Texas Study of Students at Risk: Case Studies of Initiatives Supporting Ninth Graders' Success

Cross-Site Report
October 2004

Prepared for

Texas Education Agency

Texas Center for Educational Research

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Texas Center for Educational Research

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Table of Contents

Table of Tables

Table of Figures

EXECUTIVE SUMMARY
CASE STUDIES OF INITIATIVES SUPPORTING NINTH GRADERS' SUCCESS

Researchers conducted case studies of Ninth Grade Success Initiative (NGSI) grants to gain a greater understanding of issues facing large numbers of at-risk students, many of whom, despite potentially receiving services as early as kindergarten, still reach ninth grade unprepared to succeed academically in high school. Case studies focused on NGSI projects and the broader high school contexts in which they operated. Studies involved 11 of 226 districts that received NGSI funding between 1999-2000 and 2002-03. In addition to NGSI funds, districts also benefited from Optional Extended Year program (OEYP) formula-based allocations, Texas After School Initiative (TASI) grants, or both.

NGSI PROGRAM

Programs for Newly Promoted Ninth Graders

Few districts offered programs for newly promoted ninth graders who lacked minimum skills for successful course completion.

In districts that offered programs, educators believed newly promoted ninth graders who participated in summer programs benefited from reduced class size, active learning, bonding with teachers, and high school orientation. Although educators viewed programs as worthwhile and effective, few students participated and most programs were discontinued.

Programs for First-Time and Repeat Ninth Graders

Districts invested the bulk of NGSI resources in services for ninth graders who were *at-risk of not earning* sufficient credit or had *not earned* sufficient credit to advance to grade 10. Initiatives centered on computer-assisted instruction, extended-day and extended-year programs, and whole-school improvement.

Computer-assisted instruction. Most districts invested a substantial proportion of grant funds in technology for computer-assisted instruction. Instructional technology most frequently included comprehensive programs supporting self-paced credit recovery or skill remediation (e.g., PLATO, NovaNET). A few districts purchased programs for comprehensive coursework or supplemental instruction.

- ***Self-paced credit recovery labs.*** Staffing of self-paced credit recovery labs for at-risk students most often involved one certified teacher who managed coursework in several core-subject areas. One very large district took a more comprehensive approach by establishing Learning Labs with computer- and text-based assignments, instructional support, and social services. Almost all educators and students believed self-paced courseware benefited students by offering alternative means for credit recovery, but learning outcomes for comprehensive services were most promising. Concerns with self-paced learning programs include software quality, TEKS and TAKS alignment, student attendance, recruitment of effective teachers, and whether earned credits reflect content mastery.

- ***Computer-assisted algebra coursework.*** Two districts implemented comprehensive algebra coursework. Most educators viewed *I CAN Learn* (a lab-based computerized algebra curriculum) and *Cognitive Tutor* (a combination of computer- and text-based assignments) positively, believing they helped ensure curricular consistency and improved student algebra performance. End-of-course examination results for algebra confirm educators' opinions as students in all participating high schools showed strong gains on end-of course passing rates. A combination of computer- and text-based learning appeared most effective.

- ***Supplemental computer-assisted instruction.*** Computer-assisted instruction (for example, *CompassLearning* labs for English and algebra) appeared to improve learning for some students through clear directions, examples, and help with

understanding the basics. Limited access to supplemental instruction in computer labs and uneven program implementation, however, diminish the potential impact on student achievement.

Extended-day programs. A few districts funded extended-day programs with tutorials or credit recovery opportunities for ninth graders. Students who took advantage of extended-day tutorials apparently benefited, but student participation was a major obstacle. Most students at risk are unlikely to attend extended-day tutorials voluntarily. Examples of successful programs were rare, but better participation was associated with programs that were well organized and scheduled, obtained parent consent and support, used alternative instructional approaches (e.g., computer-assisted learning), and provided transportation.

Extended-year programs (summer school). Nearly all districts used NGSI funds to provide credit recovery opportunities for ninth graders through summer programs. Summer programs varied by duration, daily schedule, earnable credits, course delivery method, and core-subject availability. Summer programs reportedly allowed some students to recover credits, avoid retention, and remain with their peers in tenth grade. Districts face challenges in getting ninth graders to attend summer school, ensuring regular attendance, setting high expectations for student work and behavior, and helping students prepare for subsequent coursework. The voluntary nature of summer programs narrows the population of students who attend and benefit.

Whole-school improvement. Districts seldom used NGSI grants to transform their high schools' approach to serving students at risk. However, a few undertook organizational restructuring by creating a *school-within-a-school*. A limited number of districts invested in core-subject course improvement or teacher professional development.

- ***School-within-a-school.*** Two districts used schools-within-a school to create smaller and more supportive environments in high schools. Ninth-grade teams reportedly strengthened student and teacher support, improved parent communication, increased focus on student progress, and reduced retention. Some educators believe ninth graders are carrying forward organizational habits and responsible behaviors developed in the school-within-a-school.

- ***Enhancement of core-subject courses and professional development.*** Core-subject course enhancement occurred infrequently through NGSI grants. Educators in two districts that used computer-assisted instruction to enhance Algebra I coursework for ninth graders, however, believed the initiatives improved instruction and learning. Similarly, professional development was used in only a few districts as a means to improve teaching and learning in core-subject area classrooms.

EFFECT OF GRANT RESOURCES ON TARGETED STUDENTS

Research design and confounding factors make causal inferences about NGSI effects on the case-study districts impossible; however, data trends across the grant period reveal some increases in student attendance, decreases in retention rates, and improved algebra performance.

Despite improvements, student attendance rates are generally less than 95% (*No Child Left Behind* test-participation standard), nearly one-fifth of ninth graders are not promoted, and fewer than half of ninth graders typically passed end-of-course algebra exams.

SCHOOL CONTEXT AND EDUCATIONAL ENVIRONMENT

Each grant program operates within the broader campus and school district as a whole—therefore, to better understand student performance, researchers examined not only the NGSI program but also the school context experienced by ninth graders at risk of failure.

Standards and expectations. In nearly all high schools visited, the Recommended High School Program is currently the default curriculum. Many districts have established more rigorous promotion standards to ensure that ninth graders are prepared for the Texas Assessment of Knowledge and Skills (TAKS). The advent of statewide testing in ninth grade also has led high schools to toughen student promotion standards. Many high schools now require students to complete six credits rather than five to advance to tenth grade, and some require students to complete core-subject area courses as well

Structure and organization. Although most high schools retain the traditional grades 9-12 structure, some have created smaller, more supportive units within the high school. Scheduling approaches vary widely, but high schools appear to be shifting from block schedules (90-minute periods) to traditional, single-period schedules (50-minute periods). A few high schools modified their schedules to give extended learning time to ninth graders considered at risk of academic failure, primarily in algebra and English. Two districts created ninth-grade schools with students housed in a separate building near an affiliated senior high school. This configuration reportedly benefits ninth graders by easing crowding (about 800-900 students per school), reducing discipline problems, and creating an environment that allows maximum attention to students' academic and emotional needs

Teaming and collaboration. Teachers believe high schools have clear goals and priorities, much cooperative effort, and a strong focus on student achievement, but they are less positive about their involvement in decision making and the enforcement of rules for student behavior. In many high schools where departments are organized by subject area, teachers report few interdisciplinary meetings or meetings with peers for instructional planning. Smaller high school units (school-within-a-school, ninth-grade center) seemed to promote better teacher collaboration.

Extra academic assistance. All high schools visited offer extra academic assistance to students considered at risk, but some take a more structured approach. Academic assistance frequently helps students prepare for the state assessment (TAKS), complete assignments, or make-up assignments or excessive absences. Although educators and student participants believe tutorials are helpful, most at-risk students do not attend unless they are required. Barriers to participation in tutorials include transportation issues, lack of motivation, scheduling difficulties, after-school conflicts, and perceived benefits.

Guidance and counseling. Guidance and counseling services for students in at-risk situations are limited in many high schools by counselor-to-student ratios that exceed recommended standards. Contacts between at-risk ninth graders' and counselors are limited primarily to the selection of courses or programs; older students are more likely to receive information about jobs and careers, or how to improve academic work. Ninth graders' interactions with counselors on high school plans occur most often in groups rather than individually. Most students at risk report limited contact with counselors regarding higher education and career options, but access varies across districts and schools.

Teachers and teaching. Ninth-grade teachers are fairly experienced, but a substantial proportion (about 40%) comes to teaching through non-traditional certification. Educators raise concerns about the assignment of new and inexperienced teachers to ninth-grade courses.

● ***Perceptions of effective Instruction.*** Beliefs about teaching practices vary widely among high school teachers, with some advocating learner-centered approaches and others favoring traditional methods. Students who are at risk say *good teachers* provide clear explanations, encourage active and meaningful learning, make class interesting, establish personal relationships, use small-group activities, and offer individual help. Both teachers and students advocate active and meaningful learning experiences, varied (or interesting) instructional approaches, and positive interpersonal relationships.

● ***Teachers' classroom practices.*** Teachers expressed opinions on effective instruction, as cited above, differ from observed practice. High school classrooms are organized most often for whole-class instruction. Students seldom work collaboratively with peers. Teachers spend the greatest proportion of class time providing whole-group instruction and monitoring students as they work independently on assignments. Teachers seldom ask mentally challenging questions or questions that help at-risk students see the relevance of subject matter to their lives. Since teachers have little access to technology in classrooms, it is seldom used to support instruction and learning.

Students and learning. The problem with teacher-centered classrooms is the effect on students. Students considered at risk spend the greatest part of their time listening to teacher presentations or independently completing short-answer activities or worksheets. Most class discussions were teacher controlled question and answer exchanges. Overall, observed practices in high school classrooms raise

questions about teachers' understanding of students as learners, especially research-based conceptions (e.g., Bransford, Brown, & Cocking, 2002).

● ***Perceptions of students as learners.*** Educators believe ninth graders' academic performance is affected by inadequate learning strategies and skills, immaturity and irresponsibility, lack of academic preparation, lack of motivation, and poor attendance.

● ***Disengagement from high school and learning.*** Evidence from various sources points to at-risk students' disengagement. Poor attendance, lack of motivation, disruptive behavior, irresponsibility regarding homework and grades are all symptoms of larger problems. Findings throughout this study point to such issues as: boring and repetitive instruction in core subject-area classrooms that fails to engage students intellectually; limited use of technology in core-content classrooms to support engaged learning; expectations to attend after-school or Saturday tutorials when in-school time is not used to the greatest advantage; repeated course failure, which narrows educational choices and opportunities for enriched learning experiences; and poor access to counseling and advisement to help students set goals and see how current investments in learning yield future benefits.

Transition from middle to high school. Differences in school size and organization, grading systems, educational philosophy, teacher characteristics, and academic expectations reportedly make the transition from middle to high school difficult for ninth graders. Other student-related issues, such as inadequate academic preparation, increased freedom coupled with immaturity, home-life situations, and apathy are cited as factors that make high school challenging for many ninth graders.

IMPLICATIONS FOR GRANT AWARDS AND MANAGEMENT

Grant recipients generally praised the TEA's facilitation of the NGSI grant process. Recommendations concerning grant management typically related to the timing of grant awards and funding. Many grantees appreciated efforts in later terms to streamline the evaluation process. Findings to follow relate to overall improvement of grant development, implementation and monitoring, and sustainability.

Grant development. Grant applications should put greater emphasis on identifying problems, determining the root causes, and articulating how the project will alleviate those problems. NGSI grant development primarily involved campus and district administrators. Future grant applications should be informed by the thinking of various stakeholders. Greater input from faculty, staff, and even parents and students can lead to a better-informed set of solutions and increased buy-in. Grant programs for students at risk should also be aligned with curricular and learning expectations in regular classrooms. The establishment of separate or dual curricula for at-risk students in several NGSI schools conflicts with research demonstrating the harmful effects of tracking low-performing students (Oakes, 1985; Wheelock, 1992). Guidelines for grants should also lead districts and campuses to adopt research-based practices—thus, applicants should have access to research-based information on effective instruction and school improvement. Most importantly, grants aimed at improving learning and academic performance of at-risk students should include substantial investments in professional development, especially for classroom teachers.

Grant Implementation and monitoring. Grants should require or strongly encourage the addition of dedicated program leaders. Schools with dedicated program management at both the district and campus level appeared to have the greatest success implementing and continuing their grants. Major program changes made during the grant should also require TEA approval. Several schools made substantial changes to their initiatives during implementation. In some cases, entire components were dropped. Grant awardees should also have access to external technical support, assistance, and formative evaluation. Assistance providers can help schools implement effective, research-based strategies. While expertise often is available within schools and districts, technical assistance by external providers or agency staff broadens the pool of knowledge from which schools and districts can draw.

Grant sustainability. Districts should have a contingency plan to address changes in grant leadership. Staff and administrator turnover undermined consistent grant implementation and had a negative impact on the continuation of NGSI programs. When major grant staffing changes occur, districts should submit a revised plan to show how grant activities will be sustained under new project leaders. Broad-based input into grant planning and development was associated with successful grant implementation; thus, more widespread support for grant development and implementation will help to alleviate the void left when key project leaders leave a school or district.

CHAPTER 1
INTRODUCTION AND METHODOLOGY

The cross-site report of case studies represents one part of a larger evaluation—conducted by the Texas Center for Educational Research for the Texas Education Agency—examining the impact of three state-level programs with the common goal of helping at-risk students achieve academically. The Texas Study of Students at Risk (TxSSAR) comprises investigations of the Optional Extended Year Program, the Texas After School Initiative, and the Ninth Grade Success Initiative. Through a comprehensive evaluation (covering a four-year period between the 1999-2000 and 2002-03 school years), researchers explored ways in which state initiatives support the academic success of at-risk students throughout their school careers. A brief summary of each program is presented below.

Texas Study of Students at Risk

Optional Extended Year Program. First established by the 73rd Texas Legislature in 1993, the Optional Extended Year Program (OEYP) is a state-funded program aimed at meeting the needs of elementary and middle school students (grades K-8) who are at-risk of not being promoted to the next grade level[1]. Funds allow districts to provide an extended-year program for up to 30 instructional days for eligible students, with the ultimate goal of reducing grade retention rates. Eligible students are those who are not likely to be promoted to the next grade level because they fail to meet district academic standards. During the four-year period evaluated, $191 million was provided to roughly 700 school districts.

Texas After School Initiative. The Texas After School Initiative (TASI) for Middle Schools is a state initiative primarily designed to serve middle-school students (ages 10-14) at risk of academic failure and/or at risk of committing juvenile offenses. TASI funded after-school programs to accomplish three goals: 1) increase academic performance for participating students; 2) reduce referrals to the juvenile justice system; and 3) increase involvement of parents and/or mentors. Altogether, $36 million was allocated for TASI programs in 60 school districts.

Ninth Grade Success Initiative. Under the Basic Skills Program for High School Students created by the 76th Texas Legislature in 1999 and renewed in 2001, the state allocated $170 million to support school districts' efforts to help ninth graders stay in school and succeed academically. The program, known as the Ninth Grade Success Initiative (NGSI), aimed to increase graduation rates in Texas public schools by reducing the number of students who either dropped out or were retained in ninth grade. Funded programs were to emphasize basic skills in core curricular areas and provide targeted students with opportunities to build credits toward graduation. Targeted students included eighth graders who were advancing to ninth grade but were considered at risk academically, and ninth graders who had not earned—or were unlikely to earn—sufficient credit to advance to tenth grade and who failed to meet minimum skill levels.

Funded programs were expected to achieve four major objectives: 1) decrease the ninth-grade retention rate; 2) reduce the number of ninth-grade dropouts; 3) increase ninth-grade attendance rates; and 4) support successful performance on the state's assessments—including the exit-level Texas Assessment of Academic Skills (TAAS) and its replacement, the Texas Assessment of Knowledge and Skills (TAKS).

Study Approach

A comprehensive report—*Texas Study of Students at Risk: Efficacy of Grants Supporting Academic Success from Elementary Through High School*—will provide detailed findings on the implementation and outcomes for all three programs, with information on services for at-risk students beginning in the primary grades (OEYP) and extending through middle school (TASI) and into high school (NGSI). For the current report, researchers conducted case studies to gain a greater understanding of issues facing large numbers of at-risk students, many of whom, despite potentially receiving services as early as kindergarten, still reach ninth grade unprepared to succeed academically in

[1] In 2003, the 78th Legislature increased the scope of the OEYP to serve grades K-12. Results for the 2003-04 school year are …..the scope of this evaluation.

high school. Many of these students end up repeating ninth-grade coursework or dropping out of school.

Although the original intent was to examine existing interrelationships among the three state-level funding streams for at-risk students in each district visited, it became evident early on that, in almost all cases, grants operated independently. Thus, case studies focused on NGSI projects and the broader high school contexts in which they operated. Researchers conducted intensive studies in 11 of 226 districts that received NGSI funding between 1999-2000 and 2002-03 school years. In addition to NGSI funds, districts also benefited from OEYP formula-based allocations, TASI grants, or both.

Case Studies of NGSI Grantees

The case studies give an in-depth look at district- and campus-level activities supporting students in at-risk situations, grant-funded activities sustained over time, and best practices in projects. Researchers were guided by four overarching research questions:

- How was the NGSI program implemented and what was the effect of grant resources on targeted students?;
- How did grant initiatives intersect with the broader ninth-grade context?;
- How did the educational environment in high schools support grant goals for students in at-risk situations?; and
- What are the implications for addressing the needs of students in at risks situations?

The cross-site report details each district's NGSI program, with a description of the implemented components, students targeted, and outcome data on key academic indicators. Next, because grant-funded programs operate within the context of the campus and school district as a whole, the broader school context experienced by at-risk ninth graders is detailed, as are any associations with the NGSI program. To that end, researchers gathered data from participants to gain a wider perspective on academic standards, organizational patterns, and supportive services. Researchers also gauged perceptions of the high school environment and conducted classroom observations to describe learning opportunities experienced by at-risk ninth graders in high school classrooms.

ORGANIZATION OF THE REPORT

Report findings are organized around the primary research questions related to the effective use of NGSI resources and the assessment of progress toward project goals. Case studies include 10 single district grantees and one consortium (representing two districts). Sites detailed in Table 1.1 are located in diverse regions of the state.

Specifically, findings are presented for six key research areas:

- *NGSI program* reveals the nature of programs implemented in case-study sites and presents findings on the NGSI program components.
- *Grant origin, implementation, and sustainability* examines grant development, implementation issues, and prospects for program sustainability beyond grant funding.
- *Broader ninth-grade context* explains how the NGSI grant components operated within the context of the campus and district as a whole.
- *Educational environment* reveals the extent to which the high school provides a positive, supportive environment that promotes meaningful student learning.
- *Conclusions and implications* present the convergence of evidence from multiple sources relative to the accomplishment of statewide NGSI goals and implications for the management and award of future grants.

Site Selection

Site selection was a multi-stage process. Considering available resources, researchers agreed to conduct a total of 10 case studies across the state (later expanded to 11 sites). Researchers selected districts that implemented programs of sufficient scope to have a potentially measurable impact on a significant number of students.

As a first step, we reviewed activity/progress reports submitted by 226 NGSI grantees receiving both original and continuation funds to create a database with key indicators (e.g., budget allocations, targeted populations, grant focus, etc.). Based on this initial review, we narrowed the list by including only those districts that had (a) a student population with more than 50 percent economically disadvantaged students, (b) implemented a program targeting more than 25

students and at least 20 percent of the ninth-grade population, (c) a grant allocation in excess of $50,000 per year, and (d) a beginning ninth-grade retention rate above 10 percent. Districts with missing data on relevant variables were eliminated. From the resulting list of 57 districts, researchers in consultation with TEA staff members chose 11 districts, with careful consideration given to diversity. Thus, selected districts represent diverse regions of the state, varied demographic and grant characteristics, and distinctive program aspects considered worthy of investigation.

Data Collection Methods

Teams of two to three researchers conducted site visits to each of the 11 case-study sites. In total, data collection involved seven researchers. Site visits included structured interviews, focus groups, surveys, and classroom observations designed to collect information about the primary research questions. During visits, researchers also observed NGSI-supported activities and collected relevant materials and documents (see Table 1.2).

Interviews. A total of 47 interviews involved targeted district and campus staff, including the project director, principal, onsite project coordinator, a lab facilitator, and other staff depending on the characteristics of the program implemented.

Focus groups. Researchers conducted 26 teacher focus groups involving 124 teachers at 16 high schools. Focus groups consisted of teachers involved with the NGSI program and other randomly selected ninth-grade teachers. We also conducted 36 student focus groups with 202 ninth- and tenth-grade students. At each school, at least one focus group consisted of students who had participated in NGSI activities in either the current or previous year, and one focus group included ninth graders in at-risk situations.

Surveys. Teachers providing instruction to ninth graders were asked to complete a questionnaire soliciting their opinions on the high school environment. Out of 563 surveys distributed, 283 were returned (50 percent response rate). Of these, 124 teachers completed questionnaires during focus groups, and 159 returned them by mail. The 202 students participating in focus groups also completed a brief questionnaire assessing their views on the school environment and plans for the future.

A conceptual framework, formulated through a review of program objectives and recent research literature on recommended improvements in the nation's high schools (e.g., American Youth Policy Forum, 2000; High Schools that Work—Frome, 2001; NASSP, 1996/2003) provided the framework for the study.

Observations. Across all campuses, researchers observed in 92 classrooms, including 81 regular classrooms and 11 computer laboratories. This sample of core-subject area classrooms was selected through a review of at-risk students' course schedules in each school and included 21 observations in English/language arts classes, 21 in Algebra I, 16 in social studies, and 23 in science.

Table 1.2
Data Collection Methods: Number of Events and (Participants)

District	Interview	Focus Group		Survey		Observation	
		Teacher	Student	Teacher	Student	Regular Class	Computer Lab
Crockett	2	2 (12)	2 (16)	18	16	7	--
Los Fresnos	3	2 (7)	3 (17)	15	17	7	1
Marshall	3	2 (10)	3 (10)	18	10	7	--
San Felipe-Del Rio	5	1 (3)	3 (11)	11	11	7	1
Amarillo	3	1 (5)	3 (20)	34	20	7	--
Beaumont	4	2 (7)	3 (17)	13	17	4	--
Galena Park	4	3 (8)	3 (12)	14	12	7	1
Aldine	5	3 (12)	2 (17)	27	17	7	1
Fort Worth	7	4 (26)	5 (30)	40	30	7	4
San Antonio	6	2 (18)	4 (28)	28	28	9	3
Ysleta / Socorro	5	4 (17)	5 (24)	68	24	12	--
Total	**47**	**26 (124)**	**36 (202)**	**286**	**202**	**81**	**11**

Table 1.1. Case Study Site Selection Indicators

	Small to Mid-Size Districts (Less than 10,000 Students)				Large Districts (10,000 to 24,999 Students)			Very Large Districts (25,000 Students or More)			
	Crockett	Los Fresnos	Marshall	San Felipe	Amarillo	Beaumont	Galena Park	Aldine	Fort Worth	San Antonio	Ysleta/ Socorro
ESC Region	6	1	7	15	16	5	4	4	11	20	19
Size											
Total students	1,692	7,230	6,004	10,294	29,166	20,585	19,986	55,263	80,989	57,076	76,587
Ninth graders	141	617	585	789	2,482	2,050	1,634	4,253	7,121	4,969	6,992
High schools	1	1	1	2[a]	4	3	3[a]	8[a]	13	8	10
Demographics											
Hispanic	14.2%	92.8%	14.0%	88.3%	36.8%	10.2%	64.5%	56.3%	50.2%	86.5%	90.6%
African American	56.3%	0.3%	42.6%	1.4%	10.7%	63.8%	21.4%	33.4%	29.0%	9.4%	1.9%
Economically Disadvantaged	71.7%	84.7%	57.3%	75.4%	57.4%	61.7%	66.8%	74.2%	64.3%	90.4%	76.3%
Grant Characteristics											
Total award	$175K	$525K	$350K	$395K	$875K	$525K	$393K	$5.2 mil	$5.0 mil	$6.6 mil	$7.0 mil
Total program participants	245[b]	1,241	742	1,051[b]	4,088[b]	2,150	1,925	5,840	36,108	31,116	29,839[b]
Grants received	NGSI/ OEYP	NGSI/ OEYP	All	NGSI/ OEYP	All	All	All	NGSI/ OEYP	All	All	All
Program Components											
Credit recovery	X	X	X	X	X	X	X	X	X	X	X
Summer school											
Credit recovery	X	X	X	X	X		X	X	X	X	X
Programs for 8th						X	X	X	X		
Technology (CAI)	X	X	X	X			X	X	X	X	X
Tutorials			X		X		X		X		X
After-school program	X		X		X	X	X		X		X
Reduce class size			X		X			X			X
Restructuring			X		X			X	X	X	X
Reconfiguration			X	X				X			X
Professional develop.											
CAI				X				X	X	X	X
Other			X		X				X		X

Note. CAI=Computer-Assisted Instruction (i.e., PLATO Learning, NovaNET, CompassLearning, and Cognitive Tutor). Restructuring (i.e., teaming, school-within-a-school). Reconfiguration (i.e., reconfigured coursework, such as extended learning time, innovation instructional approach).

[a]District has a separate school for ninth graders.

[b]Due to missing data, numbers under-represent total participants.

Instrumentation and Data Analysis Procedures

As illustrated in Table 1.3, researchers designed interview and focus group protocols, questionnaires, and observation forms around topics related to key areas of inquiry. One major area included specific aspects of the NGSI program (e.g., NGSI program focus, project management, goal attainment, sustainability). Other topics related more broadly to the high school context, such as challenges in meeting ninth graders' needs, professional development, and guidance and counseling. Other topics of interest related to the high school environment, teachers' instructional practices, and students' learning opportunities. Respondents who could provide the most accurate or insightful information on a topic served as the informational source. Data analyses involved the triangulation of qualitative and quantitative data from multiple sources of evidence. Data gathered from the TEA *Snapshot 2003* and NGSI Standard Application System documents provided contextual and demographic data within which to interpret qualitative findings.

Interviews and focus groups. For data collected through interviews and focus groups, each researcher first summarized or transcribed audiotapes and notes. Guided by major topics of study, we then created categories with codes and subcodes to guide data analyses using Atlas.ti qualitative research software. Finally, we reviewed sorted notes using a constant comparative method (to identify major themes and relationships.

Surveys. Questionnaires completed by teachers and students included items extracted or adapted from the National Education Longitudinal Study (NELS, 1988). Teacher items related primarily to *school climate*, whereas student items addressed *plans for the future* and *school life*.

The *Teacher Questionnaire* (see Appendix A) included general information items (e.g., grades taught, teaching assignment), an item on teaming and collaboration, and items related to the school environment (rated on a 4-point scale as *strongly disagree*, *disagree*, *agree*, or *strongly agree*).

A principal-components factor analysis, conducted to determine the interrelationships among 18 school environment items on the teacher questionnaire, identified six correlated survey items that measured a *supportive school environment* factor. Individual scores on each of six items were averaged to create a single measure of a teacher's perception of the high school environment. Items included:

Table 1.3
Research Topics by Data Collection Method

	Interview				Focus Group and Survey		Observation
Topic	Project Director	Project Coord.	Principal	Lab Coord.	Student	Teacher	Teacher/ Student
NGSI program focus	✓	✓	✓	✓	✓	✓	✓
Management/administration	✓	✓	✓	✓			
Professional development	✓	✓	✓	✓		✓	
Alignment with other programs	✓	✓	✓	✓			
Goal attainment	✓	✓	✓	✓	✓	✓	
Sustainability	✓	✓	✓	✓			
Lessons learned	✓	✓	✓				
Ninth-grade challenges	✓	✓	✓	✓	✓	✓	
Professional development	✓	✓	✓	✓		✓	
Guidance and counseling	✓		✓		✓	✓	
Future plans					✓		
School environment					✓	✓	✓
Teaming/collaboration				✓		✓	
Instructional practices					✓	✓	✓
Learning opportunities					✓	✓	✓

Note. Coord.=Coordinator.

- goals and priorities for this school are clear;
- the principal consults with staff before making decisions that affect them;
- there is a great deal of cooperative effort among staff;
- the staff is continually evaluating its programs and activities;
- rules for student behavior are consistently enforced in this school; and
- the teachers and school administrators work together to improve student achievement.

The Student Questionnaire (see Appendix B) included general information items (e.g., grade level, age), an item on students' future plans, items pertaining to student opportunities for counseling from either counselors or teachers, and items related to the school environment (rated on a 4-point scale as strongly disagree, disagree, agree, or strongly agree). School environment was measured by the percentage of students expressing a level of agreement with each of the following statements: (a) Teaching is good at this school; (b) most teachers listen to me; (c) disruptions by other students get in the way of my learning; (d) students get along well with teachers; (e) discipline is fair at school; (f) when I work hard, teachers praise my effort; and (g) I don't feel safe at this school.

Observation. The TxSSAR Classroom Observation Form (see Appendix C) was developed by the Texas Center for Educational Research and included elements used previously by researchers in other state-level program evaluations. The observation form allows the documentation of basic descriptive information (e.g., number of students, grade) and the characteristics of the physical environment (e.g., resources, space). Researchers also made time-interval ratings during observations on class organization (e.g., whole class, small groups), the teacher's role (e.g., directing whole group, monitoring student work), student activities (e.g., listening, taking notes), technology use by teachers and students, and student engagement. On average, observations in high school classrooms lasted 45 minutes. Researchers recorded information on class events during the first 5 minutes, then every 10 minutes throughout the class period.

