Addressing the Achievement Gap Between Minority and Nonminority Children by Increasing Access to Gifted Programs

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Project EXCITE is a collaborative program of a university-based gifted center and local school districts designed to prepare gifted minority elementary and middle school students for advanced tracks in math and science in high school. This paper describes the characteristics and components of the EXCITE program and gives data regarding the academic and school achievement of participating students over the past 3 years. Results showed that most of the students were retained in the program, earned high grades in math and science in school, and performed well on state criterion-referenced tests in math and science. There was a 300% increase of minority children qualifying for an advanced math class in grade 6 after 2 years of involvement in the program.

Background

The Achievement Gap Between Minority and Nonminority Children

The most significant educational problem in the U.S. is the fact that the achievement of minority children lags behind that of nonminority children. This is true whether or not one is talking about suburban or urban school systems and low- or high-income families. On almost every indicator of achievement, including grades, standardized achievement tests, and college attendance and completion, minority children do not achieve at the same levels as nonminority children.

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The achievement gap between minority and nonminority children has existed since the 1960s. The disparities closed somewhat through the late 1980s, after which progress in achieving parity slowed. According to *Reaching the Top: A Report of the National Task Force on Minority High Achievement* (The College Board, 1999), which is based on data from the National Assessment of Education Progress (NAEP) study, relatively small percentages of minority students had achievement test scores comparable to those of students who were considered to be "well prepared" or "very well prepared" for college. African American, Latino, and Native American students made up only 10% of students who scored at the advanced level on the NAEP tests, even though they made up one third of the students tested. For 12th graders, underrepresented minorities constituted only 5% of the students who had high SAT scores, scores typical of students who gain entrance into the most selective institutions of higher education. Gaps in the achievement of minority children compared to nonminority achievement occur as early as first grade. Smaller percentages of students of color earn high grades in high school and have lower class ranks compared to White students. Blacks, Hispanics, and Native Americans are underrepresented in AP classes, and, most significant, the achievement gap exists at all socioeconomic levels.

The reasons and causes for the achievement gap are many and varied. They include poverty; lack of access to supplemental educational programs and other educational tools, including technology; poor-quality schools, including underprepared teachers; low teacher expectations due to bias and racism; low levels of parental education and parental involvement; cultural and language differences; negative peer influences; geographic mobility declines over the summer months; and a lack of tacit knowledge about higher education (Arnold, 1993; Ford, 1996).

Psychological explanations that have been offered for the achievement gap include "cultural stereotype threat," which results in minority children succumbing to low expectations for test performance (Steele & Aronson, 1995); viewing achievement as "acting White" and inconsistent with cultural expectations for minority groups (Ogbu, 1992); fearing the negative ramifications of success, including isolation and rejection by one's racial or ethnic group (Lovaglia & Lucas, 1998); and having survival guilt or perceived negative reactions to surpassing the accomplishments of peers and family (Ford, 1996).

There have been numerous intervention programs aimed at addressing and fixing the achievement gap between minority and

nonminority students. These have included early childhood and preschool programs, such as Head Start, supplementary educational programs, and programs aimed at school reform (The College Board, 1999).

> Proven or promising school-level strategies tested with minorities have targeted disadvantaged students who are at risk of being low achievers. These strategies have typically not been explicitly designed to promote high achievement among disadvantaged minorities, nor have they targeted middle and high SES minority students. (p. 23)

Supplementary education programs for minority students are growing, particularly for urban school children. Yet, the effectiveness of such programs is unknown, and few have undergone rigorous, scientific evaluation.

> One thing we do know, however, is that many high-achieving students from all racial and ethnic groups are beneficiaries of extensive formal and informal supplementary educational opportunities over time, many of which are provided directly or paid for by their parents. We also know that some of the most academically successful groups in our society have created a network of supplementary opportunities for their children that might best be described as a parallel educational system. (The College Board, 1999, p. 25)

Minority Children and Gifted Programs

It is a well-known and documented fact that children of color are underrepresented in gifted programs (Baldwin, 1991; Bernal, 2002; Borland & Wright, 1994; Ford, 1996; Ford & Harris, 1999; Gallagher, 1994; Grantham, 2003; Maker, 1996; Morris, 2002). They are less likely to be nominated by teachers as potential candidates for gifted programs (Ford, Harris, Tyson, & Trotman, 2002) and, if nominated, are less likely to be selected for the program (Saccuzzo, Johnson, & Guertin, 1994), particularly when such traditional measures as IQ and achievement tests are used for identification (Ford et al.). The reasons for this are numerous and complex (Ford et al.) and include the same factors cited earlier for the achievement gap, which result in lower achievement of minority children. The lack of identification of gifted minority children contributes to the overall minority achievement gap in the U.S. and is a significant waste of talent and ability.

A considerable amount of literature in the gifted field deals with the issue of altering identification procedures to increase the num-

ber of minority children in gifted education programs (Baldwin, 1994; Bernal, 2002; Borland & Wright, 1994; Ford, 1996; Ford & Harris, 1999; Frasier, 1987; Hiatt, 1994; Sarouphim, 1999; VanTassel-Baska, Johnson, & Avery, 2002). Many researchers and practitioners suggest using multiple tests and alternative methods for finding gifted minority students, including performance-based assessment measures based on Gardner's theory of multiple intelligences (e.g., Baldwin; Sarouphim) or other models (VanTassel-Baska et al.) and nonverbal ability assessments, such as the Naglieri Nonverbal Abilities Tests or Raven's Matrix Analogies Tests (Ford et al., 2002).

Another body of literature in the gifted field has to do with the issues of providing a multicultural education and a multicultural curriculum and their impact on the achievement of gifted minority students (Ford et al., 2002). Major foci of the Javits funding over the past decade have been to increase the participation of minority children in gifted programs (see Feiring, Louis, Ukeje, Lewis, & Leong, 1997; Ford, 1996; Hiatt, 1994) and to develop model programs specifically designed to develop the talents and abilities of minority children (Ford; Hiatt).

Programs for Narrowing the Achievement Gap

John Ogbu (1992), a leading minority achievement writer and researcher, suggested that, to address the achievement gap, special intervention programs should be instituted to help minority students learn specific attitudes, behaviors, and coping skills that enhance school success, including viewing high achievement as a means for advancement, not as a threat to one's identity or security. He also asserted that, for minority students, these special intervention programs can contribute to diluting a misconception that achieving is consonant with pretending to be White and accommodating to the mainstream culture, which places a high value on education and individual achievement.

According to Ford (1996), a considerable number of projects (e.g., 75 grants were awarded from 1989 to 1994) were funded by the Javits program specifically for gifted and potentially gifted minority students who were economically disadvantaged. The goals of the programs varied, but focused mainly on improving the identification of gifted minority children; developing appropriate curricula and instruction; and expanding educational opportunities through collaborations with parents, families, and various organizations (e.g., business, industry, etc.). Data regarding the effects of gifted

programs designed specifically for minority children have become available in the literature because of the focus of the Javits program over the past decades. Much of the published research, however, has dealt with the validity of various means of identifying gifted minority students for the purpose of increasing those students' gifted or advanced classes (e.g., Borland & Wright, 1994; Feiring et al., 1997; Sarouphim, 1999; VanTassel-Baska et al., 2002). Relatively little research is available regarding the "effects" of the intervention programs on the academic achievement of gifted minority students. Did minority students participating in the gifted programs exhibit a higher level of achievement after involvement in the program? In what way did the program contribute to the development of minority students' academic abilities and talents? Little information exists on the longer term outcomes of such programs for gifted students.

