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Evaluation of the Magnet Schools Assistance Program, 1998 Grantees

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Executive Summary

For nearly four decades, magnet schools have been an important element of American public school education. They have offered innovative programs not generally available in local schools and provided opportunities for students to learn in racially diverse environments. Magnet schools have been particularly important in districts that are trying to desegregate.

Congressional support for desegregation first came in the form of the Emergency School Aid Act (ESAA), enacted in the spring of 1972 to "encourage the voluntary reduction, elimination, or prevention of minority-group isolation."[1] Legislation specifically authorizing grants to support the planning and implementation of magnet programs in school districts attempting to desegregate was passed in 1976 as an amendment to ESAA,[2] and again in 1984, with the enactment of the Magnet Schools Assistance Program (MSAP). MSAP grants are intended to support magnet schools that are part of an approved desegregation plan and that are designed to bring students from different socioeconomic, ethnic, and racial backgrounds together. Beginning in 1985, MSAP has offered multiple-year grants to school districts through a competitive process administered by the U.S. Department of Education (ED).

In 1998, the American Institutes for Research (AIR), with the McKenzie Group serving as subcontractor, was awarded a contract to evaluate the MSAP. This is the final report for our evaluation. It is based on data collected from the 57 projects that received three-year MSAP awards in the summer of 1998.

The Magnet Schools Assistance Program

During the period covered by this study, the Magnet Schools Assistance Program was authorized under the Improving America's Schools Act (IASA) of 1994. Under this legislation, the program had four purposes: to support, through financial assistance to eligible school districts or consortia of school districts, the following:

- The elimination, reduction, or prevention of minority group isolation in elementary and secondary schools with substantial portions of minority students.
- Courses of instruction within magnet schools that will substantially strengthen the knowledge of academic subjects and the grasp of tangible and marketable vocational skills of students attending such schools.
- The development and design of innovative educational methods and practices.
- The development and implementation of magnet school projects that will assist local education agencies (LEA) in achieving systemic reforms and providing all students the opportunity to meet challenging state content and performance standards.[3]

[1] P.L. 92–318, Title VII, Sec. 701–720, June 23, 1972.

[2] ESAA was eliminated as a separate program in 1981, when it was consolidated along with more than 30 other programs as part of a block grant program under the Omnibus Budget Reconciliation Act of 1981.

[3] 20 U.S.C. 7202

In each school district receiving MSAP funds, MSAP projects are developed to support these four purposes in one or more magnet schools. In this report, we refer to the **MSAP** (the U.S. Department of Education source of funding and assistance), the 57 **districts** receiving MSAP grants in 1998, the **projects** that the districts developed with MSAP funds, and the **MSAP schools** and **programs** supported by the projects.

This report examines the progress MSAP projects made in meeting the legislative purposes of the Magnet Schools Assistance Program. Particular emphasis is given to program outcomes in reducing minority student isolation and improving student achievement. The results show that program outcomes varied within and across school districts. While MSAP schools adopted innovative practices and worked to align their programs with state and district systemic reforms, overall they made only modest progress in reducing minority group isolation and improving student achievement during the three-year funding period. A major factor contributing to these findings may have been the length of the grant period: three years may not allow sufficient time for MSAP projects to fully implement their programs and show substantial change in school enrollment and achievement patterns.

In the following sections, we outline the data sources that informed the evaluation and provide general information about the operation of the program during the 1998–2001 funding cycle. In four subsequent sections, we examine the extent to which the 1998 cohort of MSAP grantees fulfilled the program's legislative purposes of reducing, eliminating, or preventing minority isolation; increasing student achievement; promoting innovative practices; and supporting systemic reforms. In the last section, we discuss strengths and limitations of the study, as well as implications of our findings for the administration of the MSAP.

Data Sources

Data for the National Population of MSAP Projects and Schools

To assess the progress made by MSAP projects and schools with respect to the four main purposes of the program, AIR collected survey data from the full set of projects and schools funded by MSAP in 1998–2001. During 1999–2000, 2000–2001, and 2001–2002, we collected and analyzed data on all 57 projects through telephone interviews with the MSAP Project Directors; in 1999–2000 and 2001–2002, we also conducted mailed surveys, completed by the Project Directors. In addition, we gathered data on the 292 MSAP schools through Principal Surveys in both 1999–2000 and 2000–2001. Finally, we obtained school-level data from the National School-Level State Assessment Score Database (for use in comparative analyses of student achievement in MSAP and non-MSAP schools), from the Common Core of Data of the National Center for Education Statistics (for use in describing characteristics of MSAP schools and districts and analyzing desegregation outcomes), and from the 1999–2000 Schools and Staffing Survey.