During observations, evaluators kept notes describing teachers' questioning strategies. Using Bloom's Taxonomy as a guide, observers categorized teachers' questions as lower-order (factual) or higher order (e.g., comprehension, application, analysis, synthesis). Upon completing an observation, researchers used descriptive notes to rate each teacher's use of six higher-order questioning strategies on a 4-point scale as observed not at all, a small extent, moderate extent, or large extent. We measured higher order thinking as the percentage of teachers (on the 4-point scale) who:

- asked open-ended questions with multiple answers or interpretations;
- asked questions that require reasoning;
- asked students to justify ideas and explain their thoughts;
- asked students to explain key concepts, definitions, attributes in their own words;
- had students relate examples from their own experience; and
- related the subject matter to other contexts or to everyday life.

CHAPTER 2
FINDINGS—NGSI PROGRAM

CONTEXT

Table 2.1 shows purposefully selected case study sites varied in district size, awarded funds, regional location, student enrollment, and percentages of minority and economically disadvantaged students. As summarized below, individual case studies involved four *small-to-mid-size districts* (Crockett, Los Fresnos, Marshall, and San Felipe-Del Rio), three *large districts* (Amarillo, Beaumont, and Galena Park), and four *very large districts* (Aldine, Fort Worth, San Antonio, and Ysleta-Socorro collaborative).

Table 2.1
Characteristics of Case Study Sites

District Size/Recipient	NGSI Award	ESC Region	Total High Schools	High Sch. Students Enrolled	Minority and Disadvantaged		
					Hispanic	African Am.	Eco. Disadv.
Small-to-Mid-Size Districts (Less than 10,000 Students)							
Crockett ISD	$175,000	6	6 (1)	485	9%	58%	59%
Los Fresnos CISD	$525,000	1	9 (1)	1,967	92%	<1%	80%
Marshall ISD	$350,000	7	13 (1)	1,694	9%	43%	41%
San-Felipe-Del Rio CISD	$372,000	15	14 (2*)	2,664	88%	2%	69%
Large Districts (10,000 to 24,999 Students)							
Amarillo ISD	$875,000	16	50 (4)	7,656	31%	10%	38%
Beaumont ISD	$525,000	5	34 (3)	5,383	8%	61%	46%
Galena Park ISD	$417,000	4	23 (3)	5,339	57%	26%	50%
Very Large Districts (25,000 Students or More)							
Aldine ISD	$5,100,000	4	61 (9*)	12,767	52%	35%	62%
Fort Worth ISD	$5,000,000	11	141 (13)	18,744	43%	31%	40%
San Antonio ISD	$6,600,000	20	106 (8)	13,687	86%	10%	85%
Ysleta ISD/Socorro ISDs	$7,000,000	19	91 (9)	21,345	88%	2%	68%

Source: Texas Education Agency *Snapshot 2003* and NGSI Standard Application System documents.
*Includes ninth-grade school(s).

Small-to-Mid-Size Districts

Crockett ISD. *Crockett ISD,* a small East Texas district serving a diverse student population, received a four-year $175,000 NGSI grant to support ninth graders in at-risk situations. Crockett officials designed a number of strategies to lower retention and boost attendance, as well as offering opportunities for credit recovery. The grant funded after-school tutoring, a computer lab with PLATO Learning® software, and a summer school program. Both the PLATO computer lab and the summer school program gave students a chance to recover credits in previously failed courses. Parental involvement activities, such as hiring a parental contact staff member and creating a computerized telephone message system, also played a role in Crockett's NGSI program. Over four years, Crockett served 245 students (duplicated count) including 123 students participating in activities during fall and spring terms and 122 students in summer school.

Los Fresnos CISD. *Los Fresnos CISD,* a mid-sized district serving more than 7,200 students in the Rio Grande Valley received a four-year $525,000 NGSI grant to support ninth graders in at-risk situations. Relying on a comprehensive needs assessment, campus and district administrators designed a supplementary instruction plan emphasizing basic skills, accrual of course credits, and continuing support services. Three program components were implemented at Los Fresnos High School, with first-time ninth graders using *CompassLearning*® software (English and algebra) for weekly instruction in computer labs, mobile laptop computers for in-class use, and sum-

mer school for credit recovery. Although the primary focus was on first-time ninth graders, repeat ninth graders also participated. Throughout the grant period, the NGSI program served 1,241 students (duplicated count), including 922 participating in the fall and spring terms and 319 in summer school.

Marshall ISD. *Marshall ISD*, an East Texas school district serving 6,000 students, received a four-year $350,000 NGSI grant to support ninth graders in at-risk situations. Based on a comprehensive needs assessment, district administrators planned to enhance academic support and technology access for first-time and repeat ninth graders. In the first two years, most NGSI resources went toward classroom technology and resources for small, integrated curriculum classes. Grant funds also supported extended day programs, summer school, a mentor program, Boys Town Reading, and in-class tutors. Over four grant years, 742 Marshall High School students (duplicated count) participated.

San Felipe-Del Rio CISD. *San Felipe-Del Rio CISD*, a mid-sized school district west of San Antonio on the U.S.-Mexico border, received a four-year $372,000 NGSI grant to assist ninth graders in at-risk situations. Responding to the expressed concerns of freshman school administrators, teachers, and parents, and to needs analysis data, campus and district administrators planned to increase graduation rates and decrease dropout rates among ninth graders who failed core courses. San Felipe-Del Rio initially targeted ninth graders failing first-semester courses and eighth graders in at-risk situations who are entering the freshman school. However, the program changed focus when it moved to the senior high, where two NGSI-funded teachers were trained to help students (including repeat ninth graders) recover credits using NovaNET® self-paced courseware. The district also offered a reduced tuition summer program for students failing core courses. Over four years, the NGSI program served 1,051 students (duplicated count), including 828 in the fall and spring terms and 223 in summer school.

Large Districts

Amarillo ISD. *Amarillo ISD*, serving more than 29,000 students in the Panhandle area of Texas, received a four-year $875,000 NGSI grant to support ninth graders in at-risk situations. Over the grant term, Amarillo ISD served more than 4,548 students (duplicated count) in an effort to expand support measures for ninth graders at each of its four comprehensive high schools. District programs varied by high school and targeted first time and repeat ninth graders, as well as newly promoted ninth graders. Caprock High School targeted first-time ninth graders through configuring a school-within-a-school, as well as offering trailer courses, extended-day programs, and summer school. Some repeat ninth graders also participated in tutorials and summer school at Caprock.

Beaumont ISD. *Beaumont ISD* is a relatively large district in southeast Texas near the Gulf Coast serving a predominately African-American student population. The district received a four-year $525,000 NGSI grant to serve ninth graders in at-risk situations. Beaumont's NGSI program goals included reduced course failure rates, retention rates, and dropout rates, as well as increased attendance rates. The district also aimed to reduce the achievement gap between economically disadvantaged and non-economically disadvantaged students. Beaumont's NGSI program included two primary components: 1) a two-hour after-school program; and 2) a five-day summer Algebra Institute for incoming ninth graders in at-risk situations. Students in the after-school program attended smaller classes where they could earn full course credit through credit-by-exam. During the grant period, Beaumont ISD served at least 1,461 students in after-school programs (duplicated count). Another 675 students participated in the Algebra Institute during the summers of 2000 through 2003.

Galena Park ISD. *Galena Park ISD,* serving nearly 20,000 students on the outskirts of Houston, received a $417,000 NGSI grant to support ninth graders in at-risk situations. Over four grant years, the NGSI program served 1,925 students (duplicated count), including 1,525 in the fall and spring terms and 400 in summer school. North Shore High School funded after-school tutorials and summer school for first-time ninth graders and implemented a credit recovery lab with PLATO Learning® software for repeat ninth graders.

Very Large Districts

Aldine ISD. *Aldine ISD* is a large district serving 55,263 students on the northern edge of Houston. Each of four senior highs is paired with a ninth-grade school within walking distance to the original cam-

pus. With a four-year $5.1 million NGSI grant, the district implemented a comprehensive plan to support ninth graders in at-risk situations, using most of its resources in the first two years to consolidate and relocate instructional services for repeat ninth graders to a central campus. After a hurricane destroyed this facility, the district changed the implementation model, returning services to the four senior high schools. During the last two grant years, the district expanded services to first-time ninth graders, increasing summer school attendance and adding support for credit recovery labs (using PLATO Learning® software) at ninth grade campuses. Throughout the grant, Aldine's NGSI program served 5,840 students (duplicated count), including 2,287 students during fall and spring terms and 3,553 students in summer school.

Fort Worth ISD. *Fort Worth ISD*, a large urban school district serving nearly 81,000 students, received a four-year $5 million NGSI grant to support ninth graders in at-risk situations. Relying on needs assessment data, the district used NGSI funds to implement programs in core-subject areas (math, reading, science, social studies, writing) along with extended day and summer school components. In four years, Fort Worth served 36,108 incoming, first-time, and repeat ninth graders (duplicated count). The largest portion of NGSI funding went toward mathematics with the purchase of *I CAN Learn* computer labs, wireless laptop computers and software, graphing calculators, and math tutors. Computers, software, and resources also were purchased for other core-subject areas.

San Antonio ISD. *San Antonio ISD*, the ninth largest district in the state, is located in south-central Texas about 150 miles from the Mexican border. Administrators planned to use the four-year $6.6 million NGSI grant to provide credit recovery and basic skills development for ninth graders in at-risk situations. NGSI funded three components at eight high schools with the goal of reducing ninth-grade retention and dropout rates. First, vertical teams in early grant terms connected students and teachers in ninth-grade teams in grades 9-12 using a school-within-a-school. Second, Learning Labs (using NovaNET® software) allowed repeat ninth graders to recover course credits, a concept later expanded to include upper classmen. The third component was a summer school program for credit recovery. In four years, the NGSI program served 31,116 students (duplicated count), including 29,903 during fall and spring terms and 1,213 in summer school.

Ysleta/Socorro ISDs. *Ysleta ISD and Socorro ISD* formed a collaborative partnership to implement a four-year $7 million NGSI grant across ten high schools. The districts are among the largest in the state: Ysleta ISD is 15th with 46,668 students, and Socorro ISD is 32nd with 29,919 students. They share similar demographics, including large numbers of economically disadvantaged and limited English proficient (LEP) students. Campus and district administrators designed the program to have a unifying structure that still allowed for individual campus modifications. Each campus received funds for a full-time coordinator, a communities in schools (CIS) worker, and multiple tutors. Each campus also created a ninth-grade learning center equipped with 25 computers, printers and software. Algebra was the original program focus, thus each campus received training and support to implement Carnegie Learning's *Cognitive Tutor™* Algebra I program, and all algebra classrooms were supplied with graphing calculators. During the grant period, the NGSI program served more than 32,628 students (duplicated count), including 29,839 during fall and spring terms and 2,789 in summer school.

NGSI PROGRAM COMPONENTS

Table 2.2 shows the major NGSI program components implemented in the 11 grants (12 districts). Programs first are organized according to student eligibility (i.e., newly promoted ninth graders and first-time and repeat ninth graders). Symbols then are used to show how student participation in programs varied by eligibility categories across the 11 grants. Programs for first-time and repeat ninth graders are further organized into five major categories and related subcategories as defined below:

- *Computer-assisted instruction*. Computer-assisted instruction refers to the use of computers to deliver instruction and content to support student learning. NGSI grantees most often purchased instructional software that provides comprehensive curricula or courses in core-subject areas. Delivery typically occurred in a lab setting.

- *Extended learning time*. Extended learning time refers to programs that extend regular school time through extended-day, extended-week, or extended-year programs.
- *Restructuring schools*. Restructuring refers to the reconfiguration of school organizational arrangements or schedules to accommodate student-learning needs.
- *Core-subject enhancement*. Core-subject enhancement refers to efforts to improve instruction and learning in high school classrooms. Strategies typically included adding instructional resources, redesigning course delivery, and/or delivering teacher professional development aimed at instructional improvement.
- *Intense professional development*. Intense professional development refers to the investment of substantial resources and time in professional development aimed at improving teacher practices in classrooms enrolling students in at-risk situations. Although many grants included short-term professional development or workshops on the use of particular technology, software, or program components, researchers did not consider these to be extensive professional development initiatives.

Table 2.2. Major NGSI Program Components Implemented in Case Study Sites

	District										
	Small-to –Mid Size				Large			Very Large			
Program Component	**C**	**LF**	**M**	**SF**	**Am**	**B**	**GP**	**Al**	**FW**	**SA**	**YS**
Newly promoted ninth graders											
Summer algebra camp*						+	+	+			
Summer program*									+		
First-time and repeat ninth graders											
Computer-assisted instruction											
Self-paced credit recovery lab	"			,			,	"		,	
Computer-assisted algebra lab									"		"
Supplemental algebra/English lab		"									
Supplemental resources for classrooms			"	(					"		
Extended learning time											
After-school tutorial/credit recovery			(		"	"	(		"		
Summer school/summer program	"	"	(	(	"			(	"	"	
Restructuring											
School-within-a-school (teaming)					+					(	
Learning Center											"
Integrated curriculum classes*			"								
Hall Academy model*								,			
Core-subject course enhancement					"				"		"
Intense professional development			"		"				"		"

Note. + =Newly promoted 9th grader, (=First-time 9th graders, " =First-time and repeat 9th graders, , =Repeat 9th graders. *Program discontinued.

Programs for Newly Promoted Ninth Graders

➢ **Few districts offered programs for newly promoted ninth graders who lacked the minimum skills for successful course completion.**

NGSI grant recipients could design programs to meet the needs of eighth graders recently promoted to ninth grade who were at risk of not earning enough credits to advance to grade 10 in the coming school year (e.g., failure to pass one or more subtests of the eighth-grade TAKS, or retention in one or more grade levels during middle school). Of 11 sites visited, only 4 districts implemented programs for such students. Proactive efforts to meet these students' needs generally were limited in scope and duration, implemented in either large or very large districts, and discontinued after grant funds ended.

- **Educators believed newly promoted ninth graders who participated in summer programs benefited from reduced class size, active learning, bonding with teachers, and high school orientation.**

Three districts offered five-day algebra institutes or camps for incoming ninth graders with math deficiencies. Programs typically took place at the high school campus where students were slated to attend and introduced students to Algebra I concepts through active learning experiences, such as hands-on activities and computer-based math programs. One district offered a four-week summer program (*Summer Rocks)* for incoming ninth graders with mentoring, and English/social studies and math components. *Summer Rocks* placed a teacher and two tutors in most classes. In English/social studies, students performed group Internet research and created presentations for classmates and parents. Students also experienced a physics-based math curriculum developed by a local university professor featuring hands-on activities and graphing calculators.

Educators nearly all believed that newly promoted students benefited from summer programs. Students enjoyed active learning, especially with computers and calculators. Reduced class sizes and individualized instruction allowed teachers to assess students' learning strengths and weaknesses. Involvement in a high school campus program also helped with the social transition to high school, as students learned about high school, got a "head start" on developing skills needed for ninth grade success, and established bonds with high school teachers and other students.

- **Even though educators viewed summer algebra camps and programs as worthwhile and effective, few students participated and most programs were discontinued.**

Lack of student interest and participation was the greatest challenge of programs for newly promoted ninth graders, and very few students participated in the one-week algebra institutes. Similarly, despite intensive recruitment efforts and tangible rewards for participation (t-shirts, snacks, calculators), district officials had difficulty recruiting teachers and getting students to participate in the four-week *Summer Rocks* program. (One magnet high school, however, had less difficulty attracting students). Based on the low student participation rates, it is unsurprising that districts did not sustain these programs beyond the grant period.

Computer-Assisted Instruction

- **Instructional technology for students in at-risk situations most often included self-paced credit recovery or skill remediation programs.**

Most districts used NGSI funds to purchase technology (hardware and software) to support computer-assisted instruction, and 9 of the 11 sites visited invested a substantial proportion of NGSI funds in technology. However, the purpose of technology, the student population targeted, and the manner of implementation varied greatly across districts. Computer labs originally funded by NGSI for ninth graders in at-risk situations now typically serve the needs of students in at-risk situations in all grade levels.

Self-Paced Credit Recovery Labs

Districts, especially those with large-to-very large student enrollments, most frequently established computer labs offering credit recovery through self-paced computer-assisted instruction using PLATO or NovaNET courseware. PLATO Learning® is a self-paced instructional program that allows students to acquire basic academic skills in core-subject areas, and NovaNET® is a comprehensive courseware system delivered through individualized computer-assisted instruction. Computer labs typically had 20 to 25 workstations.

- **Staffing of self-paced credit recovery labs for students in at-risk situations most often involved one certified teacher who managed student coursework in several core-subject areas.**

In one small high school, all students had access to a PLATO lab (managed by one teacher) both during and after school for credit recovery or acceleration. Ninth graders who failed the first two six-weeks terms of courses worked in the lab to salvage a failing grade, while tenth and eleventh graders could recover credit to graduate on time. In another district, repeat ninth graders recovered English I credit in a NovaNET lab instructed by a certified English teacher who supplemented instruction with a TAKS writing module. The same teacher also facilitated students as they recovered credits in other core-subjects (except algebra).

In another high school, a PLATO computer lab staffed by a permanent substitute teacher targeted students who needed one or two credits to advance to tenth grade. Students who failed a class or missed a significant amount of class time due to illness or other reasons also used the lab to get back on track. In a fourth district, students in a ninth-grade school completed a combination of computer-assisted and other lessons followed by assessments (both online and district benchmark exams) to recover credits. At the senior high, repeat ninth graders who lacked one credit or less to advance could recover credits in a PLATO lab staffed by a certified teacher and a paraprofessional.

- **One very large district took a more comprehensive approach to student credit recovery by establishing Learning Labs with computer-assisted and other assignments, instructional support, and social services.**

This district established NovaNET Learning Labs in eight high schools, staffing each lab with four content-area teachers (math, English, science, and social studies), a counselor, and a student liaison (paraprofessional who interfaces with parents, manages paperwork, and sometimes provides instructional assistance). Each computer lab has an adjacent room for offline instruction, where students complete assignments not covered in the NovaNET modules. A central administrator served as a project director and coordinated the development of a curricular sequence for all Learning Labs, and lab and classroom teachers used *target sheets* for instructional communication. Lab staff participates in ongoing training, and teachers, student liaisons, and counselors meet separately to share strategies. Counseling is integral to the lab concept, as counselors help students deal with personal and family problems or chronic absenteeism. Inservice programs educated classroom teachers about the Learning Lab concept. As a whole, this credit recovery model appeared to enhance prospects for success for students in at-risk situations.

- **Almost all educators and students believed self-paced courseware benefited students by offering alternative means for credit recovery, but student learning outcomes for comprehensive services were most promising.**

Students in computer labs with self-paced courseware worked at their own instructional level and rate. The lab teacher typically assisted students who needed help, monitored student progress, directed students to new tasks, and offered praise and encouragement. Throughout observed lab periods, student engagement levels were generally high. Educators and students in the four districts that used the single-teacher model frequently spoke of the importance of student credit recovery, believing that labs made credit retrieval a reality, enabling many students to recover credits and in some cases attain sophomore status. Consequently, students were considered less likely to drop out of school. Educators viewed self-paced courseware as an effective alternative to typical classroom instruction for students in at-risk situations. Students experienced more one-on-one instruction, interactive learning, and fewer distractions, which allowed students to achieve mastery at their own tempo.

For the Learning Lab model, educators and students more often described positive impacts on students' learning. Educators and students said the Learning Lab model improved student self-image and confidence, taught students to read and write, and gave students self-control and personal responsibility through computerized instruction. Almost all educators said the labs allowed repeat students to remediate credits, stay in school, and often, to graduate. Repeat students also praised the labs, saying lab activities were engaging and encouraged them to be active learners. Students liked working independently online in combination with teacher assistance. They said distractions were minimal, allowing them to concentrate on their work, and individual assistance was readily available. Students also said the self-paced software allowed them to focus on content they had not yet mastered, thus avoiding repetition.

- **Concerns with self-paced learning programs include software quality, TEKS and TAKS alignment, student attendance, recruitment of effective teachers, and whether earned credits reflect content mastery.**

Educators cite a number of challenges with PLATO and NovaNET courseware. Some believe the quality of the software varies by subject area, and some subject areas required students to complete more learning modules than others (e.g., less for World Geography and more for English). Geometry software was seen as supporting a step-by-step learning process, but other courses (such as World History) were seen as simply drill.

Some educators said the courseware did not fully align with instructional activities in the regular classroom, the TEKS, or TAKS. A number of educators believed that students recover course credits in labs but do not necessarily master underlying concepts. One administrator did not believe PLATO coursework adequately prepared senior students for written compositions and open-ended responses on the TAKS. One teacher, in particular, was dismayed when a former student earned credit for a failed class after only five days in a self-paced computer lab.

Many teachers believe a major challenge in working with students in at-risk situations in self-paced labs is attendance. One district added a counselor and a student liaison to the Learning Lab model in response to students' personal and academic problems. Adequate teacher support is critical to student success in self-paced coursework. Administrators also stressed the importance of finding flexible teachers who can "work out of the box." Effective teachers are those who enjoy working in a different educational setting, are knowledgeable with technology, and know their content. Given the importance of teacher content knowledge, it seems improbable that one lab teacher can provide adequate guidance for students in at-risk situations working in multiple subject areas.

Computer-Assisted Algebra Coursework

- **Most educators viewed the *I CAN Learn* and *Cognitive Tutor* programs positively, believing they helped curricular consistency and improved student algebra performance.**

Two districts purchased educational software programs that provided comprehensive algebra coursework. One district invested in *I CAN Learn*®, a lab-based computerized algebra curriculum, while another district purchased the *Cognitive Tutor*™ algebra program, which combines computer- and text-based assignments. Even though both programs support Algebra I coursework for ninth graders, program content, implementation, and outcomes varied.

I CAN Learn. One very large district used grant funds to expand existing *I CAN Learn* labs to all district high schools. *I CAN Learn* is a self-paced Algebra I program providing both assessment and instruction, while a teacher and a math tutor (e.g., college students, retired teachers) give individualized assistance as needed. Lab-based Algebra I classes were held during the regular school day, after school, and on Saturdays. Students needing extra time to complete the course for credit continued into the summer, and those who failed lab-based algebra were placed in traditional algebra classes. The district aligned the scope and sequence of the *I CAN Learn* curriculum with the TAKS, and through monthly teacher discussions, the program became more structured (with the establishment of progress benchmarks) to include additional teacher-provided instruction.

Continual refinements better aligned the *I CAN Learn* program with the district curriculum, and all district students now cover the same algebra content. Educators said math tutors provided much-needed assistance to up to 30 lab students with a wide range of abilities and progress. Over time, labs became more structured and less self-paced to ensure student preparation for the TAKS. Although a few focus group students preferred computer-based algebra, most preferred using "paper and pencil" for math, and many thought teachers explained things better. According to one student, "You can't ask the computer questions." Even so, Algebra I End-of-Course exam passing rates increased more than 20 percentage points in the district between 2000 and 2002, but passing rates varied by high school and less than half of students (45 percent) passed the algebra exam in 2002.

Cognitive Tutor. Each high school in another very large district received 25 computer stations purportedly for the Carnegie Learning's *Cognitive Tutor*, an Algebra I program that combines computer-assisted and text-based instruction. The program involves a strong classroom component, with students working on cooperative problem-solving activities in the classroom three days a week and lab-based computer-assisted lessons two days a week. One high school fully implemented the program, while others did not.

Guided by the NGSI teacher-mentor (a veteran math teacher relieved of teaching duties) math teachers at one high school chose to implement the *Cognitive Tutor* math program even though it differed from the traditional curriculum. The high school aligned the curriculum, extended algebra class time, monitored student performance and offered immediate help to struggling students. After providing professional development on instructional strategies, the mentor-teacher conducted classroom observations, modeled effective instructional practices for struggling teachers, and replaced ineffective algebra teachers. All math teachers approved of the *Cognitive Tutor* program, saying it repeated questions until students mas-

tered a concept, improved ESL students' English skills through reading word problems, and provided open-ended math problems that aligned with TAKS expectations. A strong focus on algebra helped the high school achieve a notable 26.3 percentage points gain in the Algebra I End-of-Course passing rate, and by 2002, 74 percent of ninth graders at the school passed the exam.

Supplemental Instruction in Labs

- **Some students believed computer-assisted instruction improved learning through clear directions, examples, and help with the basics.**

One district used grant funds to establish two computer labs, with 30 workstations each for supplemental instruction with the *CompassLearning* curriculum for English and algebra. The district labs provided supplemental, individualized instruction for students in at-risk situations. The original plan was for ninth graders to spend at least 45 minutes per week (half of one accelerated block period) working on computer-assisted lessons. A paraprofessional managed the computer labs under the supervision of administrators. Ninth-grade teachers (Algebra I, English I, and English for Speakers of Other Languages) were to accompany their students to the labs, and ideally, collaborate with the instructor on lesson objectives.

Researchers observed students in the mathematics lab and interviewed them during focus groups. Students reacted positively to the *CompassLearning* programs, noting the advantages of clear directions and many examples to help with the basics, especially in mathematics. The lab instructor believed that students benefited from an environment that differed from the typical "lecture" and "worksheets" in regular classrooms. Teachers tended to be positive about the software and appreciated the detailed reports they received on each student's performance.

- **Limited access to supplemental instruction in computer labs and uneven program implementation in algebra and English courses diminished the potential impact on student achievement.**

Implementation issues with computer-based supplemental instruction in labs potentially can undermine its effectiveness. One problem is "time on task." At a maximum, students spent 45 minutes each week in the lab, meaning over an 18-week term, students who never missed a session and made the most productive use of their time accrued only about 10.5 hours of work on programs with extensive lesson objectives (e.g., about 86 hours for Algebra I). The once-a-week cycle also interfered with learning continuity as students had to re-orient themselves each week.

Uneven teacher implementation is another problem. Ninth-grade teachers' understanding of the program and commitment to implementation differed. Some teachers' aligned classroom lessons with program objectives but others did not, and some teachers did not want to devote class time to lab activities at all. Student engagement in lab work varied with teacher support, reportedly taking lab work more seriously when teachers established expectations for student behavior and assigned grades for work completed. Although impossible to infer causal associations, no discernable evidence exists that supplemental instruction via *CompassLearning* for mathematics positively impacted ninth graders' performance on Algebra I End-of-Course exams, as passing rates for ninth graders actually declined slightly over time (from 41.5 percent to 38.9 percent).

Extended Learning Time

Extended learning time for students in at-risk situations was another frequently adopted NGSI approach. Lengthening the regular school schedule included extended-day (before- and after-school), extended-week (Saturdays), and extended-year programs (summers).

Extended-Day Programs

- **A few districts funded extended-day programs with tutorials or credit recovery opportunities for ninth graders.**

Virtually all high schools provide extended-day programs of some kind (to be described in a section on Extra Academic Assistance)—however, five districts in this study used NGSI funds for programs primarily focused on after-school tutorials. Two districts implemented extended-day programs that prepared students to recover failed coursework through credit by examination. In one high school, grant funds gave teachers tutoring stipends to assist students who had a grade average of 75 or less or had failed some portion of the TAKS. Another district's after-school program targeted first-time and repeat ninth graders who had failed one or more core subjects in the fall semester.

This program met two hours a day, four days a week, and at the term's end, students who passed the credit by exam received credit for targeted coursework. Teachers were encouraged to use diverse instructional strategies. Disruptive students and those with two absences were removed from the program.

In another district, a teacher for each of the four core subjects stayed after school for 90 minutes every weekday to provide voluntary tutorials for students. Teachers trained in mentorship and interactive learning strategies, taught in one school hallway, and the district provided transportation and food to encourage student attendance. Another district provided tutoring before and after school and on Saturdays, mostly in algebra labs, although some writing labs were also provided. Another district tried a different approach. Teachers obtained parental consent requiring failing students to stay for extended-day tutoring. Because many students rode buses, staff members held conferences with parents before placing students in the extended-day program. If parents agreed, attendance was required and lunch detentions were given if the student did not attend tutorials.

- **Students who took advantage of extended-day tutorials apparently benefited, but student participation was a major obstacle.**

Educators and students generally agreed that those who took advantage of extended-day tutorials benefited through recovered credits, promotion to tenth grade, and staying with their peers. Students typically believed tutoring helped them, and they liked the one-on-one attention from teachers. Some students liked having different teachers help them (rather than their regular classroom teacher), saying they were more comfortable asking questions and that teachers in tutorials explained things better.

Two districts had greater success in attracting students. In one district, substantial numbers of students reportedly benefited from extended time for computer-assisted instruction in *I CAN Learn* algebra labs. In another high school, parental support and mandatory attendance requirements appeared to improve student participation in after-school tutorials, and these ninth graders purportedly carried responsible attendance behaviors forward into tenth grade.

- **Most students in at-risk situations are unlikely to attend extended-day tutorials voluntarily.**

In four of five districts implementing extended-day programs, student participation was voluntary and poor attendance was the norm. Even though the availability of NGSI funds allowed high schools to structure after-school tutorials in ways that reduced obstacles to attendance for students (bus service, consistent teacher availability, food), low attendance remained a major problem.

Educators identified several impediments to student participation. Some believed students did not attend extended-day tutorials because they were *not mandated*. Others thought it was due to inadequate *access to transportation*. In one case, the extended-day program was regarded as *loosely organized and inconsistently implemented*. Teacher and student *fatigue* also contributed. One high school's two-hour after-school program proved unproductive for teachers and students who were too tired after the school day.

Many at-risk students failed to see the *purpose or the benefit of extended-day tutorials*. Ninth graders were more often motivated by proximal goals (e.g., removing zero grades on assignments due to absences), not long-term goals (e.g., passing courses or earning credits). Because students in at-risk situations often saw tutorials as a way to make-up deficiencies rather than an opportunity for academic improvement, they usually waited until the end of a six-week period or after failing coursework to attend. Administrators in one district believed students needed to see tutoring as a benefit rather than a punishment for failure.