Several published reports are available, including one on Project Synergy (Borland & Wright, 1994), which identified economically disadvantaged, potentially gifted kindergarten children from urban areas. Project Synergy consisted of three phases: identification; diagnosis of special academic needs; and subsequent educational services, including special additional educational programs, mentors, and the creation of an individual talent development plan. Its goal was to identify 15 to 18 children every year from about 100 children in kindergarten classes and to provide services to enable the identified children to place into gifted programs eventually. Children were identified via various sets of assessment tools, including nontraditional assessments (e.g., classroom observation, multicultural curriculum-based activities, portfolios), teacher nomination, and standardized assessment measures (e.g., Draw-a-Person test, the Tests of Early Math and Reading Ability-2, the Peabody Picture Vocabulary Test). Once children were diagnosed as potentially gifted through the phases of screening and diagnostic assessment, they were placed in transitional service classes starting in the summer. Twelve of 14 children from the first cohort completed the transitional services classes. Seven children were retained in the transitional service programs at the end of the first grade, and 5 children qualified for placement in a selective school for gifted students. Positive effects of the intervention transitional service classes were found as demonstrated by the children's performance on the Test of Early Mathematics Ability–2 (TEMA-2). There was a significant gain after a full year of involvement in the program; specifically, as a group, the children moved from the bottom quarter to the top

third when compared to the norming population. On the Test of Early Reading Ability–2 (TERA-2), the median percentile for the children who participated fully in transitional service classes was 85.5 and that of children who participated in some of the services classes was 68.5. As a group, the children involved in the transitional services classes ranked in the top third nationwide on the TERA after a year in the transitional classes. Another indicator of the intervention effect was the children's general level of intellectual functioning on the Stanford-Binet Intelligence Scale–IV. Compared to their IQ scores on the Peabody Picture Vocabulary Test (PPVT) at the beginning of the program, the children participating in the transitional services earned higher or comparable IQ scores as determined via the Binet-IV after 2 years of intervention, suggesting gains in general academic aptitude subsequent to the transitional program.

Another published report was on the Javits 7+ Gifted and Talented Program (Baldwin, 1994), which was developed to enable economically disadvantaged children (kindergarten to grade 3) and developmentally delayed students from a school district in New York City to qualify for placement in the gifted program through intense school-based activities. Students were assessed via tasks and activities designed to measure each of Gardner's seven intelligences. Subsequent to selection, teachers were trained to incorporate activities and techniques into their instruction that would develop children's identified intelligence (e.g., whether logical-mathematical, spatial, musical, linguistic, etc.). Among the shorter term goals of the program were improved competencies in such characteristics as flexibility, originality, elaboration, and commitment for the 399 students in the program after their 1st year of intervention. On a locally developed teacher rating scale, there were significant gains for both "identified intelligence" and "general intelligence" in the areas of fluency, flexibility, originality, elaboration, commitment, and performance from pre- to posttests. Verbal and written responses from students, parents, and teachers also indicated considerable academic progress of the students and an increase in motivation to learn and achieve in a certain subject area (e.g., math). Also, greater feelings of happiness and self-confidence were reported by some students.

This paper describes an intervention program, Project EXCITE, developed and implemented specifically to raise the achievement of gifted minority students so they qualify for advanced programs and accelerated tracks in high school mathematics and science. For this study, *minority* refers specifically to African American and

Hispanic children, as these groups are underrepresented in the fields of science and math, which was the focus of Project EXCITE. We will describe the characteristics and components of the intervention program and provide evaluative data regarding the academic achievement of students participating in the program over the past 3 years.

Program Description

Achievement Gap in the School District

Evergreen High School (EHS)[1] is a large suburban (population > 75,000) high school in the Midwest. It serves a diverse population of students consisting of 45.6% Caucasian, 43.7% African American, 7.1% Latino, and 2.5% Asian. Evergreen High School has always been known for the richness of its curricular offerings, including Advanced Placement, honors, and regular and vocational classes. The science department offers a special program known as the Chem/Phys Program, in which Advanced Placement Chemistry and Physics are taught as an integrated science to accelerated students with a marked talent for mathematics and science. In general, only students in the upper 5% of the student population of the high school are invited to join the Chem/Phys Program. A small portion of students in this advanced program are involved in science research for the National Science Talent Search Competition, initially known as the Westinghouse Science Talent Search and now known as the Intel Science Talent Search. Although the mathematics department does not have a similar program, it does offer such Advanced Placement math courses as BC Calculus and Multivariable Calculus.

Although the school has been racially integrated since the late 1960s, the number of minority students in the AP math and science classes is very small. Minority students make up about 5% of the students in the accelerated AP Chem/Phys Program. They also make up about 11% of the students in the Multivariable Calculus and 8% of the students in the BC Calculus classes (data for 2002).

There is a wide disparity for other indices of academic achievement between minority and nonminority students, including grades and placement in tracks; the majority of Black and Latino students are in regular classes (J. Levinson, personal communication, January 28, 2004). Project EXCITE was created to address this gap in achievement that results from poorer access to and preparation for advanced classes for minority students.

Project EXCITE

It was recognized very early that, for Project EXCITE to succeed in closing the academic achievement gap in a suburb of a large city in the Midwest, the program had to devise strategies that would deal with the major factors that are likely to affect student achievement, including expectations for achievement, peer pressure and peer support for achievement, parental and family support for achievement, and access to educational programs and opportunities. For example, the program had to bolster existing support structures within the family and school and create new areas of support (e.g., a peer group) that would foster and promote high academic achievement among students. Parents had to be integrally involved for Project EXCITE to succeed. Their participation was as vital as that of the students. Parents needed to set high expectations for achievement, monitor and assist with homework, and make sure students were attending extra enrichment classes on Saturdays and in the summer. Parents needed to become aware of the opportunities, programs, and strategies that middle- and upper-middle-class nonminority parents use to provide educational advantages and access and use those opportunities for their children.

Teachers had to recognize the children's abilities and respond by setting high expectations, providing appropriately challenging work in class, and creating an environment within their classrooms that rewarded and recognized high achievement. Though Project EXCITE took place largely outside of school walls, classroom teachers were invited to attend and assist with after-school sessions, were given curricular materials used in after-school sessions, were informed of students' progress in Saturday enrichment classes, and participated in the advisory board for the project.