Case Studies of Eight Projects

In both spring 2000 and spring 2001, we visited eight MSAP projects selected for in-depth case studies. Although too few to be a representative sample of the national population, the

case studies were chosen to include major dimensions on which MSAP districts and schools vary: regions of the U.S., urbanicity, grade levels served, and whether the district's desegregation effort was voluntary or required by a court or other agency. In each case study district, we conducted interviews at the district level and observations and interviews in four MSAP schools, as well as in one or two comparison schools. We also surveyed a sample of teachers in each case study school. Case study data were used to contextualize the findings of our more quantitative analyses of data from the national sample.

Characteristics of the MSAP-Supported Schools and Programs

In 1998, three-year MSAP grants were awarded to 57 districts and 292 schools within those districts. Some magnet programs did not become fully operational during the first year of the grant, and a few schools discontinued their programs before 2000–2001. Descriptive information about the MSAP-funded districts and schools follows:

- **MSAP-funded magnet schools.** A total of 285 of 292 magnet schools funded by the 1998 MSAP grants operated magnet programs in 2000–2001.[4] These MSAP-supported schools represent about 9 percent of all magnets in the United States promoting desegregation.[5] MSAP-supported magnet schools are similar in terms of grade level distribution to the pool of all magnets in the U.S. promoting desegregation. (Approximately 60 percent of the MSAP programs are in elementary schools.)

- **MSAP funding for the magnet schools.** While on average MSAP-supported schools received about $300,000 per year, grant amounts varied considerably across projects. Support for personnel constituted the largest budget expenditure.

- **Whole school programs and programs-within-schools (PWSs).** Most MSAP-supported schools (88 percent) operate whole school programs that offer the magnet curriculum to all students in the school who are in the grades served by the program. PWSs, which offer magnet curricula to some, but not all, students in a school, comprise a small proportion of MSAP's magnet programs (12 percent). This pattern differs somewhat from the national pool of magnet schools promoting desegregation, in which about one-third of the schools operate PWSs.

- **Characteristics of students in MSAP-supported schools.** MSAP magnet school enrollments include a high proportion of minority students (73 percent on average) and students in poverty (an average of 60 percent are eligible for free or reduced price meals). Approximately 70 percent of the MSAP schools operate Title I programs.

[4] Initially 292 schools were funded, but the magnet programs in six schools were not operational and two MSAP elementary magnet schools combined into a single school. Of the six schools in which the magnet programs were not operational, two schools were closed, two schools have programs that never became operational during the 1998–2001 funding cycle, one school was removed from the district and taken over by the state, and one had its magnet status removed by the district after the first year for low performance. Four of the schools were elementary and two were middle schools.

[5] The estimates of magnet schools are based on data from the 1999–2000 Schools and Staffing Survey of the National Center for Education Statistics.

Results for Minority Student Isolation

The impact of MSAP-supported programs on school desegregation was modest. Adjusting for districtwide demographic trends in minority enrollment, 57 percent of the desegregation-targeted schools succeeded in preventing, eliminating, or reducing minority group isolation, while 43 percent did not succeed.

A major objective of the MSAP is to prevent, eliminate, or reduce minority group isolation in MSAP schools. Minority group isolation (MGI) refers to schools in which minority group students constitute more than 50 percent of school enrollment.

- Most of the 294 MSAP schools targeted for desegregation[6] (77 percent) sought to ***reduce*** MGI, rather than prevent or eliminate it.
- Less than one-tenth (8 percent) aimed to ***prevent*** MGI by keeping the school's minority enrollment from exceeding 50 percent.
- Less than one-sixth (16 percent) aimed to ***eliminate*** MGI by reducing their minority enrollment to 50 percent or less.

This pattern reflects the fact that most of the targeted schools are in districts in which minority students constitute more than 50 percent of public school enrollment.