Ongoing problems with NGSI-funded extended-day programs led two districts to discontinue them at the end of the grant and another district to plan major modifications. Although examples of successful extended-day programs were rare, one district that solicited parent support, mandated student participation, and monitored student attendance appeared to have more positive results. Getting parental consent, apparently, helped to "hold the child accountable," and keeping track of students in at-risk situations reportedly kept them from "slipping through the cracks."

Extended-Year Programs (Summer School)

- **Nearly all districts used NGSI funds to provide credit recovery opportunities for ninth graders through summer programs.**

Nine of 11 grants studied used NGSI funds to implement either summer school or extended-year credit recovery programs for ninth graders (first-time, repeat, or both). Many districts combined local and grant resources to support summer programs. In some cases, NGSI funds supplemented existing summer programs; in other cases, funds helped to create new programs. At least two districts established new summer schools exclusively for ninth graders, and in two other districts, tuition for existing summer schools was waived or reduced for ninth graders with NGSI funds. NGSI funds allowed many districts to enhance existing summer schools by adding instructional resources, such as self-paced courseware (PLATO, NovaNET).

- **Summer programs varied in duration, daily schedule, earnable credits, course delivery method, and core-subject availability.**

NGSI-sponsored summer programs lasted from 10 to 30 days according to the type of program implemented, and daily instructional time ranged from 4 to 8 hours. Students typically could earn up to one credit in the summer, but they could earn more in some cases. Curricular and instructional approaches also differed. In five districts, summer programs used traditional classroom instruction along with self-paced course completion using PLATO or NovaNET in a computer lab. Two districts used traditional classroom instruction only. Another district let ninth graders who failed a course during the school year recover credits in a Learning Lab with self-paced NovaNET software and support from content-area teachers. In another district, ninth graders could earn Algebra I credit by completing the self-paced, computer-based *I CAN Learn* algebra curriculum begun during the regular school year.

Summer school coursework usually centered on ninth-grade basics, such as Algebra I, World History, Biology, Integrated Physics and Chemistry, and English I. Nevertheless, course availability varied by district. Students most often reported attending summer school to repeat Algebra I. Although participation in summer school was voluntary, some districts gave first priority to students who could advance to the next grade level, then if space was available, students with larger credit deficiencies could attend.

- **Summer programs reportedly allowed some students to recover credits, avoid retention, and remain with their peers in tenth grade.**

In many cases, grant funds allowed districts to provide summer programs for ninth graders who otherwise would not have had ready access (e.g., new programs, reduced tuition). Educators almost unanimously cited student credit recovery and reduced retention as summer school advantages. Keeping students in at-risk situations on grade level with their peers was also thought to help students stay in school. Educators in one very large district felt that offering students the opportunity to earn Algebra I credits during summer in the *I CAN Learn* lab saved money by eliminating algebra sections the following school year.

Both students and educators indicated that smaller classes and more individualized attention in summer school aided student success. They also cited more interactive, interesting, and engaging lessons, as well as access to computer-assisted instruction. One ninth-grade school provided a different educational environment through summer school, mostly influenced by teacher characteristics, reduced class size, and the students who chose to attend. Recruited teachers reportedly were more flexible and used varied instructional strategies to meet student needs. Voluntary summer school meant that those students who were more motivated elected to attend and were more likely to stay for duration of the program. Other district educators concurred that only motivated students attended voluntary summer school, and those who did not want to be there, and those who caused disturbances could leave. In one district, strict attendance policies eliminated students who missed more than two days of class.

- **Districts face challenges getting ninth graders to attend summer school, ensuring regular student attendance, setting high expectations for student work and behavior, and helping students prepare for subsequent coursework.**

Educators frequently cite difficulties getting ninth graders in at-risk situations to take advantage of summer school opportunities and keeping them there once enrolled. One project director said many ninth

graders do not feel an urgent need to recover credits for failed courses. Setting high academic standards in summer school was also a challenge, and educators in one district questioned whether students who had passed summer school classes had the knowledge and skills needed for subsequent coursework. Educators in another district said "clear expectations and consequences for student behavior" were needed because some students thought they did not have to do their coursework to receive credit. Teachers in one district reported discipline problems in summer school, but in other districts, the elimination of ninth graders with attendance and behavior problems improved the summer school learning environment. Despite difficulties, most districts planned to continue summer programs beyond the grant period, frequently with Optional Extended Year Program funds. Prior to the 2003-04 school year, OEYP funds were only available for grades K-8.

Restructuring Schools

Only a few districts used the NGSI grant to rethink the high school's approach to meeting the needs of students in at-risk situations comprehensively. In light of a growing educational consensus about the need to help students cope in large, impersonal high schools, these districts undertook organizational restructuring that changed the way services and instruction were configured for ninth graders in at-risk situations. The reform efforts discussed below involved the creation of a school-within-a-school (i.e., ninth-grade teams), learning centers for students in at-risk situations, integrated curriculum classes, and a learning academy. Of these five NGSI projects, three were discontinued by the end of grant funding.

School-Within-a-School

- **In two districts, *schools-within-a-school* provided a means to create smaller and more supportive environments in high schools.**

Two districts aimed to establish *schools-within-schools*—ninth-grade teams within large high schools—to improve academic achievement results for student sin at-risk situations. In one very large district, eight high schools created teams consisting of four teachers each that instructed roughly 375 at-risk ninth graders in core subjects. All ninth-grade teachers received professional development in topics such as teaming, curriculum alignment, interim testing, and creating a caring environment. Although ninth-grade teams reportedly strengthened teacher communication and understanding of student needs, they were discontinued in the second grant year when a new superintendent refocused district efforts to achieve consistency across high schools. The superintendent replaced horizontal, ninth-grade teams with vertical teams connecting groups of teachers and students in grades 9-12.

In another district, two of four high schools redesigned their ninth-grade program to establish a school-within-a-school for first-time ninth graders, with students assigned to a teaching team including an English, math, science, and social studies teacher. In one high school visited, the grant funded two new teachers, thus reducing class sizes to approximately 20 students. To ease students' transition to high school, first-time ninth graders occupied one area of the school for all core-subject area classes except science (labs were in a separate area). Teaching teams had two conference periods daily: one for individual planning and a shared conference period to discuss student needs, events, and parent conferences. At the mid-point of each six-weeks period, school personnel, including a ninth-grade counselor and assistant principal, contacted parents of failing students to secure support for academic improvement. A key part of ninth-grade reorganization was extensive professional development aimed at helping teachers to understand the teaming process and the need of students in at-risk situations (e.g., understanding poverty, AVID, Capturing Kid's Hearts), and to acquire instructional strategies (e.g., TEX-TEAMS math and science, New Jersey Writing).

- **Ninth-grade teams reportedly strengthened student and teacher support, improved parent communication, and increased focus on student progress.**

Educators in the district that sustained ninth-grade teams said the teaming structure provided "built-in" support because each student had four teachers tracking his or her progress. Teachers also supported each other in a second conference period, which gave them time for meeting with team members outside their personal planning period. The high school assigned a counselor, assistant principal, and alternative strategies coordinator to focus exclusively on supporting ninth-grade students and teachers. Educators said teaming kept the focus on student success and accountability. Housing students in one area made

tracking students easier. When ninth-grade students did not turn in homework or attend tutorials, they received in-school suspension or lunch detention.

Challenges to teaming included rearranging the master schedule, consolidating ninth-grade classes in one part of the building, and overcoming teacher isolation. Administrators worked to change the master schedule and the building configuration to accommodate teams and common lunch periods. Helping high school teachers learn to team with educators outside their curricular areas was a primary administrative challenge. Thus, the school included team training for the duration of the grant.

- **Some educators believe ninth graders are carrying forward organizational habits and responsible behaviors developed in the school-within-a-school.**

Administrators and teachers reported that tenth-grade teachers witnessed a dramatic change in the number of students consistently attending class, coming to class prepared, and attending tutorials. Increased student and teacher support, better parent communication, and increased focus on student success through ninth-grade teams helped reinforced positive school habits. Teachers also believed that separating first-time ninth graders from the older students (in a school-within-a-school) kept them from picking up bad habits from older students.

Learning Centers

- **High school Learning Centers created a hub for coordinating services for ninth graders.**

In one grant collaborative, two districts created a Learning Center on each high school campus to help ninth graders in at-risk situations earn credits and acquire academic knowledge and skills. Although actual implementation varied across high schools due to site-based management, each Learning Center provided a dedicated room with a full-time coordinator known as a teacher-mentor, 25 computers with software, funds to hire tutors, and a full-time, Communities in Schools (CIS) counselor. Despite sharing common elements, each center was implemented differently.

The Learning Center served as an "operational base" to coordinate all ninth-grade services, including tutorials and remediation for students, and instructional support for teachers. In one high school, the teacher-mentor, in consultation with math teachers, adopted and implemented the *Cognitive Tutor* program (described previously) for Algebra I instruction. Other strategies included the assignment of *all* math teachers to at least one section of Algebra I. Thus, all teachers were trained on *Cognitive Tutor*, and veteran and less-experienced math teachers shared responsibility for algebra instruction. The mentor teacher also monitored all ninth-grade algebra grades, and when students performed poorly, they worked with tutors (college students) individually or in small groups.

At another high school, the Learning Center was a point of support for about 300 ninth graders unaffiliated with a magnet school. The teacher-mentor created a school-within-a-school by moving all core subjects for ninth graders in at-risk situations (except lab-based science) into the same hallway shared by the Learning Center. The ninth-grade area also housed services such as the writing center, content mastery, and a *NovaNET* lab. In the Learning Center, 25 computers with Microsoft Office and Internet access were available to ninth graders before and after school, and teachers could bring classes to the center to complete assignments such as Internet research, word processing, and PowerPoint presentations. Students could access tutorials before or after school or by "dropping-in" to the center. Primary tutors were college students (former graduates), with core-subject teachers providing them the names of students who needed help. The NGSI grant also supported extensive professional development to raise teacher awareness of *why* ninth graders' fail, and on topics such as incorporating graphing calculators into lessons.

Integrated Curriculum Classes

- **Integrated curriculum classes reportedly benefited students, but classes were discontinued due to budgetary constraints and other factors.**

One district used the NGSI grant to create small, integrated curriculum classes for first-time ninth graders at risk of failure. A team of instructors taught two groups of 10 to 15 students each. Students attended core-content courses for 45 minutes daily throughout the year rather than following the high school's accelerated block schedule (90 minutes daily for a semester). Interdisciplinary pairs of instructors taught 90-minute blocks, with teachers either switching groups for 45-minute periods or working together to integrate subjects. Four classrooms were equipped

with 25 computers each, supplies, and instructional materials. Teachers had a conference period dedicated to planning, and opportunities for collaboration reportedly improved teacher communication regarding students' learning needs. District math and language arts coordinators provided guidance on monitoring student progress and effective instructional practices, and offered extensive professional development. Educators believed integrated curriculum classes helped address student needs through smaller class sizes and shorter class periods. They said the one-on-one attention in smaller classes helped students learn discipline and the need for high expectations. Despite early successes, district administrators discontinued the classes after the second grant year because they were not considered cost effective.

Hall Academy Model

- **The Hall Academy model (a specialized program for repeat ninth graders featuring computer-assisted, offline, and small-group instruction) was abandoned when program implementation shifted to high school campuses.**

One district originally used grant funds to offer credit recovery programs to students at greatest risk of dropping out of school in an instructional model called Hall Academy. Housed in a building with the district's night school, the academy served repeat ninth graders 16 years or older with fewer than five credits. The district hired teachers with an interest in and aptitude for working with challenging students to provide instruction for students in self-contained classrooms of about 15 students. The instructional design rotated groups of five students through stations: PLATO self-paced computer stations, offline work, and small-group instruction with the teacher. The program was open entry-open exit with the advancement pace set by the student.

After Hurricane Allison destroyed the academy building, program operations moved to the district's senior high schools, and each school implemented its own version of the academy model. Although students in at-risk situations reportedly felt less isolated at their senior high campuses, it was difficult to maintain program integrity and to support teachers adequately. At the end of the grant, little remained of the Hall Academy model at the high school visited. The school assigned repeat ninth graders to core-subject classes with other struggling students. Credit recovery teachers stopped using PLATO software because they did not believe it adequately prepared students for TAKS. The originally envisioned model featuring a balance of computer-assisted, small-group instruction, and individual assignments in credit recovery classrooms had disappeared from this high school by the time of the site visit.

Core-Subject Course Enhancement

- **Core-subject course enhancement occurred infrequently through NGSI grants.**

Districts used NGSI funds most often to implement remedial programs addressing skill deficiencies or credit recovery needs among students in at-risk situations. Proactive efforts to enhance instruction and learning in core-subject area classes during the regular school day rarely occurred, with only 3 of 11 grants making core-subject course enhancement a priority. Two very large districts, as described previously, centered course improvement on computer-assisted Algebra I instruction for ninth graders. In one district, ninth graders received algebra instruction via self-paced, computer-assisted instruction in *I CAN Learn* labs. The district invested in curricular alignment and teacher training to ensure that student learning aligned with the TAKS and was consistent across classes and schools.

Another district collaborative focused on the improvement of Algebra I instruction by purchasing graphing calculators and training teachers on their use. Although hardware, software, and teacher training was available to support *Cognitive Tutor* (a comprehensive Algebra I program), implementation varied by high school. One high school fully implemented *Cognitive Tutor*, with ninth graders working on cooperative problem-solving activities three days a week and completing lessons two days a week in a lab setting.

One very large district centered NGSI resources on each of the four core subject areas. For mathematics, the district invested in *I CAN Learn* algebra labs, graphic calculators, other resources, and teacher professional development. Ninth-grade science teachers received classroom computers, software, and professional development. Social studies teachers received resources such as televisions, computers, atlases, talking globes, and *Inspiration* and *Global Information System (GIS)* software. To support English/language arts, NGSI funds established a writing

lab with 30 workstations at each high school and provided professional development. Another district supported core-subject area course improvement with ninth-grade teams, reductions in student-teacher ratios, and a wealth of professional development for ninth-grade teachers aimed at improving instruction and understanding how to work with students in at-risk situations.

Intense Teacher Professional Development

- **Few districts made professional development for ninth-grade teachers a priority.**

Although many districts included short-term professional development sessions or workshops for teachers on the use of particular technology or software (e.g., PLATO, NovaNET, CompassLearning), only a few districts invested substantial resources and time in professional development aimed at improving instructional practices in classrooms enrolling students in at-risk situations. Districts that invested in core-subject course improvement typically also included intensive teacher professional development. In one district, ninth-grade teachers who were involved in implementing integrated curriculum classes for ninth graders in at-risk situations reportedly received NGSI-funded training, including topics such as Boys Town Reading, curriculum integration, TEKS-based writing, algebra, gifted and talented strategies, and Capturing Kids' Hearts. Although the innovative classes were discontinued, teachers continued to benefit from classroom resources and training provided through NGSI.

Teacher professional development was a key part of the implementation of the *school-within-a-school* concept in one district. According to campus administrators, ninth-grade team members received content-specific training, such as TEXTEAMS math and science, Algebra I training, New Jersey Writing, and TAKS science strategies. Other training, more general to all ninth-grade teachers, included higher order questioning strategies, understanding the TEKS, brain-based learning, gifted and talented strategies, teaming, active learning with technology, and cooperative learning. Staff also attended professional development related to meeting the needs of students in at-risk situations, including understanding anger and poverty, conflict resolution, AVID, and Capturing Kids' Hearts.

One very large district focused professional development on core subject areas. For example, algebra teachers attended TEXTEAMS training, training and assessment of mastery of graphing calculators, and use of the *I CAN Learn* self-paced algebra curriculum. Science teachers received training on the use of *A+dvanced Learning* software among other topics. English I teachers received training on the use of writing software and other lab-based writing modules developed by the district. Another large district collaborative targeted professional development activities to support ninth-graders, although the focus varied by district and campus. All algebra and science teachers could receive training on integrating graphing calculators into their coursework, and algebra teachers could participate in training sessions on the *Cognitive Tutor* program. Teacher-mentors assigned to a Learning Center on each high school campus, also provided professional development and ongoing support for ninth-grade teachers in core subject areas.

CHAPTER 3
FINDINGS—GRANT ORIGIN, IMPLEMENTATION, AND SUSTAINABILITY

The Texas Education Agency (TEA) awarded NGSI grants through a competitive process, with awards based on the quality of the proposed program and the school district's demonstrated need. Districts responded to the Request for Application (RFA) by describing ninth graders' needs, program goals, project objectives and activities, as well as the plan for grant management and budget allocations. For this report, researchers reviewed districts' NGSI Standard Application documents and also inquired about grant development and management during interviews with district and campus officials.

GRANT DEVELOPMENT

- **NGSI grant development primarily involved campus and district administrators.**

Central and campus administrators developed almost all NGSI grants studied. Grant development typically involved high school principals, district curricular or instructional specialists, and other central administrators (e.g., assistant superintendent for curriculum, district executive cluster director, grant or program directors). For the most part, teachers played no significant role in grant development or the selection of NGSI program components. Some grant officials, however, reportedly consulted with or surveyed teachers' concerns as part of the needs assessment or program development process.

- **District needs assessments provided extensive information on student baseline indicators (e.g., course passing, retention, attendance), but less information on root causes of student failure.**

In general, districts did excellent work gathering and presenting statistical data on the status of ninth graders in at-risk situations for indicators such as course passing, retention, and attendance rates, and academic performance on state assessments. Most districts provided less information—beyond identifying student demographic factors such as economic disadvantage, lack of family involvement, risk indicators (pregnancy, drug abuse)—on other underlying causes that might explain students' lack of success in the existing educational program.

GRANT IMPLEMENTATION

- **Broad-based input into grant planning and development, thorough program planning, campus administrative support, and teacher "buy in" were associated with successful grant implementation.**

Because grant planning generally involved district and campus administrators, those closest to the ninth-grade problem—teachers—typically were excluded. One very large district, however, did take a broad-based approach to planning. In this district, primary responsibility for grant planning and monitoring fell to an administrative management team, with input from a principal planning group (high school principals) and an advisory committee (community members, business leaders, and parents). The management team also relied on feedback from district evaluators as they targeted subject areas and decided which district programs showed the greatest success and should be expanded. Even in this district, however, teachers did not play a substantive role in grant development and management.

In one high school in a large district, thorough planning, teacher buy-in, and principal support were critical to the successful implementation of the school-within-a-school concept. In this school, ninth-grade teachers created a detailed plan with administrative support for funding, management, and full implementation. Administrators said they did not need to "work on teacher support" for grant initiatives because they "built the plan around what the teachers wanted."

Overall, administrative grant development devoid of substantive teacher input led to programs with overly broad and unattainable goals, programs in which only a select group were fully aware of program activities, and programs that changed focus when the original grant developers left districts and/or campuses. In general, planning and implementation could have been improved with greater teacher input on learning strategies for at-risk students and teacher involvement in decisions about the effectiveness and continuation of grant activities.

- **Staff and administrator turnover undermined consistent grant implementation and frequently led to program changes.**

Most NGSI grant projects experienced implementation problems due to turnover in project management staff or changes in district and campus leadership. For some districts, staff turnover meant that individuals originally involved in developing and implementing the proposal left the district or moved on to different positions. In one district, a "looping" administrative structure, designed to ensure that administrators and teachers worked with the same group of students over time, undermined program stability as it gave each new class of ninth graders (and thus, the NGSI grant) new campus leaders each year. In larger districts, high school campuses typically had their own campus NGSI coordinator. However, smaller districts experienced implementation problems when directors were not part of the high school staff.

Inconsistent NGSI program leadership led to a number of implementation issues. Some activities outlined in the grant proposal were not implemented in later years. Changes throughout the four grant years also disrupted program continuity for students in at-risk situations. In some districts, new administrators with different educational philosophies changed the direction of the NGSI program. For example, due to site-based management, an acting principal at one high school realign the NGSI program with his/her perceptions of the school's greatest need. Some programs changed every year, and even apparently effective programs changed under a new principal.

- **Dedicated program management at both the district and campus level appeared to work best, especially in larger districts.**

Across all projects, the presence of dedicated and consistent program management resulted in more consistent program implementation. For large and very large districts, dedicated district and campus level management contributed to implementation fidelity. For example, one district project director supported the successful implementation of the Learning Lab concept across eight high schools by ensuring the development of a consistent, coherent curricular sequence for all labs, the alignment of NovaNet curriculum with district instructional objectives, and the provision of training for campus-level staff. At the campus level, a project coordinator provided implementation oversight for the Learning Lab concept according to certain criteria. Lab staff, including teachers, student liaisons, and counselors, participated in ongoing training and met as separate groups at least twice a year to share successful strategies. In another very large district, campus principals stressed the need for district oversight. Administrators believed that when a large school district receives a grant, a project director position is a necessity. One administrator explained, "You have to have that person that knows everything. Principals are so inundated. They don't need one extra thing."

In one district, a teacher with a full class load was expected to manage the NGSI program at a high school campus. Although hard-working and dedicated, the absence of release time to manage the program contributed to implementation problems. In other districts, the presence of strong campus-based NGSI program management at least partially relieved the negative impact of administrative turnover.

- **NGSI program changes more often reflected expediency and opinion rather than systematic decisions about program effectiveness.**

Changes to NGSI programs more often resulted from differing educational philosophies of new administrators, budgetary constraints, or unexpected events. For example, a new principal in one district discontinued integrated curriculum classes (teams of core-subject instructors with reduced class sizes) due to cost considerations. Teachers believed the model was working but was not sustained long enough to measure effectiveness. In a very large district, a new superintendent shifted the NGSI focus from ninth-grade teams to a district-wide emphasis on vertical teams in grades 9-12. Site-based decision-making altered NGSI grant direction elsewhere as campus administrators modified the NGSI program vision to meet their perceived needs for campus ninth graders.

In another district, Hurricane Allison destroyed the Hall Academy Model school, changing the NGSI grant focus from a specialized school with a specific instructional model to a credit recovery program implemented differently at each school. Unfortunately, over the grant period, the initial model of effective instruction for at-risk students (computer-assisted instruction, offline lessons, and small-group instruction) eroded as each high school assumed project oversight.

- **Implementation reality seldom reflects the theoretical and/or research-based language included in proposals.**

Motivated by grant dollars, districts tend to write complex grant proposals that propose multiple project components and use research-based rhetoric to tout their benefits. In reality, many of the described program components are never implemented. For example, one district outlined an ambitious plan to provide academic support for ninth graders in at-risk situations along with peer tutoring, counseling, affordable mental health and substance abuse services, and opportunities for parent involvement. In reality, the district implemented after-school tutorials and credit recovery in PLATO labs. Another district's plan to provide adult mentors for each at-risk ninth grader never materialized. In many other instances, discontinuity existed between the *proposed* and *implemented* project. TEA staff limitations mean limited oversight for grant implementation, which in turn bolsters a tendency for districts to promise what they believe grant application reviewers will rate highly. Districts seem well aware that TEA focuses primarily on regulatory and financial compliance, and that evaluation primarily involves self-reporting.

GRANT SUSTAINABILITY

An inherent problem with competitive grants is the commitment and capacity of districts and campuses to sustain initiatives beyond the grant-funding period. Thus, researchers gathered information on prospects for the continuation of NGSI interventions.

- **Changes in administrative leadership and staffing had the greatest negative impact on the implementation and continuation of NGSI programs.**

Disruptions created by leadership and staffing changes emerged as the primary threat to NGSI program sustainability. Problems with administrative and staff turnover were cited in 8 of 11 grants, and negative effects appeared more acute in small-to-mid-size districts with fewer human and financial resources to weather periods of change. In one small district, campus and district-level staffing changes since the first grant award meant that most individuals familiar with the original grant application were no longer on staff during the site visit. Due to staff turnover, some activities outlined in the original grant application were not implemented during the last grant terms. In another district, 4 of 6 program components were discontinued in four grant years due to administrative changes, district rather than campus-level oversight, and a lack of teacher involvement in grant planning. In a different district, the entire focus of the grant changed when the NGSI program moved from a freshman school to the senior high, following the school principal from one administrative assignment to another. An organizational structure referred to as "looping" (principals and counselors staying with students as they advance to the next grade level) disrupted campus program implementation in another district as new project leaders each grant year undermined the NGSI program's stability.

In 2 of 4 very large districts, superintendency changes affected NGSI grant implementation. A new superintendent with a different theoretical perspective and a desire for continuity across eight high schools shifted one district's grant focus from horizontal teams (ninth-grade teams) to vertical teams (grades 9-12 teams). In a collaborative involving two districts, the original project director left the district, and because the new project director had no authority over campus-level program direction, no unifying vision for the grant emerged. The lack of influential central administrative leadership, coupled with strong site-based management, left each campus free to design its own program.

- **Programs least likely to be sustained beyond the grant period were those that proactively addressed the needs of newly promoted or first-time ninth graders.**

An analysis of discontinued program components revealed that many programs designed to help eighth graders transition from middle-to-high school or to help first-time ninth graders' complete core subject-area coursework did not survive the end of grant funding. For example, three algebra camps and one summer program created for at-risk eighth graders newly promoted to ninth grade did not survive. Districts eliminated programs even though educators almost unanimously believed they helped students academically and eased their transition to high school. Poor student attendance, most often cited as an obstacle to success, may partially explain discontinuation.

Other efforts to create innovative programs to improve learning opportunities for students in at-risk situations also proved difficult to sustain. In one dis-

trict, integrated curriculum classes (with technology, interdisciplinary instruction, and reduced class sizes) failed to survive. In another district, the proposed use of technology and college tutors to enhance learning in ninth-grade classrooms never materialized. In still another district, the Hall Academy model (designed to include a combination of computer-assisted, off-line, and small-group instruction) disappeared before the conclusion of the grant. District-wide efforts elsewhere to improve instruction for all at-risk ninth graders through teacher professional development and the implementation of ninth-grade teams were discontinued in early grant terms.

One high school served as an exception to this trend by successfully restructuring its ninth-grade program as a school-within-a-school. Due to the success of the NGSI program, all components were sustained with Title I funds and were in place during the site visit (school-within-a-school, trailer courses, extended-day, and extended-year programs).

- **Skill remediation and credit recovery programs for ninth graders, and existing programs enhanced by NGSI funds were most likely to be sustained beyond grant terms.**

An analysis of program components continued at the grant's end revealed three types of programs most likely to be sustained: 1) computer-assisted instruction; 2) extended-day programs; and 3) summer school. Efforts initially focused on ninth graders in at-risk situations often expanded to include *all* at-risk students in the high school after the grant ended.

Computer-assisted instruction. Nearly all districts that invested NGSI funds in technology and computer-assisted instruction continued using hardware and software for at-risk students, although programmatic focus and student eligibility sometimes changed. Districts nearly always sustained some form of self-paced credit recovery opportunities in computer labs (using PLATO and NovaNET software). One district continued using *I CAN Learn* labs for algebra instruction. Another district high school continued the *Cognitive Tutor* algebra program, but commitment to the program varied in other high schools.

CompassLearning labs for supplemental algebra and English instruction were sustained in one district. Teachers and students also continued to benefit from other resources, such as mobile laptop carts, graphing calculators, writing labs, and in a few cases, classroom computers and instructional materials.

Summer school. Credit recovery opportunities through summer programs or summer school also were frequently continued, most often sustained by Optional Extended Year Program (OEYP) funding to grades K-12. Programs originally designed to serve only ninth graders appeared to be subsumed within more comprehensive summer programs.

Extended-day programs. The continuation of extended-day programs funded through NGSI was mixed. One district discontinued its after-school credit recovery program while another district abandoned an attempt to provide after-school tutorials for ninth graders. Poor student participation was a key factor in both decisions. Other districts remained committed to extended-day programs. One district high school that mandated student attendance and relied on parent support, planned to continue its ninth-grade extended-day program.

CHAPTER 4
FINDINGS—BROADER NINTH-GRADE CONTEXT

Any grant program operates within the broader context of the campus and school district as a whole. Thus, researchers examined not only the NGSI program but also the school context experienced by ninth graders in at-risk situations. Topics explored came from a review of NGSI program objectives and recent research on recommended improvements in the nation's high schools (e.g., American Youth Policy Forum, 2000; Frome, 2001; National Association of Secondary School Principals (NASSP), 1996/2003). They include standards and expectations, school structure and organization, opportunities for extra academic assistance, guidance and counseling services, and challenges meeting ninth graders' needs as they transition from middle to high school. Respondents who could provide the most accurate or insightful information on a topic served as the informational source.

STANDARDS AND EXPECTATIONS

Many educators and policymakers see consistent subject-area standards, related assessments, and high expectations for *all* students as a way to improve learning outcomes for at-risk students (Harvey and Housman, 2004). Texas has been at the forefront of the standards movement with the creation of a statewide curriculum in 1985, and a Texas public school accountability system in 1993 that integrated the curriculum with criterion-referenced assessments. Growing concerns that Texas high school students were unprepared for knowledge-based work and higher education led to the Recommended High School Program (RHSP) and the Distinguished Achievement Program, both of which require more academically rigorous coursework than the Minimum High School Program. The 77th Texas Legislature made the RHSP the default curriculum for the senior class of 2008. To gauge progress toward higher standards and expectations, researchers asked educators to describe ninth-grade coursework expectations.

- **In nearly all high schools visited, the Recommended High School Program is currently the default curriculum.**

Texas high schools are endorsing more rigorous academic standards. Even though state requirements for the RHSP apply to students entering ninth grade in the 2004-05 school year, ninth graders in 11 of 12 districts visited are automatically enrolled in the recommended program (24 credits) rather than the minimum plan (22 credits). Under state law, however, a student can graduate under the minimum plan with permission from a parent or guardian, counselor, and principal. In most cases, the minimum plan is considered in districts only as a last option to facilitate graduation. Two districts adopted even higher standards, with one requiring four years of math and science and another requiring 28 credits to graduate. In another district, students are highly encouraged to follow the RHSP, as the high school progressively phases out the minimum plan in anticipation of the recommended program becoming the state's default graduation plan.