Peer pressure was another factor that had to be addressed. Students should be able to grow up believing that it is normal to be minority and academically successful. Role models were needed if positive changes were to be made in students' perceptions and expectations of themselves. Successful minority high school and college students were recruited to serve as role models for the Project EXCITE children to help them visualize the path they were expected to take and to prepare for. They served as teaching assistants for after-school sessions, tutored selected students, and spoke to students and parents about their experience of achieving in high school. In addition, Project EXCITE students were cluster-grouped within classes in their schools to encourage peer support and camaraderie for achievement and to inoculate students against negative peer pressure.

Finally, Project EXCITE had to ensure that the children and families had the same access to educational advantages as other segments of society. That would include supplemental, outside-of-school educational programs for gifted students, as well as such technological tools as home computers and educational software so that students could compete successfully for placement in advanced and accelerated programs.

Project Partners

Project EXCITE is a collaborative program of Northwestern University, a major, private university, through its Center for Talent Development (CTD); Evergreen High School District; and the elementary school district in the suburb. Each of the partner institutions contributes funds, personnel, and other resources (e.g., space) to the project.

Project Goals

The general long-range goal of the program is to close the gap in academic achievement between minority and majority students by bolstering the achievement and success of gifted minority children. The specific long-term goal is to increase the number of minority students in the advanced math and science programs at the high school, such as the Chem/Phys Program and other AP and honors classes. Currently, the program is pursuing the following immediate goals to achieve the general and specific long-term goals: (a) the identification of minority children in early elementary school (by grade 3) with talent and ability in mathematics and science, (b) the provision of supplemental educational opportunities to ensure that selected students complete algebra and have a significant science laboratory experience by the end of eighth grade, (c) increased support for high achievement and talent development through significant and sustained interactions with older student role models and with teachers and other adults, and (d) the cultivation of a positive peer culture in the elementary and middle schools by encouraging the formation of a supportive group of peer program participants.

Eligible Students

Students become eligible for the program in the third grade if they (a) are from the underrepresented minority groups in mathematics

and science; (b) have the potential to achieve at high levels as demonstrated by their ability to think critically and engage in problem solving; (c) demonstrate the ability to work beyond their current grade level; (d) demonstrate a high level of interest, curiosity, and enthusiasm for learning mathematics and science; and (e) come from families that have limited experience with higher education (i.e., children would be first-generation college attendees). All students had to meet all criteria with the exception of (e). Students were not selected on the basis of family income, and there is an unknown range of socioeconomic status (SES) levels among Project EXCITE participants, although most students were perceived to be of low- to modest-income families. All that is available regarding SES is whether or not the student qualifies for free or reduced lunch (reported later in the paper). The rationale behind the decision not to use low income as a qualifying criterion was the research cited previously that showed that the achievement gap between minority and nonminority children exists at all SES levels, even high ones.

Program Components

There are several key components of Project EXCITE aimed at addressing the major factors contributing to the achievement gap. These four components are parent education and support, peer support, academic enrichment, and individualized talent development.

Parent Education and Support. Project EXCITE uses school-based parent meetings and seminars for the education and support of Project EXCITE parents. Three parent meetings are held each year by the staff of Project EXCITE. Motivational speakers and experts in the talent development of gifted minority students are invited to speak to parents at these meetings. These talks focus on ways in which parents can cultivate high achievement, create a home environment that supports achievement, and work with schools to ensure that students are performing at high levels in school. Parents are also invited to attend parent workshops organized by the Saturday Enrichment Program (SEP) at the Center for Talent Development, which consist of 8 to 10 talks annually by experts in gifted education. Project coordinators meet with parents upon request, typically to deal with parental concerns about an individual child. Other kinds of sessions are held with parents as needed. For example, as families receive a home computer as part of their participation in Project EXCITE, training classes on Internet use and word processing have been offered.

Peer Support. To provide role models for high achievement, successful minority (and nonminority) high school students are used as helpers in the after-school classes for third graders and at the parent meetings. These high school students assist EXCITE students with completing the after-school learning activities by leading small groups. They also serve as tutors for students who need extra help, meeting students after school in the local library or on Saturdays.

Project EXCITE students are cluster grouped together in classes within their elementary and middle schools after the third-grade year to encourage support and bonding. Students attend parent meetings to hear motivational speakers consisting of successful minority leaders from the community and high-achieving minority students.

Academic Enrichment. Beginning in grade 3, Project EXCITE students participate in academic enrichment activities after school at their local high schools. They may also take enrichment classes during the summer. The third graders participate in after-school sessions consisting of integrated math and science experiments. Students in grades 4, 5, and 6 take classes on Saturdays through the Center for Talent Development's Saturday Enrichment Program. These consist of two 8-week sessions of Saturday classes in the fall and winter. SEP is designed to offer enriching and challenging courses to students from preschool to ninth grade. The program allows students to explore at their own pace the areas of science, mathematics, humanities, and the fine arts; and students can get credit for four high school courses, such as Philosophy I Honors, Persuasion and Debate Honors, Creative Writing Honors, and Latin I Honors. In grade 4, Project EXCITE students are grouped together in a special Saturday class to promote friendships and connections between Project EXCITE students who come from five different schools. Beginning in grade 5, students choose a math or science class from the array of classes offered in the SEP program. The EXCITE students can opt for courses only in math and science. Participation in the fall and winter session of the SEP is mandatory for Project EXCITE students, but participation in the spring SEP session or summer programs at the Center is optional (prior to grade 6). Beginning in the summer of grade 6, students are also required to participate in the summer program at the Center for Talent Development as commuters. Summer classes are either enrichment or accelerative (e.g., algebra for sixth and seventh grades) in nature in the areas of language arts, science, mathematics, social science, and the fine arts. Project EXCITE students can choose either a math or science summer course from the array of

courses offered to students at their grade level. Project coordinators assist students in selecting an appropriate course.

Individualized Support. Additional academic classes are provided to Project EXCITE students as needed. These have included a review class held in the spring on Saturdays to help fifth graders prepare for a district-administered prealgebra placement test. Supplemental classes are also held in the summers for students who were not working consistently at grade level in reading or mathematics. Also, sixth-grade students who qualified to study prealgebra were organized into a support group to promote high achievement through collaborative study. This group meets regularly during school time and is led by one of the two psychologists from the middle school.

Evaluation Activities

Over the duration of the program, the elementary school district has changed the tests that are used to assess districtwide achievement. They have used a well-known norm-referenced test, then online tests in key academic areas, and now rely primarily on state-level, criterion-referenced tests. We have collected any kind of test information available from the district on Project EXCITE students, but no one test has been used consistently across the 4 years of the program. Currently, performance on state-mandated tests is all that is available, and these are used only to identify areas of weaknesses among our students. All fifth graders are given a district-designed test to assess their readiness to study prealgebra in grade 6 or 7 (in preparation for algebra in grade 7 or 8). Scores on this test qualify students for the accelerated math program called Gateways Math. A test designed by the high school is given to all students after the completion of algebra to assess mastery of algebra and placement into geometry. In addition, students' performance on math chapter tests and the end-of-the-year math cumulative test is monitored and collected. Students' grades and report cards were collected starting in 2004. Finally, teachers complete an end-of-the-year survey that asks them to assess students' performance in science and math, as well as overall achievement, interest in science and math, homework quality and completion, parental support, and interest in and enthusiasm for Project EXCITE.