Overall, the MSAP-supported magnets had a modest impact on preventing, eliminating, or reducing MGI at the 294 desegregation-targeted schools from 1997–1998 (the year prior to the initiation of the three-year MSAP projects) through 2000–2001 (the final year of the MSAP grant), with some variation by project, program, and school features.

- Adjusting for districtwide demographic trends, the MSAP-supported magnet programs for 57 percent of the desegregation-targeted schools succeeded in preventing, eliminating, or reducing MGI, while 43 percent did not show progress.
- The proportion of targeted schools in districts with voluntary desegregation plans that prevented, eliminated, or reduced MGI was slightly higher than the proportion of such schools in districts with desegregation plans required by a court or other agency (60 percent vs. 53 percent).
- A larger proportion of elementary schools prevented, eliminated, or reduced MGI compared with middle schools or high schools (60 percent vs. 54 percent and 48 percent, respectively).
- Whole school programs, which are offered to all students in the school, were more likely to prevent, eliminate, or reduce MGI than were programs-within-schools, which are offered to only some of the students attending a school (59 percent vs. 49 percent).

[6] In most cases, the school in which an MSAP-supported program is located is also the school that is targeted for desegregation. In a few cases, the magnet program is designed to draw students out of one or more other desegregation-targeted schools that may or may not receive MSAP funding. Therefore, there are 292 MSAP-funded magnet schools but 294 targeted schools.

Analysis of the amount of progress desegregation-targeted schools made in reducing MGI indicated that a small proportion of targeted schools prevented or eliminated minority group isolation, while the successful schools mostly reduced minority group isolation.

- One in six (17 percent) of the targeted schools experienced a reduction of 5 percentage points or more in MGI relative to the district. About one-quarter (28 percent) experienced a reduction of 1 to 5 percentage points, and one in fifteen (7 percent) experienced a reduction that was less than 1 percentage point.
- An additional one in twenty (5 percent) of the targeted schools prevented or eliminated MGI.
- In the remaining 43 percent of schools that did not make progress, MGI increased or remained constant.

Analysis of the factors that influence the ability of targeted elementary schools to reduce minority isolation pointed to several school features:

- Schools are more likely to experience decreasing minority isolation when the school has a racially and ethnically mixed group of minority students.
- Schools are more likely to experience decreasing minority isolation when parents are involved in school events and activities.
- Schools with larger numbers of students per teacher are more likely than those with lower student-to-teacher ratios to experience increases in minority group isolation.

Some of the challenges facing MSAP projects that may explain the modest impact that MSAP magnet programs have had on MGI include such factors as the decreasing number of nonminority students in many districts, a need for more effective recruitment, the need to support parents and retain students in the magnet programs, limitations on factors that are used in the selection of students, and inability to conduct recruitment efforts for the first year of the project because of the timing of grant awards. Our case study data suggest that districts are experimenting with strategies to address some of these challenges. Additional research into these and other challenges is needed to better understand the processes that influence the success of programs in meeting their desegregation objectives.

Results for Student Achievement Objectives and Outcomes

Two studies of student achievement in MSAP-supported schools were conducted. The first showed that MSAP-supported schools were most successful in meeting or making progress toward their student achievement goals they had set for the first year of magnet program operation, but continued improvement over longer time periods proved more difficult. The second, an analysis of statewide test data, showed that MSAP-supported elementary magnet schools made noticeable progress in reading and mathematics during the grant period. However, when the analysis controlled for changes in the demographic composition of the schools, the gains exhibited by MSAP schools were not significantly different from those exhibited by non-MSAP schools with similar characteristics.

We examined student achievement in MSAP schools using two types of data: information provided in MSAP projects' annual reports concerning the progress that the schools had made toward meeting achievement goals set by the project, and data obtained from statewide testing programs for MSAP magnet schools and a matched sample of non-MSAP schools.

Progress Toward Meeting Achievement Goals

MSAP projects were required to establish goals for student achievement for each funded school. MSAP projects set a wide variety of achievement goals for their schools.

- Most achievement goals related to student performance on standardized tests in English language arts and mathematics.
- Overall, the MSAP-supported schools were most successful in meeting or making progress toward goals set for the first year of magnet program operation, but continued improvement over longer time periods proved more difficult. Overall, about 51 percent of the schools met half or more of the benchmarks set for the final year of the grant in language arts, and approximately 36 percent did so for mathematics.
- The availability of achievement data was a concern in these analyses. MSAP projects' annual progress reports provided usable school-level data for about one-third of the general achievement objectives that had been described in MSAP applications. For each grant year, outcome data were available for between half and two-thirds of the specific school-level goals we tracked. A major reason for the lack of outcome data was that the state had revised or discontinued the assessments upon which the projects had based their objectives.