- **Many districts have established more rigorous promotion standards to ensure that ninth graders are prepared for the Texas Assessment of Knowledge and Skills (TAKS).**

Many high schools are reconsidering standards for promotion to tenth grade in response to statewide testing in ninth grade. Although four of the districts visited still required only 5 credits to advance to tenth grade, six districts required 6 or 6½ credits. Besides a trend toward requiring more credits, some high schools also require the successful completion of core-subject courses as a requisite for promotion to tenth grade. For example, in one district, ninth graders must earn 6 credits, including credits in English I, Algebra I, World Geography, and science. Of the 12 districts visited, 5 require credits in the four core-subject areas for promotion to tenth grade.

STRUCTURE AND ORGANIZATION

Many proponents of high school reform believe the organization and use of time affects the quality of teaching and learning. Recommendations often include creating smaller units within large comprehensive high schools, developing flexible scheduling, changing the departmental structure, or rethinking the traditional 180-day school year (e.g., NASSP, 1996/2003). As researchers visited high schools for this study, it became clear that many were experi-

menting with organizational structures as a way to bolster the achievement of students in at-risk situations.

- **Although most high schools retain the traditional grades 9-12 structure, some have created smaller, more supportive units within the high school.**

Some districts require organizational continuity across high schools, while others give campus administrators autonomy in this area. Of 12 districts visited, most had a traditional, grades 9-12 high school structure, with student enrollments ranging from about 500 to 2,200. Still, in a number of districts, educators have organized high schools into smaller units to address particular student interests or needs. In two districts visited, ninth graders are housed in separate buildings. In one mid-size district, 800 ninth graders attend a *freshman school* and 1,800 students in grades 10-12 attend the senior high. In another district, four senior highs (~2,100 students each) are paired with *ninth-grade schools* (~900 students each). This configuration reportedly benefits students by easing crowding and reducing discipline problems, thus allowing maximum attention to ninth graders' academic and emotional needs.

High schools in other districts have created *schools-within-a-school* in an effort to provide a more supportive and structured environment. In one case, *vertical teams* of teachers, administrators, and counselors serve about 500 students in grades 9 through 12 (e.g., schools A, B, C, and D). Some high schools in another district have created a different kind of school-within-a-school, with *horizontal teams* of core-subject teachers, an assistant principal, an alternative strategies coordinator, and a counselor focusing exclusively on ninth graders. In many high schools visited, *magnet schools* are another way to match smaller school structures to student interests. However, selective enrollment in magnet schools often eliminates at-risk students.

Another district, motivated by purely logistical reasons, created a grades 9-10 high school (~2,100 students), a grades 11-12 school (~1,600 students), and a grades 9-12 high school (~1,600 students). Although it housed fewer grade levels, the grades 9-10 high school did not appear to provide benefits often associated with a ninth-grade campus—perhaps because of the school's large student population and lack of a coherent plan to address ninth-grade issues.

Educators who have reconfigured their high schools into smaller, more supportive units cite benefits such as an easier student transition to high school, reduced class size, strengthened communication among teachers, one-on-one student attention, a focus on student needs and progress monitoring, student visibility and accountability, reductions in student discipline and attendance problems, better parent communication, and the carryover of positive habits into higher grades. Negative aspects include relatively minor scheduling problems and isolated resistance to the relocation of classrooms and teachers. A greater challenge is preparing teachers to work effectively in teams and overcoming the traditional isolation and independence of high school teachers.

- **Scheduling approaches vary widely, but high schools appear to be shifting from block schedules (90-minute periods) to traditional, single-period schedules (50-minute periods).**

During the 1990s, the use of block scheduling increased dramatically, as Texas high schools aimed to enhance student learning by providing longer periods of instructional time (TEA, 1999). Data collected for these case studies, however, suggest that many high schools are rethinking this approach. Several high schools have returned to the traditional, single-period daily schedule, with students attending 7 or 8 classes each day throughout the school year. As with school organization, some districts require consistent scheduling patterns across high schools, whereas others give campuses the freedom to tailor schedules to fit student needs. In two-thirds of districts visited, high schools either have or soon will have 7 or 8-period days, with 45 to 52-minute class periods. One high school has 60-minute periods Monday through Thursday, and a half-day schedule on Friday, which leaves school time in the afternoon for academic enrichment, tutorials, or core-subject review.

Other districts and high schools continue to implement various block-scheduling configurations. In three districts, high schools use A/B (alternate day) block schedules, with students attending six to eight, 90-minute classes that meet every other day throughout the school year (i.e., half of the classes meet one day, and half meet the following day). High schools in two other districts have accelerated block schedules, with students taking four, 90-minute courses for 18 weeks in both fall and spring semesters. Thus, instruction that typically stretches over the course of an entire 180-day school year is compressed into one

semester of double-blocked periods. One district, after conducting a study of scheduling options in response to differing opinions on block scheduling, adopted an "accelerated/extended" schedule that combines an accelerated block schedule (four, 90-minute classes lasting one semester) with one 45-minute class lasting the entire school year.

Educators cited a number of scheduling factors that affect the performance of students in at-risk situations. First, many teachers believe that daily contact with at-risk students is critically important; that they learn less effectively with alternate-day schedules. Student attention span is also a concern, as some educators believe at-risk students cannot maintain focus for 90 minutes. In contrast, administrators in one magnet high school believed the alternate block schedule effectively accommodated its career and technology emphasis. Overall, each high school's schedule affected the number of credits a student could earn per semester or school year. The number of "earnable" credits varied across schools from 6 to 9 credits per year. The ability to earn credits is especially important for at-risk students, as retaking core-subject courses in high school reduces students' ability to take electives, participate in extracurricular activities, and meet credit requirements for promotion.

- **A few high schools modified their schedules to give extended learning time to ninth graders considered at-risk of academic failure, primarily in algebra and English.**

In three districts, school officials modified schedules to accommodate the learning needs of newly promoted ninth graders at risk of failing either algebra or English. In one district, all students who get fewer than 70 percent of items correct on the TAKS eighth-grade reading or mathematics assessments are enrolled in "extended" English I and/or Algebra I. Extended classes meet 90 minutes daily for the entire year. First-time ninth graders in this district also are enrolled in year-long, 45-minute Algebra I and English I courses rather than accelerated block classes. In another district, ninth graders with low eighth-grade math scores enroll in "extended" Algebra I classes, designed to target TAKS-related skills for 90 minutes every day. In yet another district, ninth graders with low eighth grade math scores enroll in "extended" accelerated block classes, meaning they attend Algebra I classes 90 minutes a day for the entire year.

In general, although extended courses appear to be helpful academically, enrolling at-risk students in extended classes lessens the number of credits they may earn in a year. Students who fail courses also may lose an elective to free schedule space for credit recovery. The cumulative effect of inadequate preparation for high school coursework and academic failure is a narrowing of coursework options that might support at-risk students' personal learning goals and make high school more engaging.

EXTRA ACADEMIC ASSISTANCE

Many advocates for high school improvement include extra academic assistance as a recognized instructional strategy to enhance student-learning outcomes. In particular, extra help is considered a key practice in creating *High Schools that Work.* A structured system of extra help is considered essential for helping unprepared students to complete an accelerated program of study (Frome, 2001). Correspondingly, Texas law requires public schools, including high schools, to offer an intensive program of instruction to students who are at risk of dropping out of school or who do not perform satisfactorily on state assessments. While the NGSI offered one means of extra academic assistance for students in at-risk situations, many districts and campuses implemented other programs as well. Thus, researchers asked educators to describe any extra assistance provided for at-risk students and to identify successes and challenges encountered in meeting students' needs.

- **All districts and high schools visited offer extra academic assistance to at-risk students, but some take a more structured approach.**

In the districts visited by researchers, all high schools offered tutorials for at-risk students—however, delivery methods, schedules, and attendance requirements varied considerably across districts and campuses. In about half of districts, educators described the provision of tutorials as informal arrangements between at-risk students and teachers rather than scheduled events. Tutorials typically were scheduled before, during, or after school or on Saturdays to provide academic assistance, preparation for the TAKS, or to make-up for incomplete assignments or excessive absences. For example, in one high school, individual teachers schedule tutorial sessions at their own convenience, usually in morning or afternoon sessions on Tuesday, Wednesday, or Thursday, or a Saturday

session. In another school, teachers announce in class the days they are available to help after school, and it is up to the student to attend.

Other districts took a more structured approach to academic assistance, in some cases mandating student attendance. For example, one high school with ninth-grade teams offered tutorials before, during, and after school as well as some Saturdays. Each student who failed two, six-week periods in a core-subject course was placed on an individualized "contract" (received by the parents), which specified needed improvement and the extra academic assistance available. In another district, at-risk students (those scoring poorly on TAKS) in at least one high school are automatically assigned to one-hour, after-school tutorials. A high school in a smaller district also implemented mandatory tutorials before and after school for students with a grade below 75 in any core academic course.

In another district, teachers reportedly are available for tutorials both formally and informally, with math tutorials held for 30 minutes each morning. At midday, students can attend tutorials during lunch, and each day after school, three to four classes of formal tutorials meet for 2½ hours, with math tutorials offered daily. Ninth graders who fail a benchmark assessment (given every three weeks) must attend an after-school "re-teaching" session for 2½ hours then take another assessment at the end of the teaching period. In both ninth-grade and senior high schools, students who fail a course for a nine-week period can make up the credit in a fifth-period class.

- **Although educators and student participants believe tutorials are helpful, most at-risk students do not attend unless they are required.**

In general, educators and students believed that extra academic assistance benefited students in at-risk situations. Students appreciated a different kind of instruction, one-on-one attention, and help with assignments. Still, despite perceived benefits, both educators and students said student participation was a major problem. Although one district offered a wealth of academic assistance (tutorials, re-teaching, fifth-period classes), educators said it was very difficult to get ninth graders to attend, especially the after-school sessions. At-risk students in focus groups, both first-time and repeat ninth graders, said they seldom or never attended tutorials, and of those who participated, most did not attend on a regular basis. Some students said they attended tutorials when they were mandated.

- **Barriers to participation in tutorials include transportation issues, lack of motivation, scheduling difficulties, after-school conflicts, and perceived benefits.**

Educators and students cited a number of barriers to student participation in academic assistance. Educators frequently said limited access to *transportation* prevented some students from attending tutorials before or after school. In response, some high schools relied on daytime tutoring (during lunch) as much as possible. Other educators attributed poor student attendance to at-risk students' *lack of motivation*. As one teacher explained, the students who show up are "the ones that want to learn."

Students in high schools with informal tutorial arrangements cited *scheduling challenges*. Students said tutorials were sometimes difficult to arrange with teachers, when "availability depended on the teacher." These students preferred a "set schedule" rather than informal negotiations with teachers. Other students, even though they regarded tutorials as helpful, cited *after-school conflicts* such as babysitting, extracurricular activities, jobs, and family responsibilities.

Other students *did not see the benefits of tutorials*. Some students said they needed tutorials to make up unexcused absences and avoid failing a class but did not regard them as valuable learning experiences. A few highly at-risk students said tutorials re-taught material that was impossible to understand the first time, but because students still did not fully understand the material even after attending tutorials, they were not inclined to commit after-school time. Other students believed that not enough time was allocated for before- or after-school tutorials to get the in-depth assistance they needed.

GUIDANCE AND COUNSELING

Both empirical evidence and educators' practical experience confirm the link between student motivation to learn and school achievement. Evidence has shown that three sets of psychological principles—a student's beliefs about competence and control, values and goals, and a sense of social connectedness—at least partially mediate the educational environment's effect on student academic motivation. Thus, educa-

tional programs must address students' needs in these three areas to be wholly successful. In short, students must not only believe they can succeed—they must also see some reason to do so (Institute of Medicine, & National Research Council, 2004).

Access to guidance and counseling services at school can help at-risk students establish personal goals and see how current efforts yield future educational and career benefits. Recognizing the importance of educational goals for students, particularly those at risk for failure or dropout, the 78th Texas Legislature mandated the development of personal graduation plans for at-risk middle and high school students (TEC §28.0212). Thus, researchers asked both administrators and students to describe at-risk students' access to guidance and counseling services and to advisement on higher education.

- **Guidance and counseling services for at-risk students are limited in many high schools by counselor-to-student ratios that exceed recommended standards.**

Based on available information from 10 high schools in eight small-to-very large districts, the estimated counselor-to-student ratio ranged from 1:243 to 1:535, with an average of one counselor to every 388 students. Counselor-to-student ratios in half of the high schools exceeded the 1:350 maximum ratio recommended by Texas school counselor and administrators' associations, and far exceeded the 1:250 ratio favored by the American School Counselor Association.

Districts and campuses approach counselor assignments differently. Some schools assign counselors to work primarily with targeted grade levels (e.g., ninth and tenth graders, repeat ninth graders) or with alphabetical student groups (e.g., students with names A-F). One district assigns counselors to topical areas, such as migrant students, or career and technology. A growing trend is the assignment of counselors to ninth-grade teams or grades 9-12 teams to create more personalized, sustained contact with students throughout their school careers. For example, in a high school with ninth-grade teams, one counselor attends team meetings and parent conferences, and counsels ninth graders on academics and other issues. Another very large district assigns a counselor to a group of about 500 students as they progress through their high school career in a school-within-a-school (vertical team of grades 9-12 teachers and students).

- **Contact between ninth graders in at-risk situations and contact with counselors is primarily limited to the selection of courses or programs; older students (15-17 years old) more often receive information about jobs and careers, or how to improve academic work.**

At-risk students' responses to a questionnaire (192 first time and repeat-ninth graders) shed light on their interactions with both counselors and teachers (see Tables 4.1 and 4.2). During focus groups, about two-thirds of students reported contact with a counselor "to select courses or programs at school;" about a third said they sought information on jobs or careers, or counseling on personal problems or academics. As expected, students contacted teachers most often "to help improve academic work" or "to discuss things studied in class."

Table 4.1. Percent of Students Reporting Contact with a Counselor or Teacher

Survey Item	Counselor	Teacher
To select courses or programs at school	64.9	31.4
To get information about high school or high school programs	39.6	42.9
To get information about jobs or careers	29.5	31.1
For counseling on personal problems	29.3	17.2
Because of discipline problems	24.9	29.6
To help improve your academic work at school right now	36.4	70.0
To discuss things you've studied in class	14.9	75.1

Note. 192 students completed the questionnaire during focus groups.

Table 4.2. Percent of Students Reporting Contact with a Counselor or Teacher, by Student Age

	Counselor			Teacher		
	Student Age			Student Age		
Survey Item	14	15	16-17	14	15	16-17
To select courses or programs at school	64.5	64.8	65.2	29.2	32.5	30.9
To get information about high school or high school programs	35.5	40.0	40.8	50.0	48.1	32.1
To get information about jobs or careers	17.2	31.0	32.8	33.3	25.3	38.9
For counseling on personal problems	23.3	31.5	29.0	8.3	19.5	17.5
Because of discipline problems	22.6	25.6	25.0	28.0	30.1	29.5
To help improve your academic work at school right now	23.1	38.5	39.3	72.4	67.0	73.0
To discuss things you've studied in class	4.0	15.1	20.0	71.4	71.1	81.7

Note. Respondents included 14-year-olds (n=31), 15-year-olds (n=90) and 16- to 17-year-olds (n=71).

Surprisingly, students in at-risk situations were equally as likely to contact a teacher as a counselor for "information about high school or high school programs" or "jobs and careers." Further, at-risk students' contacts with counselors vary by age. Older students (15-17-year-olds) are far more likely to report contact with a counselor "to get information about jobs or careers," "to help improve academic work," and to "discuss things studied in class." Contacts with teachers remain relatively stable across age categories, except older at-risk students tended to look to teachers "for counseling on personal problems" more frequently.

- **Ninth graders' interactions with counselors on high school plans occur most often in groups rather than individually.**

Additional information on guidance and counseling services for students in at-risk situations came from student and teacher focus groups, and interviews with administrators. Considering the high counselor-to-student ratios, it is not surprising that students report few opportunities for personal interaction with a counselor. Student advisement on course selection and other issues appeared to come more often through group activities.

Educators and some students in seven districts described efforts to help eighth graders transition to high school. Counselors reportedly visit middle schools in the spring and help groups of students learn about high school course requirements, preregister, identify career goals, and complete coursework plans. In one very large district, counselors schedule 20-minute interviews with each middle school student and his or her parent to explain high school expectations and help with course selection. In one small high school, students are counseled on degree plans, credits, and courses upon entering high school and throughout their academic career.

When questioned about their four-year high school plan, most ninth graders seemed uncertain. Some students in districts recalled meeting with counselors; others did not. Similarly, some students knew which high school graduation plan they were pursuing; others did not. A number of ninth graders reported talking to a counselor in eighth grade about coursework needed in ninth grade. At another high school, ninth graders said they had talked with a counselor in eighth grade about their four-year high school plan, but not since. Other high school students reported limited one-to-one access to counselors regarding their four-year high school plan and other issues.

Results were mixed for older students. Repeat ninth graders in one high school said they had not talked to a counselor about their four-year plan; at another school, they had a hard time seeing a counselor. Older students did better with accessing counseling services. Tenth graders at one school said they had a plan; elsewhere, they said counselors explained credits, and counselors and teachers helped them find ways to recover credits. Confirming the trend that older students seem to get more counseling attention, repeat students reportedly see a counselor once a year, but seniors have first priority to ensure they are on track to graduate.

Students in two districts reported greater personal access to counselors. Students at one small high school (with a 1:243 counselor-to-student ratio) were well aware of the credits they had and the number they needed to graduate. Similarly, in a district where counselors conducted individual interviews with students and parents at the middle schools, students also reported that they had discussed the recommended plan and required coursework with counselors.

- **Most students in at-risk situations report limited contact with counselors regarding higher education and career options, but access varies across districts and schools.**

Teachers and administrators are more likely than students to describe efforts to inform at-risk students about higher education and career options. In one district, educators said counselors and the school's GEAR UP program (e.g., meeting with representatives from colleges) were good sources of college information. Officials from another district vindicated that the career counselor guides students to a "tech prep, career and technology, or college prep path" by keeping folders on every student, working with students unsure of a career path, and helping students choose colleges or technical schools. Academic counselors also make sure students select appropriate courses to maintain their career paths. Counselors at another school say they emphasize higher education early on in high school and encourage ninth graders to take the PSAT to prepare for college entrance exams.

Three districts reported the use of a ninth-grade career connections course. In one ninth-grade school, all students receive counseling support through a required ½ credit Career Connections class where they choose a career, practice looking and applying for jobs, and then write their four-year plan for high school. Counselors advise students on graduation requirements and colleges during the course. In another district, all ninth graders must enroll in the ACE (scholarship program) career connections course. High schools reportedly assign an ACE counselor to help students apply for college admission, complete federal financial aid applications, and complete scholarship forms. Students meeting ACE requirements receive money for college if they attend a local university or college. First-time and repeat ninth graders said they had talked to the ACE coordinator about the program and financial aid.

Despite initiatives described above, 70 percent of ninth graders said they had not discussed careers or higher education with their counselor. Still, many ninth graders seemed interested and excited about the possibility of post-secondary education, and some students had specific career asperations, such as anesthesiologist, computer programmer, and business owner. In one high school, a student wanted to be an obstetrician and another a teacher, but neither knew what it took to achieve these goals. Although all ninth graders wanted to go to college, only one had talked to a counselor about necessary preparations.

- **Students in at-risk situations generally have lofty educational aspirations, but older students have lower expectations for higher education.**

When surveyed about future educational plans, at-risk students in focus groups expressed high expectations (see Table 4.3). Almost all students intended to at least finish high school, four out of five aspired to post-secondary education, nearly three-fourths planned to attend college, and another 8 percent planned to attend a vocational or trade school. Of those anticipating college, about a third planned to graduate and another 14 percent expected to attain a graduate degree.

However, as students get older, they tended to be less optimistic about how far they will get in school. Compared to younger students, 16 to 17-year-olds are more than twice as likely to view high school graduation as their highest educational attainment. Even though older students are more likely than younger students to say they will attend college, they are less likely to believe they will graduate from college or pursue graduate school.

NINTH-GRADE CHALLENGES

Given the emphasis of the NGSI grant, researchers asked teachers and administrators to reflect on the challenges and issues of working with ninth graders. Students also discussed their ninth-grade experiences and challenges. Comments tended to revolve around two key areas: 1) differences between middle and high schools; and 2) student-related issues.

Table 4.3 Students Future Educational Plans, by Age (Percent)

How far in school do you think you will get?	Student Age			All Students
	14	15	16-17	
Won't finish high school	0.0	5.5	2.9	3.7
Graduate from high school	6.7	12.1	25.0	15.9
Vocational, trade, or business school	0.0	11.0	7.4	7.9
Attend college	20.0	20.9	32.4	24.9
Graduate from college	46.7	33.0	27.9	33.3
Attend higher schooling after college	26.7	17.6	4.4	14.3

Note. The 202 respondents included 14-year-olds (n=33), 15-year-olds (n=96), and 16 to 17-year-olds (n=73).

Middle and High School Differences

- **Differences in school size and organization, grading systems, educational philosophy, teacher characteristics, and academic expectations make the middle to high school transition difficult for ninth-graders.**

Both educators and students say that differences between middle and high schools create transition difficulties, especially *school size, student enrollment, and organizational features*. Educators said students who attended smaller middle- or ninth-grade schools with 700 to 800 students have difficulty transitioning to a large campus with nearly 2,000 students. Both educators and students said ninth graders "get lost" in large high schools. One administrator said, "It is hard for a kid to cut class in junior high…[but] not in your larger high schools. It's possible for a kid to come to first period, skip second period, go to third period, and nothing is ever said." Students indicated that it not only was "complicated" getting to class, large high schools made it harder to get to class on time.

Teachers in one district said distractions—such as more people, older kids, a larger building, and more events—make it harder for students to navigate high school. At the same time, they are given more freedom and expected to be more responsible. Many large schools also have crowded classrooms. A number of teachers in one district said large classes (student-to-teacher ratio of about 28:1) precluded one-on-one instruction. Students also believed that high schools could be improved with smaller classes and more individual help. An administrator cited the difficulty of mixing 14-year-olds with 18- and 19-year-olds, saying that in some cases, younger students feel peer pressure from older kids to try drugs in high school.

Box 4.1. Ninth Graders' Challenges in Transitioning to High School

Middle and High School Differences

- School size and organizational features
- Grading and credit system
- Educational philosophy
- Teacher characteristics
- Academic expectations

Note. Order reflects most frequently cited challenges from high to low.
Source: Interviews with high school administrators (n=47) and focus groups involving teachers (n=124) and students (n=202).

Grading system differences between middle and high schools also cause problems. Teachers in one high school said students have difficulty understanding high school grades and credits, especially since middle school students are promoted based on overall achievement rather than credits for each class. A teacher said some students don't understand that in high school each course grade counts toward graduation. Another teacher said students do not understand the 90 percent attendance rule and "that if they have unexcused absences it can cost them a credit…[and] if they don't get a certain number of credits by the end of the year, they are a ninth grader again." Other teachers said students did not see the consequences of their behavior until their grades prevented them from playing sports or being promoted to tenth grade.

Many educators described issues arising from the intersection of two *different educational philosophies*. Teachers in one district noted that in middle schools students are contained in one school wing and stay together during the day, but in a large high school, a freshman is only one of 2,000 students. A teacher explained, "They come in from the middle

schools where…everything is so structured." In the high school, "You're literally on your own as far as you get off the bus and you're left alone until 4:00." Other educators thought students had difficulty adjusting to a less nourishing high school environment compared to elementary and middle schools. One teacher said, "They are used to their teachers all communicating with each other… and they don't get that here. Most of us don't even know who their other teachers are."

Teachers in another district said in middle schools, teachers were teamed, shared both a conference and planning period, and worked with a common group of students. They said ninth-grade schools benefited students through smaller size and clustered classrooms, which allowed teachers to monitor students more closely.

Educators and students also pointed to *differences between middle and high school teachers*. One administrator described it this way: "I think that at the middle school, it's very focused on you as the student. You and your six teachers are very close knit as far as watching your progress." In the high school, "you're not as attached to that teacher and truthfully that teacher is not as attached to you." Teachers confirm this view. Some high school teachers reported that they sometimes did not even know which students in their classes were ninth graders, and teachers were generally unaware of overall course passing rates and promotion rates for ninth graders. An administrator in one high school described teacher differences this way:

> Middle school teachers and high school teachers are different. Many of our middle school teachers have that elementary experience, background. Most of our high school teachers don't have any of that, and there's a different personality that goes with that at each end of the spectrum… one is more caring towards the kid, one is more caring towards the subject matter.

A principal in one high school indicated that high school teachers do not teach in teams and generally are more demanding than middle school teachers. Likewise, some teachers conveyed that they view students differently than middle school teachers. One teacher summed it up this way: "Teachers don't baby sit you anymore. You do your work, or you don't." Many high school teachers believed that students were not challenged academically at the middle school level—not given enough homework, and not held to high standards. Some high school teachers wanted to offer more personal assistance to ninth graders to ease the transition, but they also felt limited by time and resources.

Educators and students agreed that *academic expectations increase in high school*. Both students and teachers at one high school cited the required course load and difficult subject matter as ninth-grade challenges. Students said it was hard to keep up with their work and make good grades and that they must do more work in class and at home. In one high school, a teacher talked about pacing and how students are overwhelmed when multiple teachers give tests on the same day. Teachers at another school said students lack the organizational skills and self-discipline to adjust to heavier workloads and harder subject matter.

Academically, many high school teachers and students agree that algebra is the biggest challenge for most ninth graders. An administrator in one school said, when ninth graders are not promoted, typically it is because they fail algebra.

Student-Related Issues

- **Inadequate academic preparation, increased freedom coupled with immaturity, home-life situations, and apathy makes high school challenging for many ninth graders.**

Educators often report that ninth graders are *unprepared academically* to succeed in high school. Several teachers in one district felt that students lacked basic reading skills or critical thinking skills. Many educators attributed ninth graders' performance to poor academic preparation in the middle school, increased expectations, and curricular changes. Educators at one high school believed that many students were unprepared academically for high school, especially for algebra. Students also cited algebra as the hardest thing about ninth grade. In one district, students who were placed in alternative schools said they had not learned enough to be prepared for high school.

Box 4.2. Ninth Graders' Challenges in Transitioning to High School

Student-Related Issues

- Inadequate academic preparation
- Increased freedom coupled with immaturity
- Home life situation and poverty
- Apathy and lack of effort

Note. Order reflects most frequently cited issues from high to low.
Source: Interviews with high school administrators (n=47) and focus groups involving teachers (n=124) and students (n=202).

Some teachers and administrators believed *increased freedom in high school coupled with immaturity* created a major challenge. Educators in one district believed ninth graders have more freedom than in junior high, but they do not have the maturity to handle it and make good decisions. One teacher explained: "They are experiencing freedoms that they didn't have before. Now their friend or their big sister has a car, so they take off for lunch." Consequently, attendance becomes a problem. Another teacher indicated that ninth graders were too immature to handle the "social aspects" of school. According to one teacher, "they just get off task. They are not focused." Another said puberty was the greatest barrier: "Their focus isn't on academic development; it's on social development. They're learning how to handle relationships with friends, with family…it really overshadows academic progress." Teachers saw evidence of immaturity and lack of discipline in a failure to do homework, poor study and organizational skills, and misunderstanding of consequences.

Other educators believe the *home-life situation* of many students in at-risk situations presents a challenge to the high school transition. An administrator explained, "Sixty percent of our students are economically disadvantaged, and they don't come in with a bright picture of school. They don't have many expectations." Teachers commented on students who had experienced serious family events, such as the death or imprisonment of a parent, which they thought had influenced student behavior and attitudes toward school. In another district, educators report that most students are from poor families, and that a consequence of poverty is lack of parental involvement. Other educators cited family challenges such as no support for academics, no involvement in extracurricular activities, or students with jobs. One teacher felt that an unsupportive home life had a negative impact on students. In a predominantly Hispanic district, educators said most students come from families who "don't have a history of education," and some think this explains low levels of student learning. Correspondingly, one teacher in another district said many first-generation immigrant families are not strong advocates for their children.

A few educators cited *apathy* as a problem. Teachers noted problems with students not completing assignments, and an administrator believed ninth graders did not fully realize the impact of decisions such as "not coming to school, not doing homework, not being active participants in class." One high school administrator indicated that when students felt they could not do something, it created low self-esteem, and affected their effort. Teachers also believed at-risk students have low self-esteem. One teacher said failing multiple times causes many repeat ninth graders to have a "self-perception problem." Teachers in several districts also report that social pressures—such as peer pressure from upper classmen, gangs, and drug use—have a negative impact on students' motivation and detract from academics.

CHAPTER 5
FINDINGS—EDUCATIONAL ENVIRONMENT

Evidence shows that a supportive school environment can have a significant impact on student engagement, learning, and future opportunities. Dimensions such as school organization, size, leadership, collaboration, and positive personal relationships make a difference in student performance (e.g., Frome, 2001; Institute of Medicine, & National Research Council, 2004; NASSP, 1996/2003). Because many NGSI grant applications mentioned a commitment to such organizational principles, researchers gathered information on the nature of the high school environment, teaching, and students' learning experiences.

Table 5.1. Teachers' Assignments (N = 283)

Grade Levels Taught[a]	Percent	Primary Teaching Assignment[b]	Percent
Grade 9	92.2	Math	22.1
Grade 10	55.1	English	21.1
Grade 11	49.1	Social Studies	13.2
Grade 12	41.7	Science	15.0
		Technology	3.6
		Other	24.3

[a]Teachers selected all that applied. [b]Teachers selected one assignment.