Project Staff

Project EXCITE involves 32 to 36 experts who monitor and assist the EXCITE students with their academic progress. Staff members

consist of 2 project cocoordinators, 10 advisory board members (representatives from the high school, elementary schools, middle schools, university, district-level administrators), 5 school liaisons (principles or teachers), 4 to 8 instructors for Project EXCITE classes (teachers from high schools and elementary schools), 2 psychologists (from the two middle schools), 8 to 10 students (high school student mentors or aides), and 1 contact person–translator for Hispanic families.

EXCITE Students in Cohorts[2] 1 to 3

From 2000 (Year 1 for Cohort 1) to 2002 (Year 1 for Cohort 3), a total of 154 students (males = 86; females = 68) were nominated for Project EXCITE according to the following procedures: First, students were nominated from four (Cohorts 1 and 2) or five (Cohort 3) K–5 or K–8 elementary schools (48 students for Cohort 1, 46 for Cohort 2, and 60 for Cohort 3). They were nominated by the elementary schools using their own self-determined procedures (e.g., teachers vs. principals vs. committee of teachers and administrators). Second, nominated students were given the Naglieri Nonverbal Ability Test (NNAT)[3] in an after-school or in-school session. Third, students were accepted if they scored stanine 6 or higher on the Naglieri test; received a positive recommendation (see next section) from the school regarding work habits, achievement, ability, and interests; and performed at a reasonably high level on the state-level, criterion-referenced (Illinois Standards Achievement Tests, ISAT) or standardized norm-referenced tests (Iowa Tests of Basic Skills, ITBS) the district was using at the time. For students who scored stanine 5, a very positive recommendation regarding work habits and interests and reasonably high scores on the ITBS or ISAT were required for admission into Project EXCITE. There was no absolute criterion for "reasonably high level." Generally, we used 80% as a cutoff point for performance on a reading or math subtest of the ITBS or a meets or exceeds standard for performance on a subtest of the ISAT. A selection committee consisting of representatives from each of the partner institutions reviewed all student information and made selections from nominated students for each cohort. Seventy (24 students in Cohort 1, 19 in Cohort 2, and 27 in Cohort 3) of the 154 students were selected as qualifying students from the three cohorts (selection rate: all cohorts = 44.8%; Cohort 1 = 50%, Cohort 2 = 41.3%, Cohort 3 = 44.3%). On average, students were 8.6 years old. There is no information available for students' SES levels except that, of the stu-

dents currently enrolled in Project EXCITE, 48.7% are on free or reduced lunch and 51.3% are not (R. Blair, personal communication, April 13, 2004).

Student Recommendation Form. This form was created by project administrators and was designed to obtain information that could be useful when making selection decisions, including students' problem-solving skills, verbal reasoning and analytical skills, work and study habits, conduct and behavior in class, interest in the subject area, and family support for school achievement. Teachers completed forms for each nominated student prior to testing on the NNAT.

For all qualified students (N = 70) from Cohorts 1 to 3, teachers' rating of the students' general achievement (M = 2.27, SD = .74), abilities in quantitative problem-solving skills (M = 2.13, SD = .66) and verbal reasoning or analytical skills (M = 2.26, SD = .70) were all above average (1 = *superior or excellent* to 4 = *below average*). Students' work and study habits, such as ability to stay focused, completion of assignments, quality of work, ability to work alone and in groups (M = 1.67, SD = .22), and students' conduct and behavior in class, including interactions with adults or other students, and ability to follow class and school rules and procedures (M = 1.58, SD = .25) were in the range of excellent and good (1 = *excellent* to 5 = *very poor*). Teachers also perceived that students demonstrated substantial interest in and enthusiasm for mathematics (a great deal = 54.4%, some = 45%) and science (a great deal = 52%, some = 47.3%) and received enormous support from their families for learning and school achievement (excellent support = 49.2%, good support = 45.8%).

Comparisons on these variables between selected and unselected students revealed small differences favoring selected students for overall achievement level, study and work habits, conduct and behavior, and teacher-perceived quantitative and verbal reasoning ability. For family support, there was no clear pattern of differences between groups in either direction, and teachers reported that they found it difficult to judge family support in many cases. For interest in science and math, selected students were more likely to exhibit "a great deal of interest" compared to unselected students.

The average NNAT stanine of students selected for the program was above average (M = 6.10, SD = .20) on a scale of 1 = *low* to 9 = *high* and higher than the average stanine for the unselected students. See Table 1 for information about all qualified and unqualified students for each year based on student recommendation data.

Table 1

Achievement Data for Students Nominated for Project EXCITE

	Student groups								
	Cohort 1			Cohort 2			Cohort 3		
Variables	All	QS	NQS	All	QS	NQS	All	QS	NQS
Total (*N*)	48	24	24	46	19	27	61	27	34
Gender									
Male (*n*)	28	16	12	24	9	15	34	13	21
Female (*n*)	20	8	12	22	10	12	26	13	13
Average age	8.80	8.88	8.73	8.59	8.72	8.46	8.22	8.17	8.24
NNAT avg. (*M*)	5.00	6.33	3.67	4.39	5.94	3.30	4.47	6.04	3.24
Achieve level (*M*)	2.67	2.50	2.80	2.63	1.91	3.06	2.48	2.18	2.67
Study/work (*M*)	1.84	1.72	1.99	1.90	1.42	2.30	2.06	1.86	2.18
Conduct & beh (*M*)	1.74	1.59	1.95	1.70	1.33	2.01	1.99	1.82	2.09
Quant ability (*M*)	2.53	2.18	2.85	2.65	2.24	3.00	2.24	2.00	2.39
Verbal ability (*M*)	2.55	2.36	2.69	2.67	2.29	3.00	2.36	2.14	2.49
Family support (%)									
Excellent	44.9	47.8	42.3	40.0	66.7	24.0	34.5	38.1	32.4
Good	44.9	43.5	46.2	50.0	33.3	60.0	56.4	57.1	55.9
Minimal	10.2	8.7	11.5	10.0	–	16.0	9.1	4.8	11.8
Math interest (%)									
A great deal	61.2	82.6	42.3	64.3	76.5	56.0	41.4	40.9	41.7
Some	36.7	17.4	53.8	35.7	23.5	44.0	58.6	59.1	58.3
Little	2.0	–	3.8	–	–	–	–	–	–
Science interest (%)									
A great deal	55.1	73.9	38.5	56.1	75.0	44.0	46.6	50.0	44.4
Some	42.9	26.1	57.7	43.9	25.0	56.0	53.4	50.0	55.6
Little	2.0	–	3.8	–	–	–	–	–	–

Note. Cohort 1 = student group nominated for the project EXCITE in year 2000; Cohort 2 = student group nominated for the project EXCITE in year 2001; Cohort 3 = student group nominated for the project EXCITE in year 2002. All: All nominees; QS: Qualifying students; NQS: Students who tested but did not qualify for project participation. Response categories for students' achievement level: 1 = superior, 2 = above average, 3 = average, 4 = below average. Response categories for work or study habits and conduct/behavior in class: 1 = excellent, 2 = good, 3 = average, 4 = poor, 5 = very poor. Response categories for quantitative and verbal abilities: 1 = superior, 2 = above average, 3 = average, 4 = below average. Response categories for family support: 1 = excellent, 2 = good, 3 = minimal. Response categories for math and science interest: 1 = a great deal, 2 = some, 3 = little.

