5.91
Attitude towards academic improvement	-43.21	71.10	52.50	58.99
Attitude towards effort-based learning	59.04	77.38	50.64	64.10
Aspiration to graduate from high school	42.63 *	17.08	-8.73	14.54
Plan to attend college	14.19	27.17	10.47	23.26

Random Effects	Variance Component	*SE*	Variance Component	*SE*
School mean	701.63	458.04	407.58	278.96
Student effect	14710.20	478.89	12626.48	411.13

*$p < 0.05$, ◊$p < .10$

Exhibit J-2
Coefficients and Standard Errors for Relationships Between Implementation Factors and "Four by Four" On Track (1,975 students in 39 schools)

Fixed Effects	Coefficient		*SE*
Model for school means			
Intercept	0.05		0.76
Accountability rating Exemplary/Recognized	-2.28	◊	1.25
Accountability rating Unacceptable	3.19	*	1.60
Rural	1.51		0.92
Small	1.59		1.14
Percent new teachers	0.11	*	0.05
THSP schools in the second year of implementation	1.29		0.81
Principal-reported district leadership for school effectiveness	-0.57		0.92
Principal-reported school divided into small groups (e.g., "houses")	-1.49	◊	0.83
Teacher-reported student engagement in learning	-0.78		1.93
Teacher-reported access to professional development	-3.41	◊	1.92
Teacher-reported frequency of collaboration with colleagues	1.20		1.26
Teacher-reported teachers' responsibility for student learning	1.57		1.95
Teacher-reported supports for data use	-0.03		1.65
Teacher-reported climate of respect at school	1.21		2.02
Teacher-reported frequency of teaching advanced skills	-2.16	*	0.93
Student-level model			
Parental involvement	0.02		0.05
Ninth-grade TAKS reading score	0.00	*	0.00
Ninth-grade TAKS math score	0.00	*	0.00
Limited English proficiency	0.05		0.39
At risk	-0.57	*	0.16
Immigrant	0.05		1.02
African-American	0.00		0.28
Hispanic	-0.51	*	0.22
Asian	-0.13		0.54
Female	0.48	*	0.13
Economically disadvantaged status	-0.22		0.16
Teacher expectations for student success	1.49		2.26
Access to social supports	7.98		5.06
Respect between students and adults	0.34	*	0.15
Personal connection with teachers	-0.11		0.09
Access to academic and postsecondary supports	-0.19		0.31
Attitude towards the importance of school	0.81	*	0.14
Attitude towards academic improvement	-4.49		3.20
Attitude towards effort-based learning	3.09		3.36
Aspiration to graduate from high school	1.30	◊	0.71
Plan to attend college	1.60		1.08
School mean	1.78		0.62

*$p < 0.05$, ◊$p < .10$

Exhibit J-3
Coefficients and Standard Errors for Relationships Between Implementation Factors and Absence Rate (1,975 students in 39 schools)

Fixed Effects	Coefficient	*SE*
Model for school means		
Intercept	-3.18 *	0.13
Accountability rating Exemplary/Recognized	-0.07	0.09
Accountability rating Unacceptable	-0.13	0.13
Rural	0.02	0.07
Small	0.14	0.17
Percent new teachers	0.01 *	0.00
THSP schools in the second year of implementation	-0.06	0.09
Principal-reported district leadership for school effectiveness	0.03	0.09
Principal-reported school divided into small groups (e.g., "houses")	-0.24 *	0.10
Teacher-reported student engagement in learning	-0.18	0.19
Teacher-reported access to professional development	0.17	0.16
Teacher-reported frequency of collaboration with colleagues	-0.16	0.17
Teacher-reported teachers' responsibility for student learning	0.28 ◊	0.15
Teacher-reported supports for data use	-0.23 *	0.12
Teacher-reported climate of respect at school	0.02	0.14
Teacher-reported frequency of teaching advanced skills	0.03	0.08
Attendance rate of the past year	-0.10 *	0.02
Student level model		
Parental Involvement	0.01	0.03
Ninth-grade TAKS reading score	0.00	0.00
Ninth-grade TAKS math score	0.00 *	0.00
Limited English proficiency	-0.40 *	0.17
At risk	0.03	0.06
Immigrant	-0.49	0.33
African-American	-0.21	0.11
Hispanic	-0.08	0.07
Asian	-0.73 *	0.17
Female	0.04	0.05
Economically disadvantaged status	0.20 *	0.05
Teacher expectations for student success	-0.24	0.24
Access to social supports	-0.64	0.53
Respect between students and adults	-0.17 *	0.06
Personal connection with teachers	0.10 *	0.03
Access to academic and postsecondary supports	-0.01	0.12
Attitude towards the importance of school	-0.22 *	0.05
Attitude towards academic improvement	-0.20	0.39
Attitude towards effort-based learning	0.37	0.47
Aspiration to graduate from high school	0.10	0.08
Plan to attend college	-0.08	0.12
School mean	0.00	0.00

$^*p < 0.05$, ◊$p < .10$.