Comparative Analysis of Achievement in MSAP and non-MSAP Elementary Schools

In addition to analyzing objectives and data provided by the MSAP projects, AIR used school-level state assessment scores to examine gains in reading and mathematics performance of MSAP-supported magnet elementary schools and a sample of matched comparison schools without MSAP funding.

- Both the MSAP-supported magnet schools and the comparison schools made noticeable progress in reading and mathematics during the grant period. However, when changes in the demographic composition of the schools were controlled for, the gains exhibited by MSAP schools were not significantly different from those exhibited by non-MSAP schools with similar characteristics.
- The measure most strongly associated with achievement growth in both reading and mathematics in MSAP-supported schools was the overall strength of the professional community of the school (i.e., the extent to which teachers in a school are reported to share a common set of goals and beliefs, and to have frequent opportunities for collegial interaction). Additional factors were associated with growth in only one of the subjects. Greater progress in reading was associated with professional development related to standards-based reform. Greater progress in mathematics was associated with stronger influence of state or district standards and frameworks on

curriculum and instructional decisions, and with longer periods of magnet operation (i.e., magnet programs that had been in operation prior to the 1998 MSAP grant).

Influence of Implementation Time and District Context on Achievement Results

In interpreting the similarity of achievement results for MSAP and non-MSAP schools, it is important to consider the conditions under which dramatic differences might occur. One prerequisite for improved achievement is sufficient time for a program to be fully implemented, for teachers to change their methods, and for students to respond with improved performance on achievement tests. Information from surveys and case studies suggests that these conditions were not always met. Implementation time was particularly problematic for new MSAP-supported magnet schools, which had three years to design programs, acquire materials, train teachers, and implement new methods well and consistently enough to affect student performance. Due to late notification or funding, the use of a planning year, or the opening of a school during the second or third year of the grant, some schools had even less than three years in which to produce measurable results.

Furthermore, for the performance of MSAP and non-MSAP students on standardized tests to differ appreciably, one would expect instructional programs addressing content covered by the tests to differ in the two types of schools. Given the context of high-stakes accountability in which all schools operate, case data indicate that non-MSAP as well as MSAP schools focus their efforts on improving teachers' practice and student performance using a combination of regular and special funding sources (of which MSAP is only one), thus diminishing the differences between MSAP and non-MSAP instructional programs.

Results for Innovative Educational Methods and Practices

MSAP schools adopted a variety of themes and innovative practices, focusing especially on technology and science, and they differed from comparison non-magnet schools in their districts in several ways. In particular, a higher proportion of MSAP than comparison schools adopted comprehensive school reform models; they had somewhat more positive school climates; and teachers reported giving more emphasis to higher-order thinking skills.

Magnet schools are expected to adopt distinctive themes and innovative programs, designed to promote a positive school climate and professional community among teachers. These conditions, in turn, are expected to lead to effective instructional practices and ultimately to improved student achievement. Findings, based on interview and survey responses, include the following:

- **Magnet themes.** MSAP schools have adopted a wide variety of themes. Over one-third of MSAP schools include technology among their themes, and more than a quarter of MSAP schools include a science theme. Arts, communication, and mathematics are also common themes.
- **Adoption of comprehensive school reform models.** More than half of the MSAP schools have adopted comprehensive school reform models, such as Success for All.

This is a substantially higher proportion than is observed among the full national population of Title I schools. It is also higher than among comparable non-MSAP schools in the MSAP districts.

- **School climate and community.** MSAP schools differ in some organizational and instructional features from comparison schools in the same district. MSAP schools on average have a somewhat more positive sense of professional community than comparison schools. For example, principals of MSAP schools are more likely to report that staff members are supportive and encouraging of each other than are principals in non-MSAP schools. MSAP principals are also more likely to report that administrators and teachers collaborate to help make the school run effectively than are principals in non-MSAP schools. MSAP schools also have a somewhat more positive school climate (i.e., fewer student disengagement and behavior problems), although there is considerable variation among schools.
- **Instructional practices.** According to teacher survey responses, MSAP schools make somewhat more use of technology in instruction than do comparable schools, and place more emphasis on instructional methods designed to elicit higher-order thinking skills, such as open-ended projects and presentations.