Evaluation Data

In this paper, several sources of data were used to assess students' academic progress and achievement through Project EXCITE and the overall success of the project. The data include (a) students' retention rate, (b) students' performance in Saturday enrichment classes, (c) students' qualification for prealgebra in grade 6, (d) end-of-year teacher evaluation reports on students, (e) students' scores on the 2003 Illinois Standards Achievement Tests (ISAT), and (f) parental efforts to access additional resources for their child. Evaluation findings are described for the EXCITE students in Cohorts 1 to 3 who participated in the program from 2001 to 2003.

Student Retention Rate

Students from cohorts 1 to 3 had a nearly 80% retention rate. For Cohort 1, 19 out of 24 qualified students are currently in the program as sixth graders (retention rate = 79.2%) over 3 years. Sixty-nine percent (n = 13) are African American, and six (31.6%) are Hispanic. For Cohort 2, 15 out of 19 qualified students are participating in the program as fifth graders (retention rate = 78.9%) over 2 years, and all are African American. For Cohort 3, 21 out of 27 students are in the program as fourth graders (retention rate = 77.8%) over 1 year, with 85.7% African American (n = 18) and 14.3% Hispanic (n = 3). The reasons for the dropout of 15 students (5 in Cohort 1, 4 in Cohort 2, and 6 in Cohort 3) were either moving to other schools, cities, or states or identified as nonminority after qualifying for the program. No students were dropped because of poor performance or poor attendance. A few students did exhibit attendance or performance problems, but these were not significant and were quickly remedied with intervention by parents, school staff, and Project EXCITE administrators.

Students' Performance in Saturday Enrichment Classes

The EXCITE students are required to take Saturday classes through the fall and winter sessions of the Center for Talent Development Saturday Enrichment Program (SEP). For Cohort 1, all 19 current sixth graders participated in the Center's Saturday program five times from the fall of 2001 to the fall of 2003 and took math and science classes. For Cohort 2, all 15 current fifth graders participated in all three sessions of the Saturday science and math classes from the fall of 2002 to the fall of 2003. For Cohort 3, 21 current

fourth graders started to take the Saturday math and science classes in the fall of 2003, and all of them have participated in the classes. Therefore, the students from Cohorts 1 to 3 have exhibited 100% participation rates in the required Saturday classes since their 1st year in Project EXCITE.

Saturday teachers evaluate their students' performances throughout the duration of the course. Instead of any types of formal grades (e.g., A, B, C, etc.), a document containing a narrative evaluation along with a course description is given by the teachers to the parents of each student after the course ended. Teachers' narrative evaluations were reviewed to assess the general performance level of EXCITE students. Overall, the teachers' evaluative remarks were very positive. Some examples include the following:

> Danny (a student from Cohort 1) is particularly fascinated with motors. He built a number of devices, most of them connected to a battery box. Over the 8 weeks of class, I saw Danny become more excited about programming. He worked with his group using LabView to program a car to change the behavior of its motors and lights in response to pressure on a touch sensor. Danny did not have any noticeable conflicts with any of the other students, and he interacted appropriately with his peers. (description from a Saturday science teacher)

> Tracy (a student from Cohort 2) is a quiet and reserved student in the classroom setting. She is good natured and gets along well with all of the other participants. As far as skills worked on in this class, Tracy has done very well with magnets and properties of magnetism. She has also done well in our study of electrical circuits—especially with drawing schematics of circuits, building and manipulating simple circuits, differentiating between series and parallel circuits, etc. She has mastered multiplication and simple substitution algebra. She needs to focus on long division, calculating area, perimeter, and volume while reporting with the correct units. (description from a Saturday math and science teacher)

> Ben (a student of Cohort 1) has the ability to do the work, but at given points he needs some assistance from my teaching assistant or me. During the beginning of the course, I realized that Ben did not quite understand all of the concepts that were presented in the class. However, once Ben was assigned to group activity, he was able to work with his other classmates. (teacher of a logic class)

All the teachers recommended that all of their students take further Saturday classes except for one math teacher who was concerned about a student's shyness and lack of math vocabulary. He said,

> I do recommend Jean (a student in Cohort 1) to return with some reservations. Those reservations are that he must participate more in any classroom environment. The next teacher must be aware of his shyness in particular to doing math. Also, he may need some help as far as math vocabulary.

Out of 55 current EXCITE students, only 3 students (2 from Cohort 1 and 1 from Cohort 2) were reported to have had problems in their Saturday classes. One student from Cohort 1 initially missed some classes due to a schedule conflict with his sports activities. Two students from Cohorts 1 and 2 were observed by their teachers to have difficulty paying attention in class. However, all these students completed their classes eventually after getting individual help from the project coordinators and Saturday Enrichment Program staff. Participation and attendance rates are even more impressive when one considers the commitment we ask families to make: 16 to 24 Saturdays throughout the academic year.

Gateways Data: Placement in Prealgebra in Grade 6

For Cohort 1, 12 of the 19 sixth graders (63.2%) qualified to be placed in prealgebra in grade 6 on the basis of a district-constructed test given to all fifth-grade students at the end of the academic year. The mean score of the 12 students who qualified for the Gateways Prealgebra (Math) class was 17.08 (SD = 2.19) on the test with a possible maximum score of 22, while that of the remaining students (n = 7) who were placed in regular sixth grade math was 11.71 (SD = 2.93). This mean difference was significant, $t^2(17) = 4.56$, $p = .001$. In comparison, in 2002, only 3 minority students qualified for prealgebra from the four schools involved in the project. Thus, the 12 students represent a 300% increase in the percentage of minority children who qualified for the advanced math class from the four feeder schools over the previous years when Project EXCITE did not exist.

One additional student qualified for Gateways Math in the fifth grade after taking prealgebra in the CTD summer program. Another student, after failing to qualify for Gateways Math on the basis of the district test at the end of fifth grade, studied on his own with his family over the summer, retested at the beginning of grade 6,

and qualified to enter Gateways Math with the other students from his Project EXCITE cohort.