HIGH SCHOOL ENVIRONMENT

Teachers and students completed brief questionnaires with items drawn from the *National Educational Longitudinal Study* (NELS, 1988), and they offered opinions during focus groups on the high school environment. Teacher questionnaires included general information items, school environment items, and an item on teaming and collaboration. Student questionnaires also included general information items and school environment items. Focus group protocols solicited input on effective instructional practices and perceptions of the high school.

Characteristics of Surveyed Teachers

Out of 563 surveys distributed to teachers of ninth graders or at-risk students served through NGSI-funded programs, 283 were completed and returned (50 percent response rate). Although most responding teachers taught ninth grade, many also taught courses for students in higher grade levels. Primary teaching assignments included the four core-subject areas as well as technology or computer science. About a fourth of respondents taught "other" subjects, such as fine arts, athletics, foreign language, English as a Second Language (ESL), or a credit recovery lab (see Table 5.1).

- **Ninth-grade teachers are relatively experienced, and a substantial proportion comes to teaching through non-traditional certification routes.**

Overall, ninth-grade teachers are relatively experienced (12.9 years, on average), and the characteristics of surveyed teachers generally mirrored statewide trends (see Table 5.2). Nearly all teachers had a degree, with two-thirds holding a bachelors and one-third having a masters degree. Surprisingly, nearly half of high school teachers surveyed came to teaching through non-traditional routes, with about 20 percent receiving teaching credentials through an alternative certification program (ACP) and 21 percent participating in a post-bachelor certification program.

Table 5.2. Teachers' Educational Background (N = 283)

Survey item	Surveyed Teachers	State Avg.
Teaching Experience		
Average years employed as a teacher	12.9	11.8
Average years teaching at this school	7.0	7.7[a]
Highest Educational Level		
Fewer than 4 years of college	1.1%	1.3%
Bachelors degree	67.3%	76.0%
Masters degree	30.6%	22.2%
Doctorate	1.1%	0.5%
Certification Route		
Undergraduate certification program	58.1	n/a
Alternative certification program	19.6	n/a
Post-bachelor certification program	21.1	n/a
Not certified	1.1	n/a

Note. n/a = not available. [a]Average years in the district.

Another data analysis revealed that a greater proportion of math, English, and social studies teachers were ACP certified (22-23 percent); math and science teachers were more commonly certified through a post-bachelor program (26 percent).

Teacher Perceptions

Supportive School Environment

- **Teachers believe high schools have clear goals and priorities, a great deal of cooperative effort, and a strong focus on student achievement, but they are less positive about their involvement in decision making and the enforcement of rules for student behavior.**

Teachers rated questionnaire items regarding their perceptions of the high school environment on a 4-point scale ranging from *strongly disagree* to *strongly agree*. A principal-components factor analysis identified items associated with a *supportive school environment* (see Table 5.3). Teacher responses show that high schools have clear goals and priorities and a strong focus on student achievement. Almost all teachers surveyed believed the high school's goals and priorities are clear. Similarly, more than four in five agreed that staff is continually evaluating programs and activities, that educators are working to improve student achievement, and that there is a cooperative effort among staff. Teachers were much less positive in two key areas. First, about a third of teachers felt principals did not consult with staff before making decisions affecting them, and more than a third believed rules for student behavior were not consistently enforced in the high school.

Teaming and Collaboration

- **In many high schools where departments are organized by subject area, teachers report few interdisciplinary meetings or meetings with peers for instructional planning.**

Comments from teacher focus groups and an extra survey item explain the high school collaborative culture. When asked how often teachers meet across subject areas to plan collaborative instructional activities, more than two-thirds of teachers reported meeting once a month or less. (See Table 5.4.) Further, many high school teachers in focus groups reported few opportunities to collaborate with their peers on instructional planning. Teachers at nine high schools were organized into subject-area departments, which met weekly, monthly, or less often. Departmental meetings, according to teachers, frequently involve discussions on topics such as TAKS data, profile or benchmark testing, the grading system, lesson plans, or instructional improvement.

Opportunities for peer collaboration, according to teachers, are limited by complex high school schedules that often preclude the scheduling of common planning periods. The abandonment of block scheduling sometimes eliminates second planning periods. Despite scheduling difficulties, many teachers say they meet informally, usually with teachers in their content area, either before or after school, during lunch, or during class passing periods. Informal interactions more often involve discussions of new instructional strategies, the curriculum, student issues, or teacher collaboration on lesson planning.

Table. 5.3. Supportive School Environment (Mean of items, 3.0)

Items	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4	Mean
Goals and priorities for this school are clear.	1.1%	8.5%	51.1%	39.3%	**3.3**
The staff is continually evaluating its programs and activities.	1.8%	10.6%	65.7%	21.9%	**3.1**
The teachers and school administrators work together to improve student achievement.	4.0%	10.5%	60.6%	24.9%	**3.1**
There is a great deal of cooperative effort among staff.	3.3%	13.6%	53.5%	29.7%	**3.1**
The principal consults with staff before making decisions that affect us.	6.5%	24.7%	50.9%	17.8%	**2.8**
Rules for student behavior are consistently enforced in this school.	13.7%	25.2%	47.8%	13.3%	**2.6**

Note. N=278 teacher respondents. Items rated on a 4-point scale.

Table 5.4. How often do you meet as an interdisciplinary team?

	Percent
Team meets more than once a week	5.8%
Team meets once a week	24.6%
Team meets once a month	26.4%
Met once this year	17.4%
Do not attend any such meeting	25.7%

- **High schools organized into smaller units (school-within-a-school, ninth-grade center) seemed to promote better teacher collaboration.**

Teacher teaming and collaboration were more prevalent in high schools organized into smaller units (*ninth-grade school* or as a *school-within-a-school).* Teachers in one ninth-grade school indicated that strong administrative leadership facilitated collaboration, a positive school atmosphere and ultimately, student success. Teachers said subject-area departments worked to improve instruction in shared conference periods, and more than half reported that they met at least weekly in teams. The curriculum within each subject area reportedly is aligned throughout the school (and district), so teachers divide units for lesson planning then meet to share ideas. A teacher explained that besides official meetings, teachers "talk constantly" and groups meet informally several times a week.

One high school redesigned its ninth-grade program into a school-within-a school, with students assigned to teaching teams. Ninth-grade teachers have two conference periods: one for individual planning and one for team collaboration when teachers discuss students' successes, problems, academic needs, parental contacts, and other paths to student success.

One district implemented the school-within-a school concept in all high schools, but organized teachers and students into grades 9-12 vertical teams. At one high school, teachers said they meet by teams once a month and by department once or twice a month. In departmental meetings, teachers discuss test scores, interim exams, TAKS content, and test preparation. In school-within-a-school team meetings, individual students are more likely to be the focus. Teaming and resulting collaboration however, did not appear to be working as planned. Teachers believed that teaming worked better when they were organized as with ninth-grade teams, as they "knew the students better" and "dealt with discipline a little bit better." Teachers also said teaming worked better with two conference periods: one for teaming and one for regular planning.

Student Perceptions

Supportive School Environment

- **Students generally were positive about school safety and their teachers, but a third or more thought discipline was unfair, student disruptions interfered with learning, and their peers did not get along with teachers.**

Students participating in focus groups responded to a school environment questionnaire, indicating their

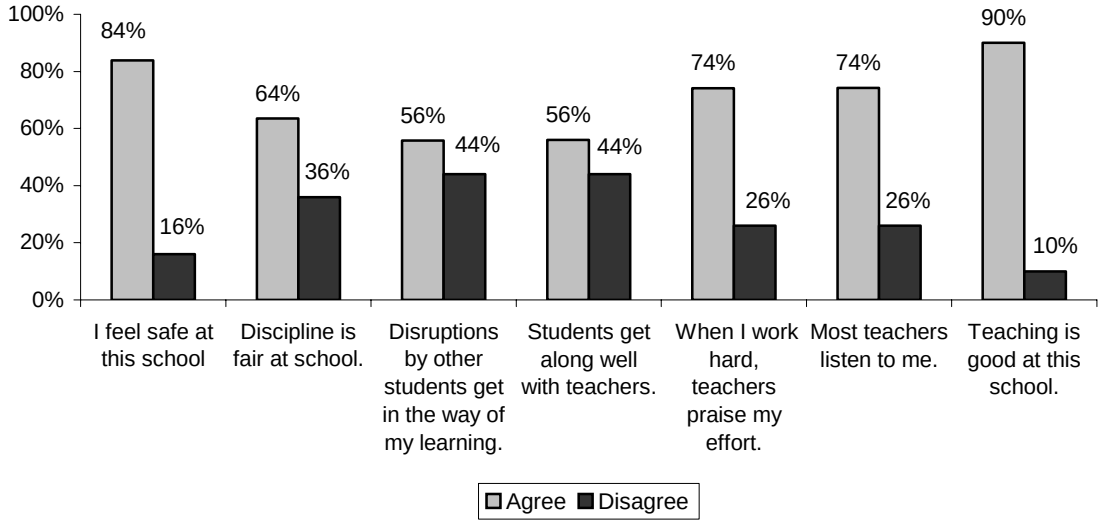


Figure 5.1. Student opinions of the high school environment: Agree (*strongly agree, agree),* Disagree (*strongly disagree, disagree*), N = 202 students.

agreement or disagreement with seven statements about their high schools on a 4-point scale. Figure 5.2 shows that most students "feel safe at school," and students generally have positive views of their teachers. Most agreed that "teaching is good at this school," "most teachers listen to me," and "teachers praise my effort." On the other hand, a third of students felt "discipline is unfair." Nearly half who completed the survey agreed that "disruptions by other students get in the way of my learning," and an equal proportion think their peers do not "get along well with teachers." These findings raise questions about how students in at-risk situations are assigned to courses and classrooms, who their classmates are likely to be, and the nature of the classroom learning environment.

- **Opinions of students in at-risk situations regarding the high school environment generally become more negative with age.**

When questionnaire items are disaggregated by student age (see Figure 5.2), they show that older at-risk students are much less likely to "feel safe at school," believe "discipline is fair," or feel that "most teachers listen to me." Older students also are less likely to agree that teachers praise their work efforts. Inexplicably, for two items, a different pattern emerged. Fifteen-year-olds are somewhat more likely than students in other age groups to say "disruptions by other students get in the way of my learning," but they are also more likely to say their peers "get along well with teachers." In general, trends for older students are consistent with research showing that daily life in school often erodes at-risk students' positive views of schooling as they age (Lambert & Combs, 1998).

Perceptions of High School

- **At-risk students value personal relationships and enriched curricular activities in high schools, but they recommend changes in discipline and behavior, school policies, instructional support, and school climate.**

During focus groups, students described what they liked best about high school, identified problems or concerns, and made recommendations for change. Students most often cited positive feelings about social aspects of high school life. They liked seeing their friends, and in some cases, mentioned caring teachers and counselors. One student who met with a counselor weekly, said the counselor "actually cares, he'll listen to you, find out what's wrong with you, try to help you." Many students also liked extracurricular, non-academic, or elective activities such as sports (basketball, wrestling, gymnastics), fine arts (band, choir, dance), clubs, or service groups. A few students liked feeling "more mature" and having "more freedom" in high school and leaving behind restrictions from middle school, such as uniforms.

Students' concerns centered on four areas: 1) discipline and behavior; 2) school policies; 3) instructional issues; and 4) school climate. Consistent with

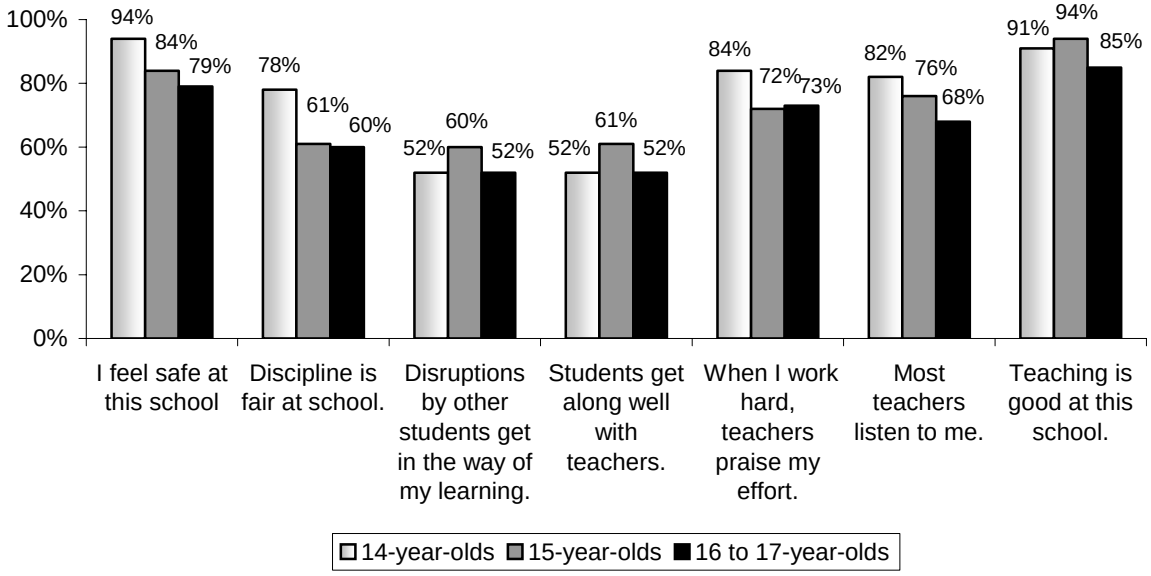


Figure 5.2. Student opinions of the high school environment by age: Percent that agree (*strongly agree, agree)* N = 202 students.

survey results, students in one high school were concerned about uniform enforcement of discipline. In another school, students complained about the fairness of a tardy policy that assigned late students to in-school suspension for the entire school day, even when students were late (from their perspective) through no fault of their own. Students in yet another high school called for improved school discipline.

Many students cited dissatisfaction with high school policies and recommended adding extra time between classes, more time for lunch, open rather than closed campuses, later school start times, fewer credits to graduate, opportunities to take more electives, changes in the dress code, and easing rules for tardies and attendance. Some students also expressed concerns with instructional issues, calling for smaller classes, different teachers, teachers who make learning more interesting, teachers who explain things and help them when they do not understand, and adding career and technology courses.

A number of students wanted to create a more positive atmosphere in high school. One student was concerned with disruptive students, believing it would help if students who did not want to be in school were not there. Other students cited "bullying" by other students as a high school problem. In one high school, students expressed concerns about security measures (security guard, cameras) that, in their view, created a prison-like atmosphere. Students in a different high school described the school as a "poor school" in need of improved equipment and resources. Students wanted better track equipment and fields, newer band instruments, better books, and a cleaner school. Several students in one school felt the high school was racially segregated in common areas such as cafeterias, however, they thought segregation was self-imposed by students and school officials could not do anything to change it.

TEACHERS AND TEACHING

Improving academic achievement by students in at-risk situations is increasingly connected to teacher competence and commitment to the use of engaging and intellectually challenging instructional strategies. The importance of teachers was articulated in a recent report on reforming the American high school:

> If nothing changes in the classroom, exercises to create visions and define standards will result in little change. If teachers are enlisted in the cause, however, a successful outcome is almost certain (Harvey and Houseman, 2004, p. 19).

Researchers worked to understand at-risk students' learning opportunities by asking teachers about their views on instruction and learning, observing a sample of core-subject classrooms purposefully selected through a review of at-risk students' course schedules, and soliciting the views of these students in focus groups on high school teachers and teaching.

Professional Development Opportunities

- **High school teachers have access to professional development on a range of topics, with training delivered more often through workshops or a series of training sessions.**

Few districts made professional development for ninth-grade teachers a priority through NGSI grants. Nevertheless, researchers asked both administrators and teachers to describe any professional development geared specifically toward improving instruction and learning for ninth graders. Although district officials and teachers said training rarely focused singularly on ninth graders, they said teachers participated in a variety of workshops and training sessions relevant to meeting student needs. Campus and central administrators consistently commented that high school teachers were encouraged to use more active learning strategies, differentiated instruction, and intellectually challenging activities.

Professional development topics mentioned by either teachers or administrators across all sites included sessions on lesson planning, TAKS strategies, understanding students in at-risk situations (gangs, the aggressive student, discipline, Ruby Payne's Psychology of Poverty), special populations (ESL, special education), specific content areas (science and math training at the Dana Center, TEXTEAMS math, New Jersey Writing Project, Text for Writers), technology programs (NovaNET, other software), higher order thinking (gifted and talented strategies, critical thinking), and instructional and organizational strategies (differentiated instruction, hands-on activities, motivational techniques, classroom management, teaming, vertical teaming).

Although the delivery of professional development varied across districts and campuses, teacher training most often involved workshops or a series of training sessions on a topic. Training may occur at the beginning of the school year, during the summer, on Saturdays, or intermittently throughout the school year. In some cases, teachers become the trainers and redeliver training received offsite for the entire faculty or selected colleagues. On one ninth-grade campus, teachers said weekly staff development meetings were held on relevant topics. Another high school teacher characterized his district's approach to professional development as a "smorgasbord."

Only two mentions were made of follow-up to support teacher implementation of new instructional strategies. In one district, Campus Instructional Coordinators reportedly meet with and observe teachers after district professional development sessions to determine the extent to which strategies are implemented. In another district, a teacher-mentor at one high school (veteran teacher relieved of teaching duties) provides ongoing support for algebra teachers through sessions on curricular alignment, weekly lunch meetings focused on instructional practices, classroom observations, and modeling effective practices for teachers.

Perceptions of Teaching

Teacher Views

- **High school teachers' beliefs about teaching practices vary widely, with some advocating learner-centered approaches and others favoring traditional methods.**

During 26 teacher focus groups conducted across 16 high schools, a total of 124 teachers offered their ideas regarding the most effective instructional practices for engaging ninth graders. Box 4.1 provides a summary of the most frequently cited practices in order from most to least often mentioned. Teachers' opinions on effective practices vary both across and within schools. In some cases, teachers reported that district or campus professional development opportunities had promoted the use of more student-centered and active learning strategies—however, teachers did not always believe such strategies could be used in their classrooms or that the strategies would be effective in preparing students to do well on the TAKS. In some instances, teachers within schools held conflicting opinions on effective practices. Some teachers advocated more learner-centered approaches, and others thought traditional, teacher-directed instruction worked best with unmotivated learners.

Box 5.1. Most Effective Instructional Practices for Engaging Ninth-Grade Students

- Use hands-on activities
- Provide relevant, real-life experiences
- Use varied instructional approaches
- Hold students accountable
- Build personal relationships
- Provide constant reinforcement
- Use small-group instruction
- Use technology
- Have students explain answers
- Provide individual assistance

Note. Order reflects most frequently cited effective instructional practices from high to low.
Source: Focus groups involving 124 high school teachers.

Despite differing views, some trends emerged. Foremost, many teachers mentioned the need for *hands-on activities*. Teachers believed they had to be creative to maintain student attention, and integrating hands-on activities was one way to motivate and engage students. Science teachers especially thought hands-on manipulation maintained student interest. A geometry teacher also believed hands-on activities explained why students did better in geometry than algebra. Other teachers described the importance of tactile and kinesthetic activities, such as creating posters, to engage at-risk students.

Teachers cited a need to provide *relevant, real-life experiences* for students through projects, personalizing lessons with students' practical experiences, using high interest books, and providing reading materials such as journals and trade magazines. Teachers in one rural district believed an important part of their role as educators was to expose students to a broader life view by incorporating real-world experiences into the classroom, such as sharing items from their travels or cultural experiences such as theater productions or museums. In their opinion, this helped keep students motivated and interested in school. Similarly, teachers in an urban district believed the educationally impoverished backgrounds of many students meant instruction had to be interesting and relevant.

Teachers also advocated the use of varied instructional approaches to keep students from becoming bored. "By varying your delivery, students are kept on their toes and are more involved," said one teacher. To keep students interested, teachers reported using different or multiple strategies, changing strategies often, and not staying with one strategy for the entire class period. In the words of one teacher, "You can't do a 50-minute lecture…but you can do a lecture, question, and review."

Some teachers believed ninth graders had to be *held accountable* and that expectations should be raised and enforced. A teacher in one school held students accountable for class preparation and attendance at mandatory tutorials. Another teacher emphasized discipline and expectations, saying, "I make it mandatory that when I give an assignment, that it's done or there's going to be some serious repercussions." Similarly, most teachers at one high school were adamant that a successful classroom was built around discipline, primarily to keep order in the classroom and eliminate disruption. Other teachers wanted administrators to be "tougher on kids" in terms of discipline, tardies, absences, and grades.

Some teachers thought they were being held more accountable than students. One teacher complained that teachers were pressured when they assigned grades below 50 or had a high student failure rate. The teacher felt students receive contradictory messages when they are told to "come to school and be responsible…but…if you don't do your work, that's okay, I'm going to change your grade."

A few teachers noted the importance of *forging personal relationships* with students because they build rapport and encourage students to trust the teacher's guidance in the educational process. Teachers in another district thought building positive rapport, especially with repeat ninth graders, helped to build student self-esteem. These teachers said course failure often resulted from students becoming discouraged and believing they could not do the work. Many teachers emphasized, first and foremost, that students must know teachers care. Other teachers used humor and psychology in interactions with students. One teacher said, "With ninth graders you have to use a lot of psychology because if you are confrontational it's a no-win situation."

A number of teachers working with repeat ninth graders mentioned the need for *constant reinforcement*. Some teachers believed students needed to attend core-content classes daily rather than every other day. Some teachers also believed students needed access to longer and better tutoring. Other teachers mentioned reinforcement strategies, such as allowing students to "redo work or tests that they did poorly." One teacher of repeat ninth graders said, "You start over at ground zero every day and you treat students like they don't know anything."

Teachers' views on *small-group instruction* varied: some were advocates and others non-believers. Advocates cited the value of peer support, shared knowledge, and varied instruction. One teacher believed small-group instruction especially helped students because "sometimes their peers can use a simple phrase that is more meaningful than what you're saying and they catch on." Another teacher said students "like sharing their knowledge with each other." One teacher believed students benefited from group work because they are very social. Teachers at a ninth-grade school indicated that they were encouraged to allow students to work in groups and pairs as much as possible, but not all teachers liked or used them. Teachers who disliked small-group instruction typically cited "loss of control" as a problem. In another high school, teachers felt that students become off-task too easily and projects lead to personality conflicts between students. "Disruptive kids will start taking control," said one teacher. Some teachers tried to incorporate group lessons in one high school, but others favored whole-group instruction. "I don't believe in group work, …" said a teacher, "because I don't know how much is being taught and how much is getting across…I have an old traditional way."

Few teachers mentioned the use of *technology*, *verbal explanations*, or *individual assistance* to support learning. One teacher had students make PowerPoint presentations to teach other students; another used PowerPoint for lectures to keep students "awake" and "interested." Students "love the computers," said other teachers. Regarding the importance of verbal interactions, teachers in one high school thought it important to ask students to explain how they came up with answers, to elaborate on answers, and to interact verbally with others in the learning process. In another school, teachers had students go to the board and explain their answers. Only two teachers at one high school mentioned the need for individualized instruction, but one said large class sizes limited time for individualization.

Student Views

- **Students in at-risk situations say good teachers provide clear explanations, encourage active and meaningful learning, make class interesting, establish personal relationships, use small-group activities, offer individual assistance, make connections to real life, have a positive attitude, and challenge students.**

Students described the qualities of effective high school teachers during 36 focus groups conducted in 16 high schools. Discussions included a total of 202 students (primarily ninth graders considered at risk, repeat ninth graders, or tenth graders who participated in NGSI programs). When asked to describe what makes a *good teacher*, nine dimensions emerged from students' comments (see Box 5.2).

Box 5.2. Qualities of Good High School Teachers

- Provide clear explanations
- Encourage active and meaningful learning
- Make class interesting
- Establish personal relationships
- Use small-group activities
- Offer individual assistance
- Make connections to real life
- Have a positive attitude
- Challenge students

Note. Order reflects most frequently cited qualities from high to low.
Source: Focus groups involving 202 at-risk high school students.

Foremost, at-risk students say good teachers *know how to explain things*. Students say the best teachers know how to simplify information to make a subject understandable. Good teachers "go slowly and explain things step-by-step," or "use different terms to try to explain to you to help you understand." In particular, students considered a reading teacher helpful because she taught at the students' level of understanding, and a math teacher helped by having students work problems on the chalkboard and providing explanation as needed. Students also say good teachers persist: they "explain it until you get it," and good teachers "have the patience to explain again." One student praised such a teacher: "He just explains it to the point where you understand it. If nobody understands it, then he will do one-on-one with them."

Some students believe they "remember more" when "the teacher explains better." Conversely, students' felt they did not learn as much from teachers who "don't explain at all" or those who "just have you do it." Some students who were learning Algebra I through computer-assisted instruction preferred teacher explanations. One student said, "The computers don't explain that great…you can't ask the computer questions." Another said, "It tells you how to do it, but it doesn't tell you how they got it." Another student understood better when the teacher taught first and then used the computer."

Students appreciate teachers who encourage *active and meaningful learning*, especially classes with hands-on activities. A tenth-grader said: "We're still young and our attention span is longer than it was in middle school, but it's not *that* long. I learn better when I do hands-on." Some students said they learned best using the computer, while others learned from projects, a variety of activities, or demonstrations. Many students found learning both interesting and educational when it involved games. For example, students played a basketball game to learn English vocabulary, used *Pictionary* to learn Spanish words, and learned fractions with a roulette game in mathematics. Other students learned from videos in English and World History and said watching movies after reading helped them understand the materials.

The above described activities are used by teachers who students say *make class interesting.* Students prefer more interactive teachers. One student said:

> Classes I don't like to be in are classes where teachers don't grab your ear. I don't like to sit there and just do work. I want you to include me. I want you to inform me.

Other students like teachers who make learning fun "so you're not bored in class." Students also say they learn best when teachers make learning fun, because, according to one student, interesting classes make time pass more quickly. Several said their favorite teachers make class interesting by joking, and one student said a good teacher is one with a "good sense of humor."

Students also appreciate teachers who *establish personal relationships.* One student liked it when "you get to talk to them personally…They're like your friend, so like you pay attention to them." Students believe the best teachers care about them. A good

teacher "helps you out with your problems," or takes time to "listen to you." Caring teachers also help students succeed academically. One student said, "Some of them are good because they care about your grades and how you're doing in class." One student said his teacher called his mother on a regular basis to discuss his progress. Another said: "I have a teacher she calls my house every time I'm absent and she's always on my case if I'm failing this and that. If it wasn't for her, I wouldn't go to class."

Some students think the best teachers *include small-group activities* in lessons. One student described an effective cooperative learning strategy used by teachers: "In some classes, they split us up in groups and have everybody take notes. Then they'll split us up again and then you have to share your notes…and you come up with all the important ideas…so everybody understands." Other students enjoyed helping each other in groups and learning from their peers in discussion groups. Although students generally favor working collaboratively in groups, opportunities to do so are limited in high schools. One student explained, "I don't think we do a lot of stuff in groups now because there's some people that just like to talk, and we just get distracted and we don't work."

Several students believe good teachers *offer individual assistance*. Students in one high school said the best teachers were available to help them before and after school. Several in another school said they benefited from tutoring during lunch and after school. One said, "The good teachers will give up their lunches to help you…they'll do whatever they can to help." Others said, they "help you individually" or "come to your desk while you are doing your work."

Students in a few districts described how good teachers *relate subject matter to their lives,* thus making lessons more interesting and relevant. Specifically, students mentioned the World Geography teacher who related the subject matter to their lives. One student felt it was helpful when a teacher related science subject matter to sports. Another student said a middle school teacher sparked her enthusiasm for history by being demonstrative and relating the subject to their lives, but her enthusiasm was crushed by her current teacher who "gives us a lot of notes and says our answers are in the notes."

Other students said the best teachers are those with *a positive attitude* toward students, who also reward effort. Some students describe these teachers as eager to help. Several students in one high school mentioned one teacher: "She is so valued as a teacher and loved as a teacher that every morning you go in her classroom she has a whole room of students in there that's not even in her class that's asking for help. She dedicates herself to the school and to the students." A few students believe good teachers are fair to all students, enforce rules consistently, treat everyone the same, and are open-minded.

A few students believe the best teachers *challenge students to learn more*. One student said a good teacher "pressures you to learn." Others thought effective teachers help students acquire study skills. For example, they "make you write notes." A few students believed they were not learning enough in some classes. One student described a class this way: "We don't do much work, and I don't think I'm learning enough, and I had an A at the end and I'm like, 'I didn't do anything in the class.'"

In contrast, students described other teachers as "boring" or "unwilling to help." Some students described teachers who just hand out worksheets "and not much else." One student called teachers who lecture too much "boring;" another felt teachers talked too much about personal matters. Students also do not like teachers who are unwilling to spend extra time to help them with coursework. Several students said they do not like teachers who are "sarcastic" or "have an attitude." These qualities in teachers made some students more hesitant about asking for help.

Observations of Teaching

A total of 81 classroom observations (21 English, 21 mathematics, 16 social studies, and 23 science classes) gave researchers a different perspective on classroom practice. On average, classes had about 20 students, with a range of 14 to 24 students.

Classroom Organization

- **High school classrooms are organized most often for whole-class instruction followed by students working independently. Students seldom work collaboratively with peers.**

Figure 5.3 illustrates teachers' approaches to classroom organization as measured by the mean percentage of class time allocated for each of five arrangements (whole class, individual students, student pairs, small groups, and a combination of methods). Students in at-risk situations most often received whole-group instruction, followed by individual work on assignments. Students spent little time learning in small groups, in pairs, or combined arrangements. Such organizational patterns were consistent across all core-subject areas (see Appendix D, Table D.5). The organization of classrooms into rows of student desks facing the teacher at the front of the room was consistent across classes, thus inhibiting opportunities for student interaction.