District End-of-Fifth-Grade Math Assessment

Results of the end-of-fifth-grade math assessment for 19 students in Cohort 1 were obtained from the school district in the fall of 2003. These consisted of the students' test scores on seven math units (fractions; decimals; geometry and measurement; integers-negative numbers; algebra, patterns, and function; ratios and proportions; data analysis and probability) and scores on open-ended math items. These tests are not teacher made, but are from the textbook used by the district. The maximum possible score varies by unit. Overall, the students' average performance level on each unit was in the range of 75–80%. In particular, the students' strengths were on decimals (M = 8.2 of a maximum score of 9); geometry and measurement (M = 12.5 of a maximum score of 15); data analysis and probability (M = 14.1 of a maximum score of 17); and algebra, patterns, and function (M = 7.2 of a maximum score of 9), all of which ranked above 80% in achievement. The students' mean score on open-ended math items was 17.4 of a maximum score of 24, yielding an above-average achievement rate. Thus, Cohort 1 students exhibited a reasonably high level of mastery of the district math curriculum. See Table 2 for more information.

End-of-Year Teacher Reports

At the end of each academic year, teachers complete a form regarding each student's academic performance and progress over the past year. This teacher report was developed by Project EXCITE staff. It consists of a total of 10 questions, 6 of which pertain to student performance on tests, quizzes, and assignments; grades; quality and completion of homework and daily work in math and science; and help with math and science homework from home. The remaining four questions ask the teacher about his or her perceptions of the student's interest and enthusiasm for math and science, their interest in Project EXCITE, parental (home) interest in the student's academic work, and teacher satisfaction with the program's communications. See the Appendix for a complete list of questions with response categories.

These reports were collected at the end of each academic year (May to June) from 2001 to 2003 and were analyzed. Using SPSS, the teacher reports were compared by year to assess changes over

Table 2

District End-of-Fifth-Grade Math Assessment for Project EXCITE Students in Cohort 1

Variables (Maximum score)	Mean (*SD*)	Achievement rate*
Decimals (9)	8.16 (1.12)	90.7%
Geometry & measurement (15)	12.47 (1.93)	83.1%
Data analysis & probability (17)	14.11 (2.00)	83.0%
Algebra, patterns, & function (9)	7.21 (1.18)	80.1%
Fractions (14)	11.00 (2.56)	78.6%
Integers-negative numbers (5)	3.53 (1.31)	70.6%
Ratios & proportions (7)	4.53 (1.61)	64.7%
Gateway indicators (22)	15.11 (3.59)	68.7%
Open-ended items (24)	17.42 (4.88)	72.6%
Placement results	*n*	%
Gateway Prealgebra	12	63.2%
Everyday math	7	36.8%

Note. Currently, there are 19 sixth graders in Cohort 1 participating in Project EXCITE.
*Achievement rate = mean score/possible maximum score on the test.

time and by subject area (math vs. science). Descriptive statistics were computed, and data were analyzed primarily using a one-way analysis of variance (ANOVA) and paired-samples *t* tests to determine whether or not there were significant mean differences over time in the program by subject area. Chi-square statistics using cross-tabulations analysis were also used for the nominal- or ordinal-level variables.

Teacher Reports Combined Across Years 1 to 3. When the end-of-year teacher evaluation reports were combined across years and cohorts of students (N = 121), the levels of the EXCITE students' performances, as judged by teachers, in math (59.5% strong performance, 36.2% acceptable performance, 4.3% needs improvement) and science (46.7% strong performance, 42.5% acceptable performance, 10.7% needs improvement) were generally high. During the academic year, more than 80% of the students earned As (48.8%) or

Bs (33.1%) in math, and about 70% earned As (41.3%) or Bs (28.9%) in science. Regarding the completion and quality of homework, most of the students usually turned in their math (90.8%) and science (88.9%) homework in excellent or good quality. More than half of the students (56%) received help with their math homework at home and 44% with science homework. Overall, the quality of students' daily work in math and science was rated between excellent and good (math = 1.68, science = 1.51) on a scale of 1 = *excellent* to 5 = *very poor*.

Almost all the students were perceived as demonstrating substantial interest in and enthusiasm for science (a great deal of interest = 70%, some interest = 29.2%) and math (a great deal of interest = 66.1%, some interest = 28.9%). Ninety-seven percent of the teachers perceived strong home interest in the students' academic work (a great deal of interest = 72.7%, some interest = 24%, little interest = 3.3%). Teachers perceived that students were highly enthusiastic about the EXCITE program (M = 1.58, SD = .71), and teachers' satisfaction with the program's communications was fairly high (M = 1.75, SD = .95) based on a 5-point Likert-type scale (1 = *very enthusiastic/very satisfied* to 5 = *very unenthusiastic/very unsatisfied*).

Teacher Reports by Year. An ANOVA was conducted to find whether or not there were significant changes over years of involvement in the program. No mean differences were found for any of the items, including the quality of math and science homework or daily work, students' interest in the Project EXCITE, and teachers' satisfaction with the program's communication ($p > .05$). See Table 3 for mean scores on the items by year.

Chi-square tests showed significant differences by year in students' performance on science tests, quizzes, and assignments, $\chi^2(8, 120) = 30.92$, $p = .000$; grades in science, $\chi^2(6, 121) = 84.69$, $p = .000$; whether or not students receive help with science homework, $\chi^2(6, 100) = 19.48$, $p = .003$, or math homework, $\chi^2(4, 116) = 14.52$, $p = .006$; the level of completion of science homework, $\chi^2(4, 18.66)$, $p = .001$; students' interest and enthusiasm for math, $\chi^2(6, 121) = 18.45$, $p = .005$, and science, $\chi^2(4, 11.69)$, $p = .020$. Compared to Year 3, in Years 1 and 2, students were more likely to earn As in science, indicated more interest and enthusiasm for science and math, completed their science homework more often, and received more help from parents with homework in math. For science homework, students received more help from their parents in Year 1 than in Years 2 and 3. Students also indicated a greater interest and enthusiasm

Table 3

End-of-Year Teacher Ratings for Project EXCITE Students

Variables	Year 1 (n = 62)	Year 2 (n = 34)	Year 3 (n = 25)
1. Math			
Quality of math homework	1.79 (.79)	1.50 (.66)	1.64 (.70)
Quality of daily work in math	1.82 (.84)	1.59 (.74)	1.68 (.69)
2. Science			
Quality of science homework	2.11 (1.02)	2.20 (.89)	1.71 (.83)
Quality of daily work in science	1.52 (.62)	1.44 (.50)	1.60 (.58)
3. Students' interest in Project EXCITE	1.68 (.73)	1.56 (.72)	1.38 (.65)
4. Teachers' satisfaction with the program's communication	1.67 (.88)	1.94 (1.18)	1.71 (.81)

Note. Number of cases may slightly vary according to the missing cases. Regarding the quality of science homework, responses for "does not apply" were excluded from the analysis. Response categories for students' quality of homework and daily work: 1 = excellent, 2 = good, 3 = average, 4 = poor, 5 = very poor. Response categories for interest in Project EXCITE: 1 = very enthusiastic, 2 = enthusiastic, 3 = neutral, 4 = unenthusiastic, 5 = very unenthusiastic. Response categories for teachers' satisfaction with communications with the program: 1 = very satisfied, 2 = satisfied, 3 =neutral, 4 = unsatisfied, 5 = very unsatisfied.

for math in Year 2 than in Years 1 and 3. See Table 4 for proportions of the items by year.

Teacher Reports by Subject Area. Using paired-samples t tests, teachers' evaluation reports were compared by subject area (math vs. science). Significant mean differences were found for students' quality of homework, $t(79) = -3.64$, $p < .001$, and quality of daily work, $t(118) = 3.93$, $p < .001$; teachers gave higher points for the quality of students' daily work in science than in math (math = 2.06, science = 1.74), while the opposite was true for the quality of homework (math = 1.65, science = 2.06).

Scores on a State Criterion-Referenced Test

At the end of the 2003 academic year, students' scores on the Illinois Standards Achievement Tests (ISAT) were obtained from the school district. For Cohorts 1 (fifth graders) and 3 (third graders), both reading and math scores were available, and for Cohort 2 (fourth graders), science and social science scores were available. Students' scores for math and science only were used for the present analysis; thus, the test scores of students in Cohorts 1 and 3 were analyzed for math performance, while those of students in Cohort 2 were analyzed for science performance.

In math, the mean ISAT score of 41 students from Cohorts 1 (n = 19) and 3 (n = 22) was 179.80 (SD = 10.96), indicating that the students in Project EXCITE either exceeded (n = 17, 41.5%) or met (n = 24, 58.5%) standards of math performance when compared to the students of the same age and grade in the state of Illinois. No students were below standards based on their test scores. The mean of the fifth graders in Cohort 1 was 183.84 (SD = 10.82); 78.9% of the students met standards, and 21.1% exceeded standards. For Cohort 3, the mean ISAT-Math score was 176.27 (SD = 10.02); 59.1% of the students exceeded standards, and 40.9% met standards. In science, the mean for the 16 students in Cohort 2 was 165.13 (SD = 9.22); 87.5% (n = 14) met standards, and 12.5% (n = 2) were below standards when compared to their grade and age equivalent peers.

Parental Efforts to Access Additional Resources for Their Children

Participation in the spring session of the Saturday Enrichment Program and the summer programs of the Center for Talent Development for third to fifth graders is optional. One measure of the impact of the program on families is the extent to which parents access additional educational opportunities for Project EXCITE children.

Participation in additional, nonrequired sessions of the Saturday Enrichment Program or summer programs often involved some tuition costs for families. For Cohort 1, 13 of the 19 sixth graders (68.4%) chose to participate in the spring session of the Saturday program in 2002. In the same year, 3 students (15.8%) also participated in the summer program for grades 4 to 6. In 2003, three students in Cohort 1 took spring Saturday courses and five students participated in summer classes. As a result of participation in the summer programs, one student who studied prealgebra in the sum-

Table 4

Grade, Homework Completion, Interest, and Enthusiasm for Project EXCITE Students

Variable	Year 1 (n = 62)	Year 2 (n = 34)	Year 3 (n = 25)
1. Math			
Performance on tests, quizzes, and assignments			
Strong performance	60.0%	63.6%	68.4%
Acceptable performance	33.3%	33.3%	26.3%
Needs improvement	6.7%	3.0%	5.3%
Grade			
A	50.0%	52.9%	57.9%
B	32.3%	35.3%	31.6%
C or below	17.7%	11.8%	10.5%
Completion of homework			
Always	65.6%	73.5%	83.3%
Usually	23.0%	17.6%	5.6%
Sometimes	4.9%	8.8%	11.1%
Rarely	6.6%	–	–
Parent help with homework			
Yes	54.4%	55.9%	36.8%
No	29.8%	23.5%	52.6%
Do not know	15.8%	20.6%	10.5%
Interest and enthusiasm for the subject			
A great deal	61.3%	70.6%	57.9%
Some	29.0%	29.4%	21.1%
Little	9.7%	–	15.8%
2. Science			
Performance on tests, quizzes, and assignments			
Strong performance	37.7%	58.8%	26.3%
Acceptable performance	49.2%	26.5%	57.9%
Needs improvement	13.0%	14.7%	15.8%

Variable	Year 1 (n = 62)	Year 2 (n = 34)	Year 3 (n = 25)
Grade			
A	43.5%	32.4%	15.8%
B	27.4%	23.5%	36.8%
C or below	29.0%	44.1%	47.4%
Completion of homework			
Always	42.1%	60.0%	21.1%
Usually	39.5%	40.0%	47.4%
Sometimes	18.4%	–	31.6%
Rarely	–	–	–
Help with homework			
Yes	51.0%	34.5%	36.8%
No	28.6%	31.0%	47.4%
Do not know	20.4%	34.4%	15.8%
Interest and enthusiasm for the subject			
A great deal	68.9%	64.7%	52.6%
Some	29.5%	35.3%	47.4%
Little	1.6%	–	–
3. Home interest in students' academic work			
A great deal	71.0%	79.4%	57.9%
Some	25.8%	20.6%	36.8%
Little	3.2%	–	5.3%

Note. Number of cases may vary slightly according to the missing cases.

mer was allowed to enter the district's accelerated Gateways Math program as a fifth grader, 1 year earlier than most accelerated students in the district. For Cohort 2, 2 of 15 current fifth-grade students participated in the CTD summer programs and three Cohort 2 students participated in the spring session of the Saturday Enrichment Program. For Cohort 3, only 1 of 21 students participated in the summer science program. We have had several instances where parents have aggressively lobbied for more financial aid so their child could attend additional programs at the Center for Talent Development beyond those required of Project EXCITE students.

Summary and Discussion

During the 3 years, some positive changes were observed for students in Cohorts 1 to 3. Major findings of the study were as follows:

1. Nearly 80% of the students from Cohorts 1 to 3 were retained in the program once they qualified for it.
2. All of the students in Cohorts 1, 2, and 3 participated in the Saturday classes held at the Center. Overall, narrative evaluations from teachers showed excellent performance and progress in these math and science enrichment courses for Project EXCITE students.
3. Sixty-three percent of the students from Cohort 1 qualified for placement in prealgebra in grade 6 after 2 years of involvement in the program, which represented a 300% increase in the percentage of minority children qualifying for the advanced math program from the four schools involved in Project EXCITE.
4. Results of the district-level end-of-fifth-grade math assessment showed 75 to 80% performance level on average in mastery of the district math curriculum for the Cohort 1 students.
5. Results of the end-of-year teacher reports showed that, overall, the level of the EXCITE students' performance in math and science was high (strong or acceptable performance: math = 95.7%, science = 89.2%) and that more than 80% of the students earned As or Bs in math and about 70% earned As and Bs in science during the academic year.
6. Teachers perceived that the EXCITE students had substantial interest and enthusiasm for science (a great deal 70%, some = 29.2%), math (a great deal = 66.1%, some = 28.9%), and the EXCITE program (M = 1.58) and received strong family support for academic achievement (a great deal = 72.7%, some = 24%).
7. Results of the state criterion-referenced tests indicated that all of the EXCITE students either met or exceeded standards of math and science performance compared to grade and age equivalent students in the state.