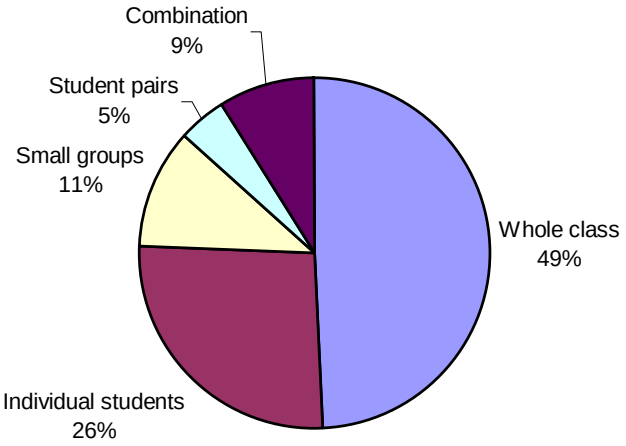


Figure 5.3. Classroom organization: Mean percentage of time for 81 core-subject area classes.

Teacher's Role

- **High school teachers spend the greatest proportion of class time on whole-class instruction and monitoring students as they work independently on assignments.**

Figure 5.4 shows that high school teachers spent more than half of class time directing the whole-class through lecture, explanation, or demonstrations. They spent more than a third of class time walking around the room monitoring student work. Teachers were *never* observed providing three minutes or more of direct individualized instruction. Guiding interactive discussions with active student participation accounted for only 1 percent of teachers' time. Instead, teachers spent the remainder of class time giving district benchmark or content-area tests or managing student behavior and materials. The teacher's role was relatively consistent across core-subject classes, except science teachers, who spent 10 percent of class time giving tests. (See Appendix D, Table D.6).

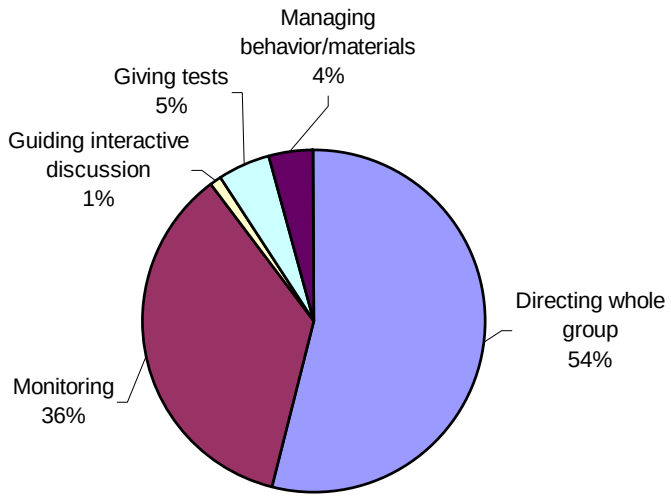


Figure 5.4. Teacher's role: Mean percentage of time for 81 core-subject area teachers.

Higher Order Thinking

- **High school teachers seldom asked mentally challenging questions or questions that helped at-risk students see the relevance of subject matter to their lives.**

During observations, researchers noted teachers' use of six higher order questioning strategies, with four related to the encouragement of students' mental and verbal elaborations of knowledge and two related to the extent that teachers helped students connect the topic to their own experiences, other contexts, or everyday life (see Figure 5.5). Notably, high school teachers seldom asked questions that required higher order thinking (e.g., reason, analyze, elaborate). More than half of teacher *never* asked open-ended questions with multiple answers or questions that required reasoning. Further, most teachers *never* asked stu-

dents to justify ideas and explain their thoughts, or to explain concepts, definitions, and attributes. Fully 70 percent of teachers *never* had students relate examples from their experiences or relate subject matter to other contexts or to everyday life. When they were used, questioning strategies occurred only to a *small extent*.

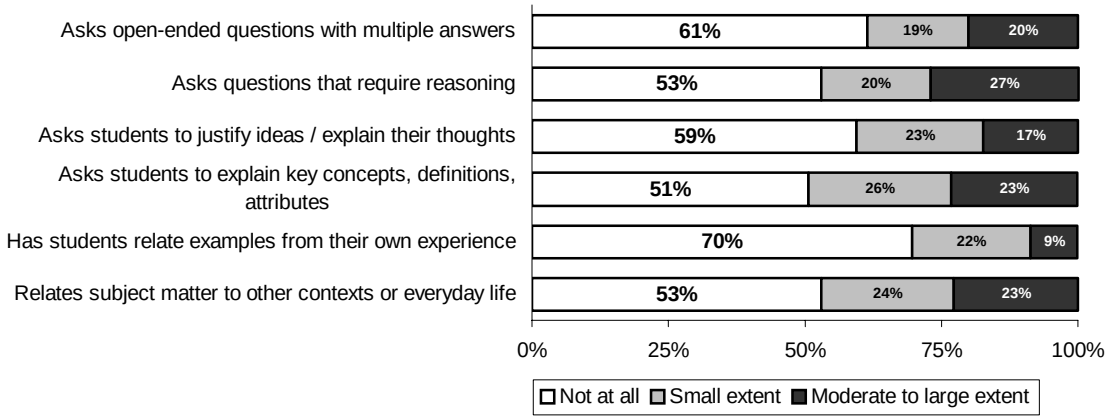


Figure.5.5. Observation results for higher order thinking indicators: Percentage of classes in which indicator was observed *not at all*, to a *small extent*, or to a *moderate* or *large extent* (N = 70 classrooms).

Some differences emerged by content area (see Appendix D, Table D.8). Compared to other subject areas, math teachers less commonly asked open-ended questions or had students provide examples from their own experience. Social studies teachers were less likely to ask questions that required students to justify ideas and explain their thoughts; explain key concepts, definitions, and attributes; or relate examples from their own experience.

Resource Availability

- **High school teachers have little access to technology in classrooms—thus, it is seldom used to support instruction and learning.**

High school teachers have limited access to technology in the classroom, averaging only two computers per classroom. Math classrooms have fewer computers than other subject areas (see Table 5.5). Although more than a third of classrooms have printers, few teachers have laptop computers or scanners. As expected, graphing calculators are more readily available in math classrooms.

As might be expected considering limited access, only one in ten high school teachers used technology during observations. When they used technology, teachers typically used PowerPoint presentations or textbook-related visuals to support whole-class instruction. Social studies teachers and science teachers were more likely to use technology for presentations.

Table 5.5. Technology Available in High School Classroom, by Subject Area

Technology	All Classrooms (N=81)	English (n=21)	Social Studies (n=16)	Science (n=23)	Math (n=21)
Average number of computers	2.0	1.9	2.1	2.4	1.6
Percent of classrooms with…					
Printer	39.5	42.9	43.8	34.8	38.1
Laptop	11.1	14.3	18.8	8.7	4.8
Scanner	2.5	4.8	0.0	0.0	4.8
Graphing calculators	11.1	0.0	0.0	4.3	38.1

Besides technology, access to other learning resources in high school classrooms is limited. Rating classrooms on a 4-point scale ranging from *sparsely equipped* to *rich in resources*, researchers considered fewer than one in five classrooms observed as having a *rich learning environment* (defined as having substantial access to resources such as reference books, technology, content-related posters or displays, manipulatives, or equipment). Teachers also invested little effort in personalizing the learning environment by including student work samples. In 70 percent of observed classrooms, there was *no student work displayed*. (See Appendix D, tables D.1-D.4.)

STUDENTS AND LEARNING

Observations of Learning

- **Students in at-risk situations spend the greatest part of their time listening to teacher presentations or independently completing short-answer activities and worksheets.**

Classroom observations provided a glimpse into the daily learning experiences of ninth graders in at-risk situations. Figure 5.6 reveals the nature of student learning as measured by the mean percentage of class time allocated for each of 11 student activities. Because students could be engaged in multiple activities simultaneously, the sum across all activity categories can equal more than 100 percent.

Students in core-subject area classrooms (English, algebra, social studies, and science) spent 42 percent of class time either listening to the teacher or briefly engaged in question and answer exchanges. Beyond that, students typically worked independently another 26 percent of class time completing an exercise or short-answer worksheet (e.g., work math problems from a textbook, complete a test-review guide). In a few classes, students spent time engaged in problem solving or investigation, with these activities occurring more often in math and science classrooms. For example, students in one class solved algebra problems involving linear inequalities using graphing calculators. In a science class, students conducted an investigation of Newton's Law of Motion.

Most discussions in high school classrooms were whole-class and teacher controlled. Students were seldom engaged in interactive discussions with substantial student contributions. Students spent a small part of their time taking notes, responding in written form to the lesson content, or doing individual reading. Somewhat unexpectedly, observed students spent about 7 percent of class time taking tests (e.g., content-related weekly or unit tests as well as district and/or campus benchmark tests to prepare for the TAKS). Considering educators' expressed concerns about students' poor reading skills, it was alarming to find that only 4 percent of class time involved reading. This meant that in a typical 50-minute class, students averaged only about 2 minutes of reading.

Student Technology Use

- **Students in at-risk situations rarely use technology in classrooms to support content-area learning.**

As noted earlier, high school teachers typically had no more than only two computers per classroom. Thus, it is not surprising that students seldom use technology to support learning in core subject-area classrooms (see Table 5.6). As a whole, students used technology in about one out of ten observed classes. Technology use most frequently involved the use of productivity tools, such as graphing calculators in algebra classes or word processing in English classes. Technology was rarely used in classrooms as a learning tool (e.g., content-area software programs) or a research tool (e.g., Internet, CD-ROM), and never used as a communication tool (e.g., email, videoconferencing). In high schools visited, computer labs were the vehicle used to connect students with technology.

Table 5.6. Student Technology Use in High School Classroom by Subject Area

Type of Use	All Classrooms (N=81)	English (n=21)	Social Studies (n=16)	Science (n=23)	Math (n=21)
Not used	91.1%	91.3%	97.6%	98.3%	78.9%
Productivity tools	5.3%	8.7%	0.0%	0.0%	11.4%
Learning tools	1.4%	0.0%	0.0%	0.0%	5.3%
Interactive communication tools	0.0%	0.0%	0.0%	0.0%	0.0%
Research tools	3.6%	8.7%	2.4%	0.0%	3.5%

Perceptions of Students as Learners

- **Educators believe ninth graders' academic performance is affected by inadequate learning strategies and skills, immaturity and irresponsibility, lack of academic preparation, lack of motivation, and poor attendance.**

During interviews and focus groups, administrators and teachers offered their views on ninth graders as learners. Overall, comments centered on characteristics that educators believe explain students' poor academic performance. Box 5.3 displays these student characteristics, from most- to least-often cited.

Box 5.3. Perceptions of Ninth Graders as Learners

- Inadequate learning strategies and skills
- Unprepared academically
- Immature and irresponsible
- Unmotivated
- Poor attendance

Note. Order reflects most frequently cited perceptions from high to low.
Source: Interviews with administrators and directors (n=47) and focus groups involving teachers (n=124).

Educators most often said ninth graders enter high school with *inadequate learning strategies and skills* to survive the rigors of high school coursework. High school teachers expect students to have a certain level of skills, resourcefulness, and a work ethic that many students, according to teachers in one high school, do not have. Administrators and teachers generally believe that disorganization, poor work habits, limited study and time management skills preclude student success. An English teacher explained: "It's writing, it's notes, they're disorganized." Another teacher said, "They lack organization skills, and their attention span, it's limited." Educators cited difficulties getting students to do homework, get to class on time, bring materials, and study for tests. One teacher reported that students who fail to turn in their homework "get so far behind that it's impossible to catch up."

Teachers and administrators, especially those in very large districts, felt many ninth graders are *unprepared academically*. In one district, social promotion in middle school was cited as a contributing factor. An administrator felt that in ninth grade, students "hit a wall" academically because of more stringent course passing requirements in high school. In another high school, an administrator reported that entering ninth graders, on average, had reading and math skills below grade level, and African American and Hispanic students had even lower skill levels. The administrator said the high school struggled to teach students grade-level coursework when they were not on grade-level academically. Other high school teachers said students have deficient reading skills and teachers must constantly work to improve students' verbal abilities. Likewise, many other teachers cited problems with low reading ability, a lack of basic skills, and difficulty mastering critical thinking skills.

Educators also talked frequently about the *immaturity and irresponsibility* of ninth graders. Teachers defined immaturity as a lack of personal responsibility or understanding of the importance of an education. Several educators thought the combination of greater freedom and the challenges of a new school magnify this problem, because, according to one teacher, "They don't have any self-discipline." Teachers in one high school said some students do not accept personal responsibility for passing or failing courses, saying students think "that just by showing up, that will be enough for them to pass." Educators in a high school implementing ninth-grade teams concur that students' maturity level sometimes interfered with their learning. However, they believed that limiting students' mobility and keeping them separated from upper classmen (in a school-within-a-school) helped students to avoid making bad decisions. An administrator said the key was finding a balance in "teaching some responsibility" but "guiding them enough that they have the support system."

Factors discussed above—poor learning strategies and skills, inadequate academic preparation, and immaturity and irresponsibility—may help to explain student disengagement. Across many districts, administrators, teachers, and even students frequently cited at-risk students' *lack of motivation to learn* as a barrier to academic success. In describing one class, a teacher said students "don't care and don't want to be there." She said students were not disruptive but rather just sat there and did nothing. Teachers in another district noted clear differences between students in Advanced Placement (AP) and regular classes: "With the Pre-AP, it's easy," said one teacher. "They're pretty much self-motivated… with the regu-

lars, it's tough because for them, they already come in with the mindset that it's just another class."

Opinions about the causes of student disengagement vary. Teachers in one school said some students do not understand why getting an education is beneficial. Other teachers attributed repeat students' lack of motivation to low self-esteem, poor concentration, and excessive absences. They believed the keys to motivating students were stressing the importance of education and building their self-esteem. In another high school, teachers said many students were unmotivated by grades, and some continually sat unresponsively in classes, unwilling to participate to any degree. A few teachers said outside factors influenced student behavior and "school is not a priority" for these students, or at times for their families.

Students in one high school said they felt more engaged and motivated to learn when there was a clear goal, such as "you want to grow up and be something," or "you are in sports and have to pass to compete." One student explained his motivation by saying, "I like chemistry, I really like my teacher, and I'm really good at it." Repeat students at another school suggested that their disengagement came from frustration with the schooling process, little understanding of how the credit system worked or where they stood within the system.

Poor attendance is another symptom of student disengagement from school and learning. Teachers in one district said a substantial number of students missed classes regularly or were tardy. These teachers believed the school policy allowing students to make-up absences in Saturday academies contributed to the problem. In another school, many students reportedly received failing grades due to excessive absences, but teachers believed that opportunities to make-up absences in the after-school programs contributed to attendance problems. Teachers in another high school said low course grades often reflected excessive absences, which in turn, were often caused by low motivation. Students elsewhere reportedly either miss class because they simply choose not to come or for disciplinary reasons (in-school suspension or the juvenile justice system). Students in this school also can make up the absences through after-school tutorials.

CHAPTER 6
CONCLUSIONS AND IMPLICATIONS

Conclusions and implications are organized around four areas guiding the evaluation: the NGSI program and existing best practices; available evidence on the effect of grant resources on students; support for at-risk students within the school context and educational environment; and recommendations for grant awards and management.

How was the NGSI program implemented and what best practices exist?

Programs for Newly Promoted Ninth Graders

- **Few districts offered programs for newly promoted ninth graders who lacked minimum skills for successful course completion.**
- **Educators believed newly promoted ninth graders who participated in summer programs benefited from reduced class size, active learning, bonding with teachers, and high school orientation.**
- **Even though educators viewed summer algebra camps and programs as worthwhile and effective, few students participated and most programs were discontinued.**

Research shows that students' motivation to learn is at the heart of successful learning (American Psychological Association, 1993). Although most students begin with an excitement for learning, enthusiasm declines as they progress from elementary to high school for various reasons (e.g., learning opportunities, interactions with teachers and peers, expectations about ability) (Weinstein, 2000). Proactive efforts to ensure student success (and enhance beliefs about competence) can help foster student engagement in learning, and therefore achievement (National Research Council & Institute of Medicine, 2004). Although NGSI grant recipients could design programs to meet the needs of recently promoted eighth graders, such efforts generally were limited in scope and often discontinued, apparently due to a lack of student interest and participation.

Statewide data confirmed this trend at case study sites (Shapley et al., 2004). The percentage of newly promoted ninth graders participating in summer programs decreased across grant terms (from 33 percent in 2000 to 9 percent in 2003). Declining emphasis on early intervention is troubling because nearly all educators believed programs such as algebra camps benefited students. To better understand the potential of programs for newly promoted ninth graders, further research is needed to identify effective programs, determine why many students in at-risk situations fail to participate, and understand why districts and high schools seldom direct grant funds toward preventive programs.

Programs for First-Time and Repeat Ninth Graders

In contrast to the dearth of programs for *newly promoted* ninth graders, districts invested the bulk of NGSI resources in services for ninth graders who were *at-risk of not earning* sufficient credit or had *not earned* sufficient credit to advance to grade 10. Grant initiatives discussed below center on computer-assisted instruction, extended-day and extended-year programs, and whole-school improvement (restructuring, core-subject enhancement, and professional development).

Computer-Assisted Instruction

Most districts invested a substantial proportion of NGSI funds in technology for computer-assisted instruction. Instructional technology for students in at-risk situations most frequently included comprehensive programs supporting self-paced credit recovery or skill remediation. A few districts purchased programs that provided comprehensive algebra coursework programs or supplemental instruction in core-subject areas.

Self-Paced Credit Recovery Labs

- **Staffing of self-paced credit recovery labs for at-risk students most often involved one certified teacher who managed student coursework in several core-subject areas.**

- **One very large district took a more comprehensive approach to student credit recovery by establishing Learning Labs with computer- and text-based assignments, instructional support, and social services.**
- **Almost all educators and students believed self-paced courseware benefited students by offering alternative means for credit recovery, but student learning outcomes for comprehensive services were most promising.**
- **Concerns with self-paced learning programs include software quality, TEKS and TAKS alignment, student attendance, recruitment of effective teachers, and whether earned credits reflect content mastery.**

Districts, especially those with large-to-very large enrollments, most often established computer labs for credit recovery using self-paced computer-assisted instruction (PLATO or NovaNET). Self-paced credit recovery labs typically involved one certified teacher who managed student coursework. In contrast, one very large district established a Learning Lab in each high school, each staffed with four content-area teachers, a counselor, and a student liaison (paraprofessional). Students completed a combination of computer-assisted and other assignments (e.g., writing, problem solving). As a whole, this credit recovery model seemed to enhance the prospects of at-risk students for successful learning. Although nearly all educators believed self-paced courseware promoted credit recovery, educators and students more often credited the learning lab model with outcomes such as improved student self-image and confidence, reading and writing skills, and self-control and personal responsibility acquired through self-directed work. District outcomes verify the model's effectiveness through improved attendance, reduced retention, and the continuation of labs with local funds.

Computer-Assisted Algebra Coursework

- **Most educators viewed the *I CAN Learn* and *Cognitive Tutor* programs positively, believing they helped ensure curricular consistency and improved student algebra performance.**

Two districts implemented comprehensive algebra coursework. One district invested in *I CAN Learn*, a lab-based computerized algebra curriculum, while another district purchased a program that combined computer- and text-based assignments (*Cognitive Tutor).* Most educators viewed both programs positively, believing they helped to ensure curricular consistency and improve student performance. End-of-course examination results for algebra confirm educators' opinions. Students in all participating high schools show strong gains, but those completing both computer- and text-based algebra assignments (*Cognitive Tutor)* had higher end-of-course passing rates. Some students in at-risk situations voiced discontent with strictly computer-based algebra, preferring written work and teacher explanations instead. Overall, a combination of computer- and text-based learning appeared most effective in supporting students' understanding of algebra. Based on findings for computer-assisted instruction (both self-paced credit recovery and comprehensive coursework), Box 6.1 offers ideas for practices that appear to support effective computer-assisted coursework.

Box 6.1. Best Practice: Comprehensive Computer-Assisted Coursework

- Provide adequate teacher support for each core-subject area
- Provide professional development and ongoing teacher support
- Ensure that courseware aligns with TEKS and TAKS objectives
- Provide a combination of computer-assisted and other assignments
- Use performance-based assessments in addition to computer-generated tests to determine content mastery
- Provide counseling and support services for at-risk students along with self-paced credit recovery coursework
- Keep regular classroom teachers well informed about the program
- Ensure continuity between regular course expectations and computer-assisted coursework

Supplemental Computer-Assisted Instruction

- **Some students believe computer-assisted instruction improved learning through clear directions, examples, and help with understanding the basics.**
- **Limited access to supplemental instruction in computer labs and uneven program implementation diminishes the potential impact on student achievement.**

One district invested in two *CompassLearning* labs (English and algebra) to provide supplemental individualized instruction for at-risk students. Although

many students in at-risk situations spent up to 45 minutes per week working on computer-assisted lessons in the labs, the impact on student achievement was uncertain. Teachers were typically positive about the software, and some students noted learning advantages. Still, uneven teacher commitment to program implementation and students' limited amount of time in labs to complete programs with extensive objectives diminished the prospects for a significant impact on achievement.

In lieu of supplemental instruction in computer labs, high schools should consider distributing computers and software into classrooms to promote stronger connections between class and computer-based instruction. This would support individualized assistance through a combination of computer-based and small-group instruction, as well as diagnostic and prescriptive instruction. For example, when one district used NGSI funds for computers and courseware in science classrooms, students reportedly benefited from online tutorials, learning from virtual experiments, remediating failed benchmark objectives, and preventing course failure.

Extended-Day Programs

- **A few districts funded extended-day programs with tutorials or credit recovery opportunities for ninth graders.**
- **Students who took advantage of extended-day tutorials apparently benefited, but student participation was a major obstacle.**
- **Most students in at-risk situations are unlikely to attend extended-day tutorials voluntarily.**

Virtually all high schools provide extended-day programs of some kind, but five districts used NGSI funds for programs primarily focused on after-school tutorials. Districts configured their extended-day programs in varied ways: programs prepared students to recover failed coursework through credit by examination, teachers provided voluntary tutorials after school, or tutorials were available in labs. As a whole, both educators and students generally agreed that students who took advantage of extended-day tutorials benefited through recovered credits, promotion, and staying with their peers. Students typically appreciated the one-on-one attention from teachers.

Two districts had greater success in attracting students. In one instance, by offering extended learning time to complete computer-assisted work in algebra labs, and in another case, enlisting parental support for mandatory attendance. Overall, when student attendance was voluntary in extended-day programs, poor attendance was the norm. Barriers to participation included sparse access to transportation, poor program organization, and students who failed to see benefits. Ongoing problems with after-school programs led in some cases to discontinuation after funding ended.

Educators noted similar problems with non-NGSI funded after-school programs. Although regarded as helpful, most at-risk students did not attend tutorials unless required to do so. Examples of successful extended-day programs (either NGSI-funded or non-funded) were rare. Better participation, however, was associated with programs that were well organized and scheduled, obtained parent consent and support, used alternative instructional approaches (e.g., computer-assisted learning), and provided transportation.

Extended-Year Programs (Summer School)

- **Nearly all districts used NGSI funds to provide credit recovery opportunities for ninth graders through summer programs.**
- **Summer programs varied by duration, daily schedule, earnable credits, course delivery method, and core-subject availability.**
- **Summer programs reportedly allowed some students to recover credits, avoid retention, and remain with their peers in tenth grade.**
- **Districts face challenges getting ninth graders to attend summer school, ensuring regular attendance, setting high expectations for student work and behavior, and helping students prepare for subsequent coursework.**

Almost all grants studied used NGSI funds to implement summer schools or extended-year credit recovery programs for ninth graders (first-time, repeat, or both). Many districts combined local and grant resources to support programs. Districts often enhanced their summer programs by adding NGSI-funded instructional resources, such as self-paced courseware. Nearly all educators cited student credit recovery and reduced retention as summer school advantages. They also thought that keeping at-risk students on-

grade level with their peers helped them stay in school. Smaller classes, individualized attention in summer school, and interactive, interesting, and engaging lessons aided in student success.

The voluntary nature of summer programs, however, narrows the population of students who attend and benefit. Educators point to attendance and discipline policies that eliminate disruptive or unmotivated students, but efforts to create a more positive learning environment also mean that many at-risk students who are unmotivated or have behavioral problems fail to receive much-needed academic support. Educators also are challenged to ensure that students who accrue credits in summer school actually acquire the knowledge and skills necessary to succeed in later coursework.

Similar to summer programs for newly promoted ninth graders, evidence from this study is insufficient to show how well summer schools work. However, a Southern Regional Education Board study challenges states that are serious about reducing student retention through summer school to establish clear standards for quality, program length, and scheduling of classes, and to evaluate rigorously both teaching strategies and student achievement (Denton, 2002).

Whole-School Improvement

Districts seldom used NGSI grants as an opportunity to overhaul their high schools' approach to at-risk students. However, in light of growing consensus on the need to help students cope in large, impersonal high schools, a few undertook organizational restructuring to modify instruction and services for ninth graders (by creating a *school-within-a-school*). Only a limited number of districts invested in core-subject course improvement or used teacher professional development to enhance classroom practice.

School-Within-a-School

- **In two districts, *schools-within-a school* provided a means to create smaller and more supportive environments in high schools.**
- **Ninth-grade teams reportedly strengthened student and teacher support, improved parent communication, and increased focus on student progress.**
- **Some educators believe ninth graders are carrying forward organizational habits and responsible behaviors developed in the school-within-a-school.**

Some districts established schools-within-a-school (ninth-grade teams within large high schools) to improve academic achievement among students in at-risk situations. In one very large district, eight high schools created horizontal ninth-grade teams, but a new superintendent replaced them in the second grant year with vertical teams connecting groups of teachers and students in grades 9-12. Thus, this discussion centers on another high school that redesigned its ninth-grade program and continues to implement the model today with Title I funds.

To ease students' transition to high school, first-time ninth graders occupied one area of the school for most core-subject classes. Teaching teams, including an English, math, science, and social studies teacher, used a shared conference period to discuss student needs and parent communication. Team members, including an assistant principal and counselor, contacted parents of failing students to get support for academic improvement. Ongoing professional development also helped teachers implement teaming, understand the unique need of students in at-risk situations, and acquire content-specific instructional strategies.

Educators said teaming kept the focus on student success and accountability, and housing students in one area increased student visibility. Educators reported a dramatic change in students attending class, coming to class prepared, and attending tutorials. The high school also made strides in reducing the retention rate (from 17 to 10.5 percent) and improving academics (e.g., Algebra I End-of-Course passing rates improved from 9 to 33 percent). Information in Box 6.2 summarizes important practices when creating a school-within-a-school.

Box 6.2. Best Practice: School-Within-a-School

- Relocate ninth-grade classes to one area
- Provide professional development and ongoing support for teachers
- Focus professional development on content-specific instructional strategies
- Provide two conference periods: one for personal planning and one for teaming
- Include assistant principal and counselor as team members
- Use planning meetings to discuss student progress and needs
- Communicate with parents regarding student progress and gain support
- Recognize student accomplishments

Core-Subject Course Enhancement

➢ **Although core-subject course enhancement occurred infrequently through NGSI grants, educators believe initiatives improved instruction and learning.**

Grants focused on enhancing core-subject area instruction in regular classes were rare. Two districts used computer-assisted instruction to enhance Algebra I coursework for ninth graders. Ninth graders received algebra instruction via self-paced, computer-assisted instruction in *I CAN Learn* labs in one district. One high school in another district implemented *Cognitive Tutor*, with ninth graders working on cooperative problem-solving activities in classrooms and completing other lessons in a lab setting. Although researchers do not endorse any particular computer-assisted program, the steps taken to improve Algebra I instruction in one high school (as detailed in Box 6.3) are worth mentioning.

Box 6.3. Best Practice: Enhancing Algebra Coursework

- Adopt a program for all algebra classes (e.g., *Cognitive Tutor* with text-based cooperative problem solving activities and computer-assisted instruction)
- Assign a master teacher with release time to provide oversight and mentoring
- Provide professional development for teachers on the program
- Align program with district curriculum and ensure alignment across all classes
- Assign all math teachers to at least one section of Algebra I
- Increase class time for algebra
- Hold weekly teacher sessions focused on instructional practices
- Have master teacher model instructional strategies
- Conduct classroom observations to monitor instructional practices
- Remove ineffective teachers from algebra classes

Professional Development

➢ **Professional development was used in only a few districts as a means to improve teaching and learning in core-subject area classrooms.**

Many districts used NGSI funds to provide brief training sessions or workshops for teachers, especially on the uses of particular software programs, but few districts made intensive or sustained professional development for teachers a priority. Districts that attempted to improve learning in core-subject courses usually invested in classroom resources and training for teachers. In particular, teacher development was a critical component supporting the successful implementation of integrated curriculum classes, the school-within-a school concept, and computer-assisted algebra coursework. Findings on the educational environment suggest a need for greater grant investments in teacher professional development.

What was the effect of grant resources on targeted students?

- **Although research design and confounding factors made causal inferences about NGSI effects impossible, data trends across the grant period reveal some increases in student attendance, decreases in retention rates, and improved algebra performance.**
- **Despite improvements, student attendance rates are generally less than 95% (NCLB test-participation standard), nearly one-fifth of ninth graders are not promoted, and fewer than half of ninth graders typically passed end-of-course algebra exams.**

Table 6.1 reports attendance, retention, and Algebra I End-of-Course examination data for NGSI ninth graders by their school district and visited high school. In addition to data for 2001-02, two-year gains are reported (1999-00 to 2001-02). To better understand data, district NGSI gain scores are compared to state averages. Specifically, *district retention decreases* that exceeded the state two-year decrease are noted in bold, and *district Algebra I End-of-Course examination gains* that exceeded the state gain are also noted in bold. As a whole, the majority of NGSI districts and high schools visited had increases in student attendance. In addition, 8 of 12 districts had retention rate decreases that exceeded the state average decreases (-0.8) and 5 of 8 districts had 2002 retention rates below the state average (16.9 percent).

Table 6.1. NGSI Outcome Variables for Ninth Graders

District/Recipient	Attendance Rate 2001-02	Change 1999-00 to 2001-02	Retention Rate 2001-02	Change 1999-00 to 2001-02[a]	Algebra EOC 2001-02	Change 1999-00 to 2001-02[b]
Crockett High School	94.2	+0.1	8.6	**-11.3**	16.8	-8.2
Los Fresnos High School	94.3	+2.3	18.8	+0.8	38.9	-2.6
Marshall High School	95.8	+2.3	15.8	**-7.0**	28.1	+9.0
San-Felipe-Del Rio CISD	93.7	-1.5	9.9	**-2.0**	31.5	+2.5
Freshman School	95.0	+4.5	8.8	-1.0	29.7	+1.1
High School	95.2	+15.8	33.3	-2.6	4.6	-0.5
Amarillo ISD	91.8	+2.0	12.8	**-2.2**	58.0	**+23.9**
Caprock High School	91.0	+1.9	10.5	-6.5	33.1	+24.5
Beaumont ISD	91.0	+0.1	26.4	**-2.9**	41.8	+4.8
Ozen High School	92.8	+3.1	20.3	-5.0	10.0	-13.3
Galena Park ISD	93.5	-0.1	12.8	**-3.4**	57.8	**+27.0**
North Shore High School	93.8	+1.6	14.0	+0.7	48.2	+22.8
Aldine ISD	93.8	+0.5	15.0	**-6.6**	74.2	**+17.0**
Nimiz Ninth Grade	95.0	+3.3	11.7	-6.8	86.1	+13.0
Nimiz High School	90.0	+4.7	35.8	+10.1	37.5	+7.5
Fort Worth ISD	89.7	-0.2	26.8	+0.8	44.5	**+21.1**
Carter Riverside	91.5	+1.5	17.5	-12.9	28.4	+16.1
Tremble Technical	93.6	+5.6	5.7	-2.8	50.9	+42.9
San Antonio ISD	91.5	+0.1	17.6	**-3.5**	46.4	+12.6
Lanier High School	91.2	+3.3	21.1	-3.9	38.2	+24.8
Jefferson High School	92.1	+2.5	14.5	-3.7	51.2	+19.3
Ysleta ISD	93.9	0.0	16.5	0.0	57.1	**+15.2**
Del Valle High School	94.8	+1.1	16.9	+2.9	73.6	+26.3
Socorro ISD	94.8	+1.0	20.8	+3.2	46.3	**+17.8**
Socorro High School	94.7	-0.1	16.9	-9.8	40.3	+17.1
State Average	--	--	16.9	-0.8	57.8	+13.9

Note. State attendance data for ninth graders are unavailable. Bold indicates district change is greater than state average. District and state Algebra I EOC exam averages includes all students taking the exam, primarily 8th and 9th graders.

Algebra I End-of-Course exams did not compare as favorably with the state average gain. Of 12 comparisons, 6 NGSI districts had larger gains than the state (+13.9 percentage points). Three participating districts—Amarillo, Galena Park, and Aldine—exceeded state benchmarks on both retention and algebra indicators. In general, student performance within individual high schools varied across districts with multiple campuses.

Based on these data, it is impossible to conclude that NGSI was a success or a failure. In particular, comparisons with state averages are between dissimilar groups. Systematic differences almost certainly exist between NGSI students and state comparison groups. NGSI students were selected for program participation based on their academic needs. Students in the state comparison group were not. Even comparisons between visited campuses and district NGSI averages are suspect. Systematic differences may exist between NGSI students from campus to campus within a district. Thus, any observed changes may be due to the NGSI program (or the program at a specific campus), or the changes may be due to preexisting academic and motivational differences between the comparison groups and NGSI students. Thus, systematic differences make it difficult to prove whether NGSI was effective or not. See Appendix E for a more extensive discussion of factors jeopardizing the validity of comparisons.

How does the high school context and educational environment support students who are at risk?

Each grant program operates within the broader campus and school district as a whole—therefore, to better understand student performance, researchers examined not only the NGSI program but also the school context experienced by ninth graders in at-risk situations. Areas of interest arose from a review of recent research and publications offering recommendations for improvements in the nation's high schools (e.g. American Youth Policy Forum, 2000; High Schools that Work—Frome, 2003; NASSP, 1996/2003). Topics relating more broadly to the high school context included standards and expectations, structure and organization, opportunities for extra academic assistance, and guidance and counseling services. Researchers also gathered information on the high school environment and the nature of teaching and learning.

Standards and Expectations

- **In nearly all high schools visited, the Recommended High School Program is currently the default curriculum.**
- **Many districts have established more rigorous promotion standards to ensure that ninth graders are prepared for the Texas Assessment of Knowledge and Skills (TAKS).**

Since the 77th Texas Legislature made the Recommended High School Program the default curriculum for the senior class of 2008, researchers gathered information on progress toward the adoption of higher standards. Texas high schools undoubtedly are endorsing more rigorous academic standards. Ninth graders in 11 of 12 districts visited initially are enrolled in the Recommended Program, and the Minimum Plan only is considered as a last option to facilitate graduation. The advent of statewide testing in ninth grade also has led high schools to toughen student promotion standards. Many high schools now require students to complete six credits rather than five to advance to tenth grade, and some require students to complete core-subject area courses as well.

Even though higher academic standards provide a basis for high school improvement, unintended consequences exist. In particular, when at-risk students fail and must repeat courses to accrue needed credits, their educational options begin to narrow. Both educators and students report that some students must cut back on electives or extracurricular activities such as sports or fine arts to retake classes or dedicate extended time to coursework. Thus, higher standards can have detrimental effects that may further disengage students from school and learning. The present challenge for high schools is to help ninth graders succeed in core-subject courses the first time enrolled.

Structure and Organization

- **Although most high schools retain the traditional grades 9-12 structure, some have created smaller, more supportive units within the high school.**
- **Scheduling approaches vary widely, but high schools appear to be shifting from block schedules (90-minute periods) to traditional, single-period schedules (50-minute periods).**
- **A few high schools modified their schedules to give extended learning time to ninth graders considered at-risk of academic failure, primarily in algebra and English.**

Many proponents of high school reform believe the manner in which high schools organize and use time affects the quality of teaching and learning. Recent research has focused on the benefits of creating smaller schools or smaller units within large comprehensive high schools (Harvey & Housman, 2004; Vander Ark, 2004).

Researchers for this study found a few high schools experimenting with organizational structures as a way to bolster student achievement. However, the majority of Texas high schools visited still have traditional grades 9-12 structures and large student enrollments. Restructuring in these schools more often involves changed course schedules, time allocations, or staffing arrangements rather than new school configurations. For example, many high schools are abandoning block scheduling and returning to the traditional, single-period daily schedule, with students attending 7 or 8 classes each day throughout the school year.

Changes appear to be driven by a belief that teachers need daily contact with at-risk students to prepare them to succeed on the TAKS. Some also think that block schedules with 90-minute periods have not produced the active, meaningful learning experiences or student success originally envisioned. Others feel that struggling students cannot maintain their focus in 90-minute periods or cope with the alternate-day schedules.

A few exceptions exist to the traditional high school grade configuration. Two of 12 districts studied created *ninth-grade schools* with students housed in a separate building near an affiliated senior high school. This configuration reportedly benefits ninth graders by easing crowding (about 800-900 students per school), reducing discipline problems, and creating an environment that allows maximum attention to students' academic and emotional needs. Large high schools in other districts were re-designed as *schools-within-a-school* to provide a more supportive environment within schools typically enrolling about 2,000 students. One district recently implemented vertical teams (teams of grades 9-12 students, teachers, and support staff); however, not enough meeting time for teachers affected the envisioned collaboration. High schools in another district had greater success implementing horizontal teams (teams of ninth-grade teachers, students, and staff).

Overall, educators who successfully reconfigured large high schools into smaller, supportive units cited benefits such as eased student transitions to high school, strengthened communication among teachers, individualized attention for students, and a greater focus on student needs. Despite positive perceptions, researchers warn that the evidenced benefits of small schools, such as higher achievement, may not necessarily be generalized to schools-within-a-school (Howley, 2002). In particular, one may not expect to see the same effects unless the school-within-a school concept is implemented exactly as designed. In summarizing the current status of small schools, Harvey and Housman (2004) report that, "While scientific evidence supporting the efficacy of small schools is not yet available, many practitioners find that interacting on a smaller scale makes it possible to reach and support all students in personalized ways".

Teaming and Collaboration

- **Teachers believe high schools have clear goals and priorities, much cooperative effort, and a strong focus on student achievement, but they are less positive about their involvement in decision making and the enforcement of rules for student behavior.**
- **In many high schools where departments are organized by subject area, teachers report few interdisciplinary meetings or meetings with peers for instructional planning.**
- **Smaller high school units (school-within-a-school, ninth-grade center) seemed to promote better teacher collaboration.**

Multiple sources of evidence suggest that high school teachers have limited opportunities for interdisciplinary collaboration due to complex course

schedules, a lack of shared conference periods, and the school organization into subject-area departments. Discussions in formal meetings, according to teachers, frequently center on student test scores, interim exams, TAKS content, and test preparation.

Many high school teachers rely on informal interactions with other teachers before or after school, during lunch, or between classes to discuss student problems or instructional issues. Teachers also express concerns about their involvement in decision-making in the high school. Teachers' limited role in developing NGSI grant proposals certainly substantiates their view. However, high school teachers working in a ninth-grade school or as part of a school-within-a school team with dedicated planning time report more discussions about student problems and needs and greater opportunities for collaboration and professional development.

Extra Academic Assistance

- **All sites visited offer extra academic assistance to students in at-risk situations, but some take a more structured approach.**
- **Although educators and student participants believe tutorials are helpful, most at-risk students do not attend unless they are required.**
- **Barriers to participation in tutorials include transportation issues, lack of motivation, scheduling difficulties, after-school conflicts, and perceived benefits.**

While the NGSI offered one means of extra academic assistance for struggling students, many districts and campuses implemented other programs as well. All high schools offer tutorials for at-risk students, with tutoring typically scheduled before, during, or after school or on Saturdays. Academic assistance frequently helps students prepare for the state assessment (TAKS), complete assignments, or make-up assignments or excessive absences. In about half of the districts visited, tutorials are arranged informally between students and teachers.

Other districts take a more structured approach and require students who have failing grades or who fail benchmark assessments to attend. In general, although both educators and students believe tutorials are helpful, student participation is a major problem in all districts. Many ninth graders in at-risk situations said they seldom or never attend tutorials unless they are required. Of those who do participate, most indicated that they do not attend on a regular basis.

The challenges in providing tutorials for at-risk students outside of regular school hours are similar to those cited previously for extended-day and summer programs. Students who have the greatest need are least likely to participate. Although a number of legitimate factors impede participation (e.g., transportation, jobs, family responsibilities), many educators attribute poor attendance to students' *lack of motivation*. One teacher voiced a commonly held opinion: students who attend are "the ones that want to learn."

Students' perspectives offer insight into their motives. Some ninth graders do not view tutorials as opportunities for real academic improvement, feeling that brief tutorials do not help them understand material that was incomprehensible in class. Instead, students more often viewed tutorials as a way to make-up failed assignments or remove zero grades on assignments due to absences. Further, the inability of students to see long-term consequences usually meant that they waited until after failing a grading period or course to seek assistance. Overall evidence suggests that, although helpful, extra academic assistance outside of regular school hours will not be enough to help many at-risk students meet rigorous academic standards. Learning opportunities during the regular school day must be strengthened as well.

Guidance and Counseling

- **Guidance and counseling services for students in at-risk situations are limited in many high schools by counselor-to-student ratios that exceed recommended standards.**
- **Contact between at-risk ninth graders' and counselors is limited primarily to the selection of courses or programs; older students are more likely to receive information about jobs and careers, or how to improve academic work.**
- **Ninth graders' interactions with counselors on high school plans occur most often in groups rather than individually.**
- **Most students in at-risk situations report limited contact with counselors regarding higher education and career options, but access varies across districts and schools.**

- **Students in at-risk situations generally have lofty educational aspirations that tend to diminish as students grow older.**

The important link between student motivation to learn and school achievement is well established. Substantial evidence also shows that the school context can affect students' beliefs about their competence and control, values and goals, and consequently, academic engagement (Institute of Medicine & National Research Council, 2004). In the school setting, access to guidance and counseling can help at-risk students establish personal goals and see how their current efforts in school yield future educational and career benefits. In light of the importance of educational goal setting, the 78th Texas Legislature mandated the development of personal graduation plans for middle and high school students in at-risk situations.

Texas high schools and counselors clearly are trying to provide services for at-risk students. Even so, the counselor-to-student ratios in high schools visited (ranging between 1:243 and 1:535) leave limited time for personal attention. More often, counselor support focused on helping ninth graders select courses or high school programs. Planning, according to many, usually occurred in group sessions during spring visits to middle schools, with counselors helping students pre-register for high school, learn about course requirements, identify career goals, and complete a coursework plan. When asked specifically about their high school plan, however, most ninth graders answered vaguely.

Information on jobs, careers, and higher education is conveyed through various means, such as counselors, career counselors, *Career Connections* courses, or the GEAR UP program. Despite efforts, most ninth graders said they had not discussed careers or educational opportunities with their counselor. Still, many students seemed interested and excited about the possibility of post-secondary education and careers, almost all aspired to attend college or a vocational school, and many expected to graduate.

Access to counseling services for at-risk students increases with age. Older students, who are more likely to fail and repeat ninth-grade courses, were more likely to report contact with counselors to get information on jobs or careers, for academic improvement, and to discuss things studied in class. Unfortunately, by the time counseling and guidance becomes more readily available, students' lack of academic success appears to have diminished their hopes to participate and succeed in higher education.

All of this speaks to the need for early intervention to help struggling students see possibilities for the future *before* they fail. Certainly, high school counselors cannot shoulder the full responsibility for guiding the many high school students who need help understanding their high school plan and how success in school relates to later opportunities in life. Some believe a promising strategy is to diffuse guidance and counseling responsibilities among school staff, including teachers. Trained professionals such as counselors could serve as resources for staff and provide direct services for students and families with serious problems. Through this model, every student and family would have a school staff member as an adult advocate (National Research Council & National Institute of Medicine, 2004).

Teachers and Teaching

Qualifications and Assignments

- **Ninth-grade teachers are fairly experienced, but a substantial proportion comes to teaching through non-traditional certification.**

Survey results for ninth-grade teachers in the high schools visited revealed that 40 percent had joined the profession through alternative or post-bachelor certification programs. Although recruiting teachers through alternative means can be an effective way to fill critical vacancies, it also increases the need for a strong professional development program to build pedagogical knowledge among teachers who did not attend a standard teacher-preparation program.

In several districts, educators raised concerns about whether the assignment of new and inexperienced teachers to ninth-grade courses undermines instructional quality and consistency—thus, compounding students' learning problems. The inherent difficulties of teaching ninth graders (like large classes and immature students) appear to be contributing factors to class assignments. Several administrators said teachers view assignments to teach upper classmen and advanced classes as rewards for seniority. To address this issue, a few high schools report proactive efforts to assign more accomplished teachers for ninth graders. For example, some administrators assigned all language arts or mathematics teachers to at least one section of English I or Algebra I.

Professional Development

- **High school teachers have access to professional development on a range of topics, with training delivered more often through workshops or a series of training sessions.**

Although professional development was not a strong focus for NGSI grants, teachers reportedly participated in many workshops and training sessions relevant to ninth graders' needs. Both administrators and teachers frequently noted that high school teachers are encouraged to use active learning strategies, differentiated instruction, and intellectually challenging activities. Although professional development delivery varied, teachers most often said they attended workshops or training sessions throughout the year. Educators seldom reported follow up to monitor implementation of instructional strategies.

Perceptions of Effective Instruction

- **High school teachers' beliefs about teaching practices vary widely, with some advocating learner-centered approaches and others favoring traditional methods.**
- **Students in at-risk situations say *good teachers* provide clear explanations, encourage active and meaningful learning, make class interesting, establish personal relationships, use small-group activities, and offer individual help.**

As a whole, teachers and students express similar views on certain instructional practices that effectively promote learning (see Box 6.4). Both groups advocate active and meaningful learning experiences, varied (or interesting) instructional approaches, and positive interpersonal relationships. Interestingly, many of these qualities are consistent with research on engaging adolescent learners (e.g., Lambert & McCombs, 2000).

Still, important differences also emerge. Many at-risk student say they learn and remember more from teachers who make the subject matter understandable by explaining step-by-step, simplifying, using different terminology, and persisting until students understand. Students also are more likely than teachers to cite benefits gained by working with their peers in small groups and receiving individual assistance from the teacher.

Box 6.4. Effective Instructional Practices

Teacher Perceptions	Student Perceptions
• Use hands-on activities • Provide relevant, real-life experiences • Use varied instructional approaches • Hold students accountable • Provide constant reinforcement • Build personal relationships	• Provide clear explanations • Encourage active and meaningful learning • Make class interesting • Establish personal relationships • Use small-group activities • Offer individual assistance

Note. Order reflects most frequently cited teacher and student perceptions from high to low.
Source: Focus groups involving 124 teachers and 202 students.

Although high school teachers agree on some instructional practices, they differ on others. A number of teachers advocate learner-centered approaches, but others believe traditional, teacher-directed instruction works best. In particular, some teachers felt that activities such as small-group instruction are not successful with at-risk students who are largely unmotivated learners. In some cases, teachers question whether active learning strategies will prepare students who lack the basic skills to do well on the TAKS. Several teachers believe that holding students more accountable for attendance, homework, grades, and discipline is the key to improving learning outcomes.

The most noteworthy aspect of teachers' views on instructional practices is the difference between *expressed opinions* (regarding the need for hands-on activities, relevant experiences, and varied instructional approaches) and *observed practices* (mainly teacher-centered classrooms).

Teachers' Classroom Practices

- **High school classrooms are organized most often for whole-class instruction followed by students working independently. Students seldom work collaboratively with peers.**
- **Teachers spend the greatest proportion of class time providing whole-class instruction and monitoring students as they work independently on assignments.**

- **Teachers seldom ask mentally challenging questions or questions that help at-risk students see the relevance of subject matter to their lives.**
- **Since teachers have little access to technology in classrooms, it is seldom used to support instruction and learning.**

Researchers conducted observations in 81 core subject-area classrooms in high schools. Interestingly, comparisons between observational findings for this study and results from a landmark study conducted by Goodlad in the 1980s (*A Place Called School,* 1984) show that not much has changed in high schools. High school teachers tend to teach one way—primarily whole-class lectures.

Most teachers in this study organized their class for whole-class instruction, with student desks commonly arranged in rows facing the teacher. Following teacher-led lectures, explanations, or demonstrations, teachers usually walked around the room monitoring students as they worked independently. Teachers sometimes stopped briefly to answer a question or assist a student having difficulty with an assignment, but they rarely provided sustained individualized instruction.

During whole-group discussions, teachers mainly relied on brief question and answer exchanges to establish students' grasp of factual information. Questions posed by teachers seldom required students to explain concepts in their own words or to justify their ideas verbally. Rarely were questions used to help students connect concepts being studied in the lesson to real world applications or to other subject areas. Only 1 in 10 teachers used technology for lessons; those who did made PowerPoint presentations or used visuals to support whole-class lessons.

Instructional practices observed in high schools are inconsistent with current research on how students learn or with known methods for engaging students. Research shows that teachers must build on their students' preexisting knowledge, provide opportunities for them to become *good thinkers* (e.g., notice patterns, generate arguments and explanations, and draw analogies), and help students organize information to facilitate retrieval and application in other contexts. Teachers also must help students examine their own thinking and monitor their own understanding (i.e., teach *metacognition*) (Bransford, Brown, & Cocking, 2003).

Although no one universally accepted instructional method exists, learner-centered environments create opportunities for active, meaningful, relevant, and intellectually challenging experiences that promote student engagement and achievement. (National Research Council & Institute of Medicine, 2004).

Students and Learning

Opportunities to Learn

- **Students in at-risk situations spend the greatest part of their time listening to teacher presentations or independently completing short-answer activities or worksheets.**
- **Students rarely use technology in classrooms to support content-area learning.**

The problem with teacher-centered classrooms is the effect on students. Students in the core-subject area classrooms observed spent nearly half of their time as listeners rather than active learners. Following teacher-led presentations, students usually worked alone to complete a worksheet or a short-answer exercise. Students seldom worked collaboratively with other students to share their thinking or discuss ideas. Further, students rarely used technology to support learning because computers in high school are usually located in labs rather than classrooms.

One-on-one teacher assistance typically was brief and usually in response to difficulty with an assignment. Thus, teachers had little time to understand student thinking processes or the knowledge and skills they brought to the lesson. In general, teachers expect little of at-risk students intellectually. Students seldom engaged in challenging activities promoting the kinds of thinking needed to meet state content standards (e.g., analysis, synthesis, problem solving, application, elaborative communication) or to prepare them for more advanced coursework.

Overall, observed practices and learning opportunities in high school classrooms raise questions about teachers' understanding of students as learners, especially research-based conceptions. Observed practices also are inconsistent with learner-centered principles as advocated for Texas schools, assessed through the Professional Development and Appraisal System (PDAS), and shown to be effective for learners through a vast body of research (e.g., Brans-

ford, Brown, & Cocking, 2000; Lambert & McCombs, 2000). Professional development for high school teachers should focus on building an understanding of students as learners, as well as the implementation of content-specific instructional strategies that are linked to student achievement.

Perceptions of Students as Learners

- **Educators believe ninth graders' academic performance is affected by inadequate learning strategies and skills, immaturity and irresponsibility, lack of academic preparation, lack of motivation, and poor attendance.**

Teachers' perceptions of at-risk students as learners may partially explain their instructional approaches. Many teachers believe ninth graders come to high school with insufficient content knowledge and inadequate learning strategies and skills to succeed academically. Thus, many teachers who believe students are disorganized, unmotivated, and lack self-discipline, think students will not learn unless the teacher maintains control of classroom activities. Disruptive students also may play a role in why some teachers do not use small-group activities. Nearly half of at-risk students indicate that disruptions by other students interfere with their learning.

Evidence from various sources points to at-risk students' disengagement from high school and learning. Poor attendance, lack of motivation, disruptive behavior, irresponsibility regarding homework and grades are all symptoms of larger problems. Findings throughout this study point to such issues as:

- Boring and repetitive instruction in core subject-area classrooms that fails to engage students intellectually;
- Limited use of technology in core-content classrooms to support engaged learning;
- Expectations to attend after-school or Saturday tutorials when in-school time is not used to the greatest advantage;
- Repeated course failure, which narrows educational choices and opportunities for enriched learning experiences; and
- Poor access to counseling and advisement to help students set goals and see how current investments in learning yield future benefits.

Although high schools cannot control all of the factors that influence engaged learning, high school educators more often attribute the poor performance of at-risk students to socioeconomic and personal deficiencies or to inadequate preparation in middle schools. In contrast, the high school context and classroom experiences are seldom mentioned as important influences on student engagement, motivation to learn, and achievement.

Transition from Middle-to-High-School

- **Differences in school size and organization, grading systems, educational philosophy, teacher characteristics, and academic expectations make the transition from middle-to-high-school difficult for ninth graders.**
- **Inadequate academic preparation, increased freedom coupled with immaturity, home-life situations, and apathy makes high school challenging for many ninth graders.**

Both educators and students offer insights into difficulties experienced by ninth graders in transitioning to high school (see Box 6.5).

Box 6.5. Ninth Graders' Challenges in Transitioning to High School

Middle-to-High School Differences	Student-Related Issues
• School size and organizational features • Grading and credit system • Educational philosophy • Teacher characteristics • Academic expectations	• Inadequate academic preparation • Increased freedom coupled with immaturity • Home life situation and poverty • Apathy/lack of effort

Note. Order reflects most frequently cited challenges from high to low.
Source: Interviews involving high school administrators and directors (n=47) and focus groups with teachers (n=124) and students (n=202).

Foremost, the redesign of middle schools into smaller and more supportive learning environments (e.g., *Turning Points*, 2000) has made the passage from middle schools to large, impersonal high schools even more difficult for students. Middle schools and high schools differ in size and structure, teachers have different instructional styles and attitudes, and grading systems also are vastly different.

In general, high school administrators and teachers expect ninth graders to arrive with near-grade level content knowledge, adequate learning strategies, and the skills to work independently. Educators also expect students to listen and learn from lectures, and to take responsibility for completing homework outside of class. Students who do not meet expectations have difficulty doing well in high school. Overall, communication between middle- and high-school educators should be strengthened to resolve misunderstandings arising from the juncture of two very different educational philosophies. Organizational and instructional inconsistencies make the middle-to-high school transition difficult, especially for students in at-risk situations. Although vertical teaming has been touted as one way to achieve greater cohesion between school levels, little evidence emerged to suggest that strong lines of communication exist. Although it is up to each district to determine how to address issues that affect at-risk students, recommendations on high school reform offered by school administrators, researchers, policymakers, and the business community are worthy of consideration (e.g., Harvey & Houseman, 2004; NASSP, 2004).

What are the implications for grant awards and management?

Grant recipients generally praised TEA's facilitation of the NGSI grant process. Recommendations concerning grant management typically related to the timing of grant awards and funding. Many grantees appreciated TEA efforts to streamline the evaluation process in later grant terms. In a few instances, educators found the guidelines for allowable fund uses confusing. Findings to follow relate more specifically to overall improvement of grant development, implementation, monitoring, and sustainability.

Grant Development

- **Grant applications should put greater emphasis on identifying problems, determining the root causes, and articulating how the project will alleviate those problems.**

While most sites made use of student achievement, attendance, and retention data as outcome measures for grant development, most did not have well-developed processes for assessing school needs in a systematic way. Specifically, reporting on trends in student achievement alone does not help to identify factors that facilitate or hamper student learning. Grant developers from schools, with the assistance of districts, should consult with various stakeholders (especially teachers), examine various forms of data, and attempt to sort out root causes for difficulties. Once causes are identified, attention can be turned to addressing them through the grant. Improving teaching and learning in all schools might be accomplished more effectively if schools choose from rigorously researched and well-documented reform designs that provide networks of support for implementation (Slavin & Fashola, 1998).

- **Grant programs should have a clear focus, with a clearly organized explanation of how program components connect to interim and long-term outcomes.**

Individual NGSI award components often were implemented as discrete, disconnected activities. Schools and districts should be encouraged to think in terms of cause and effect with each component serving a unique and critical role in the overall program. This means ensuring that stakeholders understand the improvement effort, adequate initial and ongoing planning occur, and dedicated oversight for the award exists.

- **Grant applications should be informed by the thinking of various stakeholders.**

NGSI grant development primarily involved campus and district administrators. While administrative perspectives are critical, input from faculty, staff, and even parents and students can lead to a better-informed set of solutions, and to increased buy-in.

- **Grant programs for students in at-risk situations should be aligned with curricular and learning expectations in regular classrooms.**

Several NGSI schools established arguably separate or dual curricula for students in at-risk situations. If the purpose of providing services to at-risk students is to move them to a new status of "at promise," those students need access to the same curricula and high level of learning expectations that others receive. Several studies have demonstrated the harmful effects of tracking for low-performing students (Oakes, 1985; Wheelock, 1992).

In developing guidelines for grants, policymakers and agency staff should consider how allowable activities influence the theory and pedagogy behind student learning experiences. As an example, the language in the *Request for Application, Ninth Grade Success Initiative* (November, 1999) says, "Grant funds from the NGSI may be used to (a) create new programs, (b) enhance existing programs, or (c) expand existing programs" (p. 6).

While this is relatively general language, references to "programs" suggest that the solution to the educational needs of ninth graders lies in some "magical" program rather than more broad-based school improvement. For example, many districts responded to the proposal by purchasing self-paced computer-assisted programs for credit recovery. Credit recovery programs (both computer- and classroom-based) often created a separate set of learning experiences and expectations for at-risk students, tracking struggling students into classes with other low achievers.

- **Grants aimed at improving learning and academic performance of at-risk students must include substantial investments in professional development, especially for classroom teachers.**

Most of the schools studied did not focus on professional development. Without guidance and information, few educators can effectively improve their schools and student learning. In particular, school personnel need to have access to learning strategies appropriate to the intended goals of their improvement efforts (NSDC, 2001). Educators also must be able to apply knowledge about human learning and change, which only can happen with a deep content knowledge of research-based instructional strategies. For instance, it appears that high school personnel are unfamiliar with strategies to integrate technology fully into the curriculum.

Teachers also need content-specific professional development and ongoing support to improve instruction and learning in core-subject area classrooms, especially algebra. At the same time, educators must not operate under the assumption that all staff development leads to positive outcomes or that more staff development is better (Guskey, 1998). Currently, much is known about the kind of professional development that changes teacher practice, which can serve as a guide for grant development (Hawley & Valli, 1999; Wisconsin Center for Education Research, 2003).

- **Grant applicants should have access to research-based information on effective instruction and school improvement.**

In many cases, it appears that school staff members are under-prepared to plan effective school improvement. Grant developers need to access the abundant research on educational change and reform strategies. According to Moffett (2000), "We know enough to act," and "we cannot afford to ignore the research." Currently, a wealth of information is available to guide reforms that support student learning and school improvement. The state also may consider sharing evaluations of programs and improvement initiatives to help guide decisions about applicability to certain contexts.