Some Areas of Concerns

Our data show that student interest in math and science, and the program itself, declined by year (between Years 1 and 2 to 3), as did

students' performances on science tests, quizzes, and assignments; overall grades in science; the level of completion of science homework; and receiving help with science and math homework at home. These declines were slight, but, perhaps, signal something significant. It may be that the students are experiencing more difficulty with the upper elementary level science and have less parental involvement in science and math at home, which could be tied to the increased difficulty (i.e., parents may feel less able to help). It may also be that, as students enter the middle school years, such social factors as the relationship between racial identity and achievement as discussed in the literature review are having an effect on students. It is not clear what is happening here, but project administrators will keep a watchful eye on students' performance in school.

Students received a home computer as part of the EXCITE program. However, only a few students were really knowledgeable about working on computers, and they were not being used at home. Students were not connecting to the Internet to check out the EXCITE Web site, nor were they using their e-mail accounts, also paid for by the Project.

We began to offer evening and Saturday classes for parents and families to assist them with word processing and accessing the Internet. We also began to provide technical assistance to families in their homes. We learned a very valuable lesson. While our intent was to provide students with the same technological resources as better educated, more affluent, socially connected families, we assumed families would take more initiative in learning on their own what they needed to know to use the computer. We also assumed that students and parents would have more experience (from jobs and schools) with computers than they had. Families asked for assistance in using their home computers and expressed a strong desire to use them more effectively. While some families placed the computer in a central spot in their homes so that its use could be monitored, others placed it in the student's bedroom. This resulted in several instances in not only lack of use of the computer, but some inappropriate use, as well. Project administrators have increased their support to families in the form of classes and individualized assistance to ensure that the computers are used more often and more effectively by students and parents.

We were thrilled that some parents took the initiative to enroll their Project EXCITE students and their siblings in other additional CTD programs. We also had some families using the Project EXCITE staff for assistance with concerns about their children,

such as homework problems or motivation issues regarding school. However, we were dismayed that more parents did not seek out additional resources nor contact the Project EXCITE staff for more assistance. We believe that trust is at the root of this and have learned that trust builds very slowly over time and results from repeated positive interactions between families and the Project EXCITE and District 65 staff. We are working to increase our contact with families in the early years of the program, while the student is in the third or fourth grade, to build trust more quickly.

The issue of racial identity and peer support for the EXCITE students is of great concern to us. Our group data did not have any strong indication that negative peer pressure was adversely affecting EXCITE students, although we had several instances of sixth-grade students whose previous high level of achievement faltered in the transition to middle school. The nature of peer interactions among the students was not studied for this evaluation report. However, we are aware that gifted minority students are vulnerable to peer pressure against academic achievement because they tend to identify academic excellence with pretending to be White or as an effort to assimilate into the White culture (Ogbu, 2003). Since Project EXCITE is designed to enhance the long-term academic achievement of minority students, peer relationships must be carefully monitored and engineered by the program staff. We have cluster grouped Project EXCITE students within their homerooms in an effort to provide peer support. We have gathered sixth graders taking prealgebra together into a support group in their middle schools. We are also planning to have speakers talk to families and students directly about the issue of racial identity and high achievement.

Limitations

There are some limitations to the study, largely the result of limitations in the student data we could access from the school district, but also due to the realities of conducting an intervention program in a real school setting. We did not have data available on the performance of Project EXCITE students prior to the study, nor did we have a control or comparison group of students. Thus, while the percentage increase in the number of minority students who qualified for Gateways Math is huge and likely attributable to the impact of Project EXCITE, our study design cannot rule out the potential role of other factors nor disentangle the contribution of multiple factors.

Future Plans

In 2004, our first cohort of EXCITE students began attending the CTD summer programs. This gave them the experience of living on a college campus for 3 weeks and significantly broadened their experience to an international group of students. We will continue to help families learn to use their computers at home via classes and workshops. We are working on setting up a mentorship program utilizing high-achieving minority students from the local high school. We did this with one student at his mother's request because she feared that he was turning away from academic achievement and being distracted by sports. The pull of other activities, such as sports, and peers is of great concern for parents of male students. We are also in the process of setting up tutoring for some students, particularly those in prealgebra, to ensure a high level of success as a good foundation for algebra. We are hopeful that most of the current sixth-grade students who did not qualify to take prealgebra in grade 5 will do so in grade 6.

We will continue to work with families to encourage them to monitor their children's homework and school progress and support Project EXCITE activities and classes. We also have some children who, even though they did not have parental help, have shown great initiative, such as taking the bus to campus for Saturday classes. We are concerned that parents feel less able to help with homework as the material becomes more difficult, and we may need to supplement with tutoring for students.

We continue to monitor our selection criteria. While we are satisfied with them overall, we remain open to revising them if the district employs any additional standardized testing.

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End Notes

1. Pseudonym was used for confidentiality.
2. Cohort 1: Student group nominated for the program in 2000 for 2001 academic year; Cohort 2: Student group nominated for the program in 2001 for 2002 academic year; Cohort 3: Student group nominated for the program in 2002 for 2003 academic year.
3. Research shows that students of color are still less likely to be referred for testing by their teachers, but they are more likely to be identified as gifted when the NNAT or the Ravens Colored Progressive Matrices are used (Saccuzzo et al., 1994).

Appendix
End-of-Year Teacher Report on Project EXCITE

A. Questions for Students' Performance in Math and Science

1. Please indicate this student's level of performance in mathematics/science since school started in September.
   (a) General level of performance on math/science tests, quizzes, assignments
   (1 = strong performance, 2 = acceptable performance, 3 = needs improvement)

(b) If you were to give the student a grade in math/science for the academic year, what would it be?
(1 = A, 2 = B, 3 = C, 4 = D, 5 = F)

(c) How often is the student tutored in his or her math/science homework?
(1 = always, 2 = usually, 3 = sometimes, 4 = rarely, 5 = does not apply*)

(d) Please rate the quality of the student's completed math/science homework.
(1 = excellent, 2 = good, 3 = average, 4 = poor, 5 = very poor, 6 = does not apply*)

(e) Does the student get help with math/science homework at home?
(1 = yes, 2 = no, 3 = don't know)

(f) Please rate the quality of the student's daily work in math/science.
(1 = excellent, 2 = good, 3 = average, 4 = poor, 5 = very poor)

2. Please rate this student's interest in and enthusiasm for math/science.
(1 = demonstrates a great deal of interest and enthusiasm, 2 = demonstrates some interest and enthusiasm, 3 = demonstrates little interest and enthusiasm)

B. Questions for Home Interest, Students' Interest, and Teachers' Satisfaction

3. Please rate the interest at home regarding this student's academic work.
(1 = demonstrates a great deal of interest, 2 = demonstrates some interest, 3 = demonstrates little interest)

4. What is your perception of the student's interest in project EXCITE?
(1 = always enthusiastic, 2 = usually enthusiastic, 3 = neutral, 4 = sometimes unenthusiastic, 5 = always unenthusiastic)

5. Please rate your satisfaction with the program's communications with you thus far.
(1 = very satisfied, 2 = satisfied, 3 = somewhat satisfied, 4 = unsatisfied, 5 = very unsatisfied)

* Applies only for science homework.