Grant Implementation

- **Grants should require or strongly encourage the addition of dedicated program leaders.**

Schools with dedicated program management at both the district and campus level appeared to have the greatest success implementing and continuing their grants. This was especially true in larger districts. Full implementation of any grant depends on consistent leadership at the school level. Principals, who often are designated campus leaders, frequently have too many responsibilities to provide close oversight for grants. Likewise, teachers who have no release time cannot oversee grant activities adequately. When large districts receive grants involving multiple campuses, dedicated oversight is needed both at the central administrative and campus levels to ensure consistent communication. In general, districts that receive grants should use a combination of local and grant resources to ensure strong support for implementation.

- **Major program changes made during the grant should require TEA approval.**

Several schools made substantial changes to their initiatives during implementation. In some cases, entire components were dropped. While mid-course adjustments in school improvement efforts often are needed to address changes in policy or demographic context, frequent changes do not allow time for impact, and they make measurement of success impossible. In many cases, the implemented NGSI program bore little resemblance to the NGSI program described in the

grant proposal. TEA should require grant awardees to go through a formal review process for program modifications.

Grant Monitoring

- **Legislators should fund external evaluations at the same time that grant programs are approved or reauthorized.**

Historically, many state-level evaluations of grant programs are conducted after programs have been implemented. Though findings are informative, this post-hoc approach precludes the use of more rigorous scientific methods for evaluations (i.e., experimental or quasi-experimental designs) that allow valid inferences on program effects. In the future, legislators should consider funding external evaluations as programs are approved or reauthorized. This way, research organizations can provide unbiased information on program effectiveness in order to guide agency and legislative decision-making on educational programs.

- **Districts and campuses receiving grants must be held accountable for TEA reporting requirements and implementation fidelity.**

Several sites failed to meet TEA reporting requirements. Without accurate and timely data, TEA and evaluators cannot stay abreast of each award school's implementation progress, and thus cannot attest to its effectiveness. Several sites also made substantial changes to their implementation plans, making comparison of outcome to input difficult, if not impossible. NGSI program changes more often reflected expediency and opinion rather than systematic decision-making about program effectiveness. With mid-course changes, it is difficult to gauge effectiveness or monitor change in outcomes.

- **Grant awardees should have access to external technical support, assistance, and formative evaluation.**

It appears that several awardees did not maintain alliances with potential external assistance providers. Assistance providers can help the school implement effective, research-based strategies and bridge the gaps among schools, districts, and the state. While expertise often is available within schools and districts, technical assistance by external providers broadens the pool of knowledge from which schools and districts can draw.

Grant Sustainability

- **Districts should have a contingency plan to address changes in grant leadership.**

Staff and administrator turnover undermined consistent grant implementation and frequently led to program changes. Further, it appears that leadership and staffing changes may have had the greatest negative impact on the implementation and continuation of NGSI programs. When major grant staffing changes occur, districts should submit a revised plan to show how grant activities will be sustained under new project leaders. In particular, site-based decisions should not be allowed to override grant obligations and agreements without prior approval from the TEA.

- **Grant awardees should create a context that increases the likelihood of program success.**

Broad-based input into grant planning and development, thorough program planning, campus administrative support, and teacher "buy in" all were associated with successful grant implementation. More widespread support for grant development and implementation will help to alleviate the void left when key project leaders leave a school or district. Each grant should create a web of support for implementation and sustainability.

Appendix A

Teacher Questionnaire

Teacher Questionnaire

Directions: Please complete the questionnaire and mail it directly to the Texas Center for Educational Research. ***Please return the completed survey by December 19, 2003. Thank you for responding.***

General Information

District Name _____ Campus Name _____

What grades do you currently teach at this school? (Mark all that apply.)

❍ 9 ❍ 10 ❍ 11 ❍ 12

What is your primary teaching assignment?

❍ Mathematics
❍ Science
❍ English/language arts
❍ Social studies/social science
❍ Technology/computer science
❍ Other (specify) _____

On average, how many students are in an academic class? _____

Including this school year, how many years have you been employed ***as a teacher***? _____

Including this school year, how many years have you been teaching ***at this school***? _____

What is your gender? ❍ Male ❍ Female

What is your highest educational level? (Select **one.)**

❍ Fewer than 4 years of college
❍ Bachelor's degree Major: _____ Minor: _____
❍ Master's degree Major: _____ Minor: _____
❍ Doctorate Major: _____ Minor: _____

What was your certification route? (Select **one.)**

❍ College/university undergraduate certification program
❍ Alternative certification program (ACP)
❍ College/university post-bachelor certification program
❍ I am not certified.

Teaming and Collaboration

How often do you meet as an interdisciplinary team (i.e., across subject areas) to plan collaborative instructional activities to support student learning?

❍ My team meets more than once a week for this purpose.
❍ My team meets once a week for this purpose.
❍ My team meets once a month for this purpose.
❍ We have met once this year for this purpose.
❍ I do not attend any such meeting.

Continued on Back

Texas Center for Educational Research 2003

School Environment

Using the scale below, indicate the extent to which you agree or disagree with each of the following statements about your school.

		Strongly Disagree	Disagree	Agree	Strongly Agree
a.	Goals and priorities for this school are clear.	❍	❍	❍	❍
b.	The surrounding community actively supports our instructional efforts.	❍	❍	❍	❍
c.	Teachers in this school are continually learning and seeking new ideas.	❍	❍	❍	❍
d.	The principal consults with staff before making decisions that affect us.	❍	❍	❍	❍
e.	In this school, I am encouraged to experiment with my teaching.	❍	❍	❍	❍
f.	There is a great deal of cooperative effort among staff.	❍	❍	❍	❍
g.	If I try really hard, I can get through even to the most difficult or unmotivated students.	❍	❍	❍	❍
h.	I am familiar with the content and specific goals of the courses taught by other teachers in this high school.	❍	❍	❍	❍
i.	There is really very little I can do to insure that most of my students achieve at a high level.	❍	❍	❍	❍
j.	I feel that it's part of my responsibility to keep students from dropping out of school.	❍	❍	❍	❍
k.	I usually look forward to each working day at this school.	❍	❍	❍	❍
l.	The staff is continually evaluating its programs and activities.	❍	❍	❍	❍
m.	Rules for student behavior are consistently enforced in this school.	❍	❍	❍	❍
n.	If some students in my class are not doing well, I feel that I should change my approach to the subject.	❍	❍	❍	❍
o.	The teachers and school administrators work together to improve student achievement.	❍	❍	❍	❍
p.	By trying a different teaching method, I can significantly affect a student's achievement.	❍	❍	❍	❍
q.	Teachers in this school maintain a demanding yet supportive environment that pushes students to do their best.	❍	❍	❍	❍
r.	I am certain I am making a difference in the lives of my students.	❍	❍	❍	❍

Comments

Thank you for completing the questionnaire. Contact Keven Vicknair at 800-580-8237 with questions about the content.

Please return the completed questionnaire by December 19, 2003

Return completed questionnaire to:
Texas Center for Educational Research
P.O. Box 679002
Austin, TX 78767-9002

Texas Center for Educational Research 2003

Appendix B

Student Questionnaire

Student Questionnaire

General Information

Campus Name _____

What is your current grade level?

❍ 9 ❍ 10 ❍ 11 ❍ 12

How old are you? _____ years

What is your gender? ❍ male ❍ female

How much time do you usually spend on homework each day?

❍ ½ hour or less
❍ 1 hour
❍ 2 hours
❍ More than 2 hours

School Environment

Indicate the extent to which you agree or disagree with each of the following statements about your school.

		Strongly Disagree	Disagree	Agree	Strongly Agree
a.	Teaching is good at this school.	❍	❍	❍	❍
b.	Most teachers listen to me.	❍	❍	❍	❍
c.	Disruptions by other students get in the way of my learning.	❍	❍	❍	❍
d.	Students get along well with teachers.	❍	❍	❍	❍
e.	Discipline is fair at school.	❍	❍	❍	❍
f.	When I work hard, teachers praise my effort.	❍	❍	❍	❍
g.	I don't feel safe at this school.	❍	❍	❍	❍

Plans for the Future

As things stand now, how far in school do you think you will get?

	Mark One
Won't finish high school	❍
Will graduate from high school, but won't attend another school	❍
Will go to vocational, trade, or business school after high school	❍
Will attend college	❍
Will graduate from college	❍
Will attend a higher level of school after graduating from college	❍

Since the beginning of this school year, have you talked to a counselor or teacher at your school for any of the following reasons.

		Counselor		Teacher	
		Yes	No	Yes	No
a.	To get information about high schools or high school programs	❍	❍	❍	❍
b.	To get information about jobs or careers that you might be interested in after finishing school	❍	❍	❍	❍
c.	To help improve your academic work at school right now	❍	❍	❍	❍
d.	To select courses or programs at school	❍	❍	❍	❍
e.	To discuss things you've studied in class	❍	❍	❍	❍
f.	Because of discipline problems	❍	❍	❍	❍
g.	For counseling on personal problems	❍	❍	❍	❍

Appendix C

TxSSAR Classroom Observation Form
Fall 2003

TxSSAR Classroom Observation Form
Fall 2003

RECORD DESCRIPTIVE INFORMATION:

1. **Observer**: _____ 2. **Date of Observation**: _____

3. **Teacher/Aide**: _____ 4. **Start Time**: _____ 5. **End Time**: _____

6. **District** _____ 7. **School** _____ 8. **Grade** _____

9. **Subject:** ❍ Reading ❍ Language arts ❍ Social Studies ❍ Science ❍ Mathematics ❍ Other_____ ❍ Computer Lab

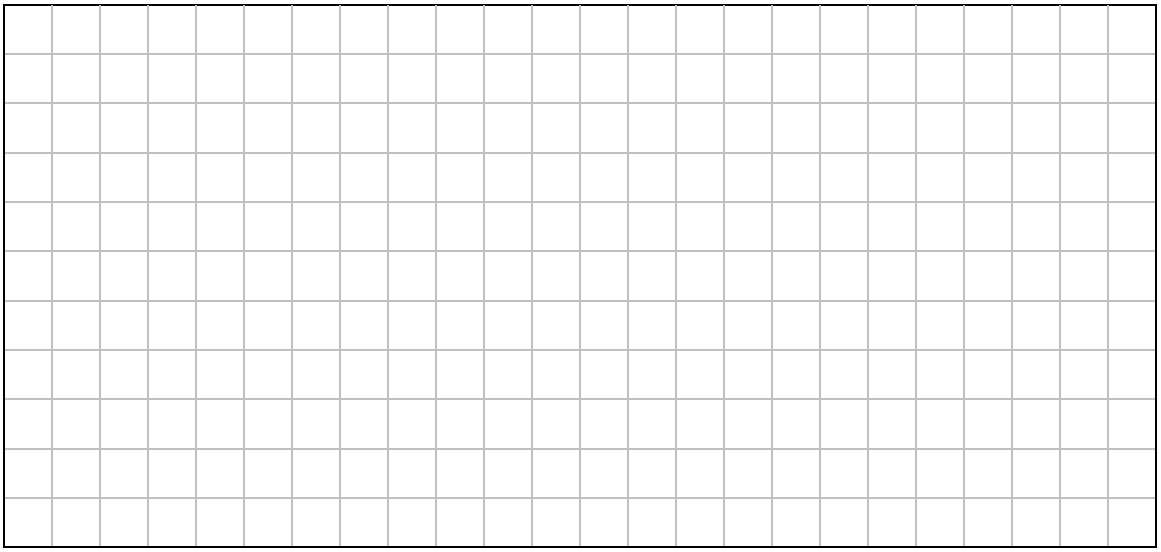
10a. **Total number of students**: _____	11. **Approximate number of students by ethnicity**: ____a. Hispanic ____b. African American ____ c. White ____d.
12. **Indicate the teacher's gender**: ❍ *Female* ❍ *Male*	13. **Indicate the teacher's ethnicity**: ❍ Hispanic ❍ African American ❍ White ❍ Other

14. **Technology availability:** Classroom computer(s) _____❍ Laptop computer ❍ Printer(s) ❍ Scanner ❍ Projection device ❍ Graphing calculators ❍ Other _____

15**. Rate and give examples of the adequacy of the physical environment:**

	Sparsely equipped			Rich in resources
a. Classroom resources:	❍ 1	❍ 2	❍ 3	❍ 4
(examples)				
	Crowded			Adequate
b. Classroom space:	❍ 1	❍ 2	❍ 3	❍ 4
(examples)				
	Inhibited interactions			Facilitated interactions
c. Room arrangement:	❍ 1	❍ 2	❍ 3	❍ 4
(examples)				
	Not at all			To a great extent
d. Student work displayed:	❍ 1	❍ 2	❍ 3	❍ 4
(examples)				

Classroom diagram: indicate 1) scale; 2) classroom front/back; 3) placement of teacher's/students' desks; 4) placement of primary resources (blackboard(s), computer(s), etc.



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Record your first observation during the first 5 minutes, then record every 10 minutes

Segment	1	2	3	4	5	6	7	8	9
Time									
16. **Class organization**	**Mark all that apply**								
① Individual students working alone	①	①	①	①	①	①	①	①	①
② Pairs of students	②	②	②	②	②	②	②	②	②
③ Small groups (3+ students)	③	③	③	③	③	③	③	③	③
④ Whole class	④	④	④	④	④	④	④	④	④
⑤ Combination of any of the above	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤
17. **Teacher is…**	**Mark one**								
① Directing whole group (teacher telling, lecturing, questioning, controlling topic and	①	①	①	①	①	①	①	①	①
② Guiding interactive discussion with whole group (primarily students contributing).	②	②	②	②	②	②	②	②	②
③ Modeling for whole group (demonstrates a cognitive strategy aligned with lesson	③	③	③	③	③	③	③	③	③
④ Facilitating/coaching (students work collaboratively on project/problem, teacher	④	④	④	④	④	④	④	④	④
⑤ Monitoring student work (supervising independent work, may interact briefly).	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤
⑥ Providing one-on-one instruction (individualized instruction *lasting 3 minutes or*	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥
⑦ Giving test.	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦
⑧ Showing a video/CD-ROM.	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧
⑨ Managing behavior or materials.	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨
⑩ Sitting at desk.	⑩	⑩	⑩	⑩	⑩	⑩	⑩	⑩	⑩
⑪ Checking/ grading student work.	⑪	⑪	⑪	⑪	⑪	⑪	⑪	⑪	⑪
⑫ Other (write in)	⑫	⑫	⑫	⑫	⑫	⑫	⑫	⑫	⑫
18**. Students are…**	**Mark all that apply**								
① Listening to a teacher presentation (majority of students).	①	①	①	①	①	①	①	①	①
② Listening to a student presentation (majority of students).	②	②	②	②	②	②	②	②	②
③ Engaged in interactive discussion (majority of students contributing).	③	③	③	③	③	③	③	③	③
④ Using graphic organizers/thinking maps (circle, bubble, tree, brace, flow, bridge,	④	④	④	④	④	④	④	④	④
⑤ Taking notes (two-column, main idea, opinion, hypothesis-proof, problem-	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤
⑥ Writing communication related to lesson (reflection, composition, notebook,	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥
⑦ Engaged in problem solving/investigation (manipulatives, experiment, game,	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦
⑧ Engaged in individual reading.	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧
⑨ Completing an exercise or short answer worksheet.	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨
⑩ Viewing a video/CD-ROM.	⑩	⑩	⑩	⑩	⑩	⑩	⑩	⑩	⑩
⑪ Taking a test.	⑪	⑪	⑪	⑪	⑪	⑪	⑪	⑪	⑪
⑫ Non-academic_____	⑫	⑫	⑫	⑫	⑫	⑫	⑫	⑫	⑫
⑬ Other academic_____	⑬	⑬	⑬	⑬	⑬	⑬	⑬	⑬	⑬
19. **Teacher's technology use** (❍WP ❍PP ❍SS ❍DB ❍web authoring ❍digital camera ❍graphics ❍Internet ❍LCD projector ❍scanner ❍other)									
① Not used	①	①	①	①	①	①	①	①	①
② Presentation	②	②	②	②	②	②	②	②	②
③ Demonstration	③	③	③	③	③	③	③	③	③
④ Assisting students	④	④	④	④	④	④	④	④	④
20. **Students' technology use**									
① Not used	①	①	①	①	①	①	①	①	①
② Productivity tools (❍WP ❍PP ❍SS ❍DB ❍web authoring ❍digital camera	②	②	②	②	②	②	②	②	②
③ Learning tools (❍Plato/NovaNet ❍AR/AM/Star ❍Compass ❍Carnegie	③	③	③	③	③	③	③	③	③
④ Interactive communication tools (❍email ❍BB ❍2-way video/DL ❍other)	④	④	④	④	④	④	④	④	④
⑤ Research tools (❍Internet ❍CD-ROM ❍other)	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤
21. **Student engagement**									
① Low engagement	①	①	①	①	①	①	①	①	①
② Moderate engagement	②	②	②	②	②	②	②	②	②
③ High engagement	③	③	③	③	③	③	③	③	③

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RECORD DESCRIPTIVE NOTES DURING OBSERVATION:

22. Identify the content and skills addressed in the lesson:

23. Describe the teacher's activities and questioning strategies: *(Lower order questions = "l" and higher order questions = "+")*		
	Q	**Q**

24. Describe the students' learning experience: (What did students learn from the lesson?)

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COMPLETE RATING SCALES AFTER THE OBSERVATION

Higher Order Thinking Indicators				
25. **The teacher…**	Not at All	Small Extent	Moderate Extent	Large Extent
a. Asks open-ended questions with multiple answers or interpretations.	❍	❍	❍	❍
b. Asks questions that require reasoning (*if/then, what if, or suppose that).*	❍	❍	❍	❍
c. Asks students to justify ideas and explain their thoughts (*Why do you think so?).*	❍	❍	❍	❍
d. Asks students to explain key concepts, definitions, and attributes in their own	❍	❍	❍	❍
e. Has students think about and relate examples from their own experience.	❍	❍	❍	❍
f. Relates subject matter to other contexts or to everyday life.	❍	❍	❍	❍
g. Class activity did not involve questioning (specify) _____				

Classroom Environment				
26. **The teacher…**	Not at All	Small Extent	Moderate Extent	Large Extent
a. Creates an environment of rapport and respect.	❍	❍	❍	❍
b. Establishes a culture for learning.	❍	❍	❍	❍
c. Manages classroom procedures.	❍	❍	❍	❍
d. Manages student behavior.	❍	❍	❍	❍

Instruction and Communication				
27. **The teacher…**	Not at All	Small Extent	Moderate Extent	Large Extent
a. Communicates clearly and accurately.	❍	❍	❍	❍
b. Uses questioning and discussion techniques.	❍	❍	❍	❍
c. Engages students in learning.	❍	❍	❍	❍
d. Demonstrates flexibility and responsiveness.	❍	❍	❍	❍

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1. **Observer**: _____ 2. **Date of Observation**: _____

3. **Teacher**: _____ 4. **District**: _____

5. **School** _____ 6. **Grade** _____

Subject-specific Indicators

28. **In the English/language arts classroom, students are…**	Not at All	Small Exten	Moderat e Extent	Large Extent
a. Applying knowledge of literary elements to understand written texts.	❍	❍	❍	❍
b. Acquiring vocabulary through reading and systematic word study.	❍	❍	❍	❍
c. Producing compositions for a specific purpose.	❍	❍	❍	❍
d. Recognizing appropriate organization of ideas in written text (using models,	❍	❍	❍	❍
e. Using critical thinking to analyze and evaluate written texts and visual	❍	❍	❍	❍
f. Using graphical data representation, concept mapping, graphic organizers;	❍	❍	❍	❍
g. Linking E/LA concepts to their own experiences or other subject areas.	❍	❍	❍	❍

29**. In the mathematics classroom, students are…**	Not at All	Small Exten	Moderat e Extent	Large Extent
a. Using active manipulation as a model for the mathematical situation in the lesson.	❍	❍	❍	❍
b. Using calculators to explore a mathematical situation.	❍	❍	❍	❍
c. Discussing/summarizing the mathematical situation, the problem solving	❍	❍	❍	❍
d. Asking mathematical questions of the teacher and each other.	❍	❍	❍	❍
e. Using writing to describe their solution strategies or mathematical thinking.	❍	❍	❍	❍
f. Using graphic data representation, concept mapping, graphic organizers; creating	❍	❍	❍	❍
g. Linking mathematics concepts to real world experiences or other subject areas.	❍	❍	❍	❍

30. **In the science classroom, students are…**	Not at All	Small Exten	Moderat e Extent	Large Extent
a. Using calculators/computers/data gathering equipment to explore a scientific	❍	❍	❍	❍
b. Using scientific tools (e.g., microscopes, thermometer) to model the scientific situation in the lesson.	❍	❍	❍	❍
c. Participating in experiments and investigations.	❍	❍	❍	❍
d. Discussing/summarizing the scientific situation, the problem, or discoveries they are making.	❍	❍	❍	❍
e. Asking scientific questions of the teacher and each other.	❍	❍	❍	❍
f. Using written communication to describe their solution strategies or scientific	❍	❍	❍	❍
g. Using graphic data representation, concept mapping, graphic organizers; creating	❍	❍	❍	❍
h. Linking science concepts to real world experiences or other subject areas.	❍	❍	❍	❍

31. **In the social studies classroom, students are…**	Not at All	Small Exten	Moderat e Extent	Large Extent
a. Using maps, charts, or globes to interpret events.	❍	❍	❍	❍
b. Using written communication to analyze, make judgments, draw conclusions (e.g., notetaking, outlining, summarizing, writing essays).	❍	❍	❍	❍
c. Evaluating the validity of various types of evidence (gather, interpret, classify, summarize, synthesize).	❍	❍	❍	❍
d. Examining trends, themes, and interactions (e.g., graphs, charts).	❍	❍	❍	❍
e. Exploring cause and effect relationships.	❍	❍	❍	❍
f. Conducting research (gather, analyze, interpret, synthesize).	❍	❍	❍	❍
g. Making connections between past and present events.	❍	❍	❍	❍
h. Using graphic data representation, concept mapping, graphic organizers; creating	❍	❍	❍	❍
i. Linking the social studies lesson to real world experiences or other subject areas.	❍	❍	❍	❍

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Appendix D

Results for Classroom Observations by Subject Area

Table D.1. Classroom Resources, Percent Distribution by Subject Area

	All Classrooms (N=81)	English (n=21)	Soc Stud (n=16)	Science (n=23)	Math (n=21)
Sparsely Equipped	8.8	4.8		4.5	23.8
2	36.3	33.3	50.0	31.8	33.3
3	37.5	38.1	37.5	45.5	28.6
Rich in resources	17.5	23.8	12.5	18.2	14.3

Table D.2. Classroom Space, Percent Distribution by Subject Area

	All Classrooms (N=81)	English (n=21)	Soc Stud (n=16)	Science (n=23)	Math (n=21)
Crowded	12.5	10.0	25.0	13.0	4.8
2	16.3	20.0	37.5	4.3	9.5
3	23.8	35.0	18.8	8.7	33.3
Adequate	47.5	35.0	18.8	73.9	52.4

Table D.3. Classroom Arrangement, Percent Distribution by Subject Area

	All Classrooms (N=81)	English (n=21)	Soc Stud (n=16)	Science (n=23)	Math (n=21)
Inhibited interactions	35.8	42.9	31.3	30.4	38.1
2	39.5	42.9	50.0	26.1	42.9
3	12.3	4.8	12.5	17.4	14.3
Facilitated interactions	12.3	9.5	6.3	26.1	4.8

Table D.4. Student Work Displayed, Percent Distribution by Subject Area

	All Classrooms (N=81)	English (n=21)	Soc Stud (n=16)	Science (n=23)	Math (n=21)
Not at all	69.6	73.7	50.0	73.9	76.2
2	17.7	15.8	25.0	17.4	14.3
3	12.7	10.5	25.0	8.7	9.5
To a great extent	0.0				

Table D.5. Classroom Organization, by Subject Area (N = 81)

	All Classrooms (N=81)	English (n=21)	Soc Stud (n=16)	Science (n=23)	Math (n=21)
Individual students working alone	26.2%	28.8%	28.6%	24.3%	21.9%
Pairs of students	4.5%	1.0%	9.5%	4.3%	4.4%
Small groups (3+ students)	11.0%	11.5%	8.3%	13.0%	13.2%
Whole class	49.2%	48.1%	47.6%	49.6%	50.0%
Combination of any of the above	8.9%	10.6%	6.0%	8.7%	9.6%

Table D.6. Teacher Classroom Activities, by Subject Area (N = 81)

Teacher Activities	All Classrooms (N=81)	English (n=21)	Soc Stud (n=16)	Science (n=23)	Math (n=21)
Directing whole group	49.9%	50.0%	41.7%	48.7%	54.4%
Monitoring student work	33.1%	37.5%	39.3%	28.7%	32.5%
Guiding interactive discussion	1.1%	1.0%	1.2%	0.0%	2.6%
Giving a test	4.7%	4.8%	2.4%	10.4%	0.0%
Managing behavior / materials	3.8%	1.9%	4.8%	4.3%	3.5%
Sitting at desk	2.4%	2.9%	2.4%	1.7%	2.6%
Other	4.8%	1.9%	8.3%	6.1%	3.5%

Table D.7. Student Classroom Activities, by Subject Area (N = 81)

Teacher Activities	All Classrooms (N=81)	English (n=21)	Soc Stud (n=16)	Science (n=23)	Math (n=21)
Listening to the teacher	41.5%	42.3%	38.1%	46.1%	40.4%
Watching a student presentation or video	4.8%	4.8%	7.1%	2.6%	2.6%
Engaged in interactive discussion	7.1%	11.5%	2.4%	5.2%	8.8%
Engaged in problem solving	9.6%	1.0%	2.4%	18.3%	15.8%
Writing communication	5.4%	17.3%	1.2%	3.5%	0.0%
Reading	3.6%	13.5%	0.0%	0.9%	0.0%
Taking notes	6.8%	1.9%	4.8%	8.7%	7.9%
Completing a short-answer worksheet	26.3%	20.2%	39.3%	13.0%	35.1%
Taking a test	6.1%	5.8%	2.4%	12.2%	0.9%
Other academic	6.0%	3.8%	2.4%	0.9%	14.9%
Non-academic	2.2%	0.0%	7.1%	3.5%	0.0%

Table D.8. Higher Order Thinking Indicators, by Subject Area

Indicator	Not at All				Mod – Large Extent			
	Eng	Soc Stud	Sci	Math	Eng	Soc Stud	Sci	Math
Asks open-ended questions with multiple answers	55.6	53.8	57.9	75.0	33.3	7.7	26.3	10.0
Asks questions that require reasoning	61.1	69.2	42.1	45.0	22.2	30.8	31.6	25.0
Asks students to justify ideas / explain their thoughts	55.6	76.9	57.9	52.6	27.8	7.7	21.1	10.5
Asks students to explain key concepts, definitions, attributes	58.8	76.9	36.8	40.0	17.6	0.0	36.8	30.0
Has students relate examples from their own experience	43.8	66.7	33.3	70.0	25.0	25.0	27.8	15.0
Relates subject matter to other contexts or everyday life	58.8	61.5	68.4	85.0	17.6	15.4	5.3	0.0

Appendix F

Factors Jeopardizing Internal Validity

Factors Jeopardizing Internal Validity

Based on data in Table 6.1, it is impossible to conclude that NGSI was a success or a failure. In particular, comparisons with state averages are between dissimilar groups. Systematic differences almost certainly exist between NGSI students and state comparison groups. NGSI students were selected for program participation based on their academic needs. Students in the state comparison group were not. Even comparisons between visited campuses and district NGSI averages are suspect. Systematic differences may exist between NGSI students from campus to campus within a district. Thus, any observed changes may be due to the NGSI program (or the program at a specific campus), or the changes may be due to preexisting academic and motivational differences between the comparison groups and NGSI students.

These systematic differences make it impossible to determine whether or not NGSI was effective. In technical parlance, they result in threats to internal validity (i.e., whether a program like NGSI makes a difference or not). Because randomization was not used to eliminate these systematic differences, each threat must be considered separately, and, if possible, ruled out. The two threats likely to invalidate comparisons are selection-maturation and statistical regression. Selection-maturation occurs if the NGSI and comparison groups differ in the rate at which new knowledge is attained. Even if statistical adjustments are made in initial performance, subsequent performance may be due to learning rate differences as well as any program (NGSI) effects. When two groups may be different, the potential threat of differential learning rates must be explicitly addressed.

Simply put, statistical regression occurs because extreme scores tend to be followed by less extreme scores. Consider the example of students being selected for NGSI because they have low test scores and are in danger of not being promoted. After being in the program for a year, gain scores are computed for the NGSI students. For comparison purposes, gain scores are also computed for non-NGSI students who do not necessarily have low test scores (e.g., the state comparison group in Table 6.1). The NGSI students exhibited large positive gains, while the non-NGSI students exhibited smaller positive gains. One, however, does not necessarily conclude that the NGSI program was effective. The large NGSI gains and the small comparison group gains could be due to statistical regression. Among other factors, the magnitude of a group's regression to the mean depends on the difference between the group's mean and the population's mean. The larger the difference, the greater will be the regression. The initial NGSI scores are below the population mean, while the comparison group mean is closer to the population mean. Therefore, the large NGSI gains and the comparison group gains could be following the pattern of differential statistical regression.

To rule out threats of selection-maturation and statistical regression, indicators like within-group variances and prior pretests are needed. These data were not available for this study. Thus, conclusions regarding the extent to which improved attendance, lower retention rates, and higher algebra test scores are the result of the NGSI program must be made with extreme caution.