Results for Supporting Systemic, Standards-Based Reform

The goals of federally supported magnet programs are generally consistent with the content of state standards and assessment. However, there is evidence from case studies that tension may exist between the goals of innovative instruction and systemic reform.

While MSAP schools are intended to adopt innovative themes and practices, they are also expected to ensure that these programs are aligned with state and district standards and assessments. We hypothesized that magnet schools would be more likely to flourish if their themes and programs were aligned with state and district standards and assessments, but we also anticipated that innovative magnet themes might at times conflict with the emphases in many state and district assessments. Findings, drawn from surveys and in-depth case studies, include the following:

- Respondents to the MSAP Principal Surveys report a high degree of familiarity with standards and assessments, and indicate that the content of state standards and assessments match the goals of their magnet programs.
- The case data support the conclusion that magnet themes are generally consistent with the content emphasized in state standards.
- Case data also provide some evidence of tension between the goals of innovative instruction and systemic reform. Staff in some MSAP schools reported feeling pressured to learn how to teach a new theme/curriculum while simultaneously being mindful of state content standards and assessments. It also appears that some MSAP schools altered their initial plans in order to bring the curriculum more in line with standards and assessments, or reduced their emphasis on novel programs to increase the time for work more directly related to state standards and assessments.

Strengths and Limitations of the Study

The results we have obtained must be understood in terms of the strengths and weaknesses of the evaluation design. Two strengths of the design are:

- The study made use of data on the full population of MSAP-funded projects and schools. We conducted telephone interviews with all of the local MSAP project directors in the first year following implementation and during the second and third years of implementation. We also conducted surveys of MSAP principals during the second and third years of implementation, achieving more than a 90 percent response rate each year. These survey data for the full population are accompanied by data on school-level demographics and achievement, drawn from national databases and MSAP annual progress reports.
- Detailed case study and teacher survey data were collected in a sample of MSAP and matched comparison schools in eight in-depth case study districts. This information allowed us to contextualize findings from our more quantitative analysis of desegregation and achievement outcomes.

The evaluation data, however, have some important limitations:

- Our results on school practices in the full population of magnet schools are based entirely on principal self-reported data. Analyses comparing principal and teacher reports for schools in the case study districts indicate that conclusions based on principal and teacher reports are reasonably similar for questions that were asked of both sets of respondents. Nonetheless, it would be preferable to have data from teachers for a larger sample of MSAP schools.
- Our data on achievement are restricted to aggregate school data. We had initially planned to conduct a more powerful study to gauge the impact of magnet schools on student achievement using linked-longitudinal student-level data. This approach would have allowed analyses of student growth in magnet and comparison schools that took account of prior achievement and other student background characteristics. We were prevented from doing so by a Department of Education moratorium placed on the collection of individual student-level data pending resolution of issues pertaining to the Family Educational Records and Privacy Act (FERPA). Given the increasing emphasis on providing evidence on the achievement effects of school interventions, it would be useful to explore ways in which individual-level data might be made available for evaluations without compromising important privacy concerns.
- The evaluation was not able to make as much use as planned of student achievement and enrollment data collected from the annual performance reports of the MSAP projects. The information on student achievement provided usable school-level data for about one-third of the general achievement objectives described in MSAP applications. Some of the reporting problems included lack of clarity of the objective and its measurement, changes in the assessment or the metric in which it was reported, changes in objectives, and other inconsistencies in reporting. Mathematics and English language arts outcomes could be assessed for about half of the schools in the first year of the grant and just under two-thirds for the latter two years.

Additionally, the enrollment data provided by grantees was not sufficiently standardized for the purposes of analyzing progress in reducing minority group isolation, so we made use of the Common Core of Data from the National Center for Education Statistics.

Implications

Overall, our results indicate that MSAP projects and schools achieved mixed results over the three years that are the focus of our evaluation. In particular, most MSAP schools appear to have adopted innovative themes, and there is some evidence, based on both survey and case study data, that MSAP schools on average were able to establish a somewhat more positive school climate and level of professional community than other schools serving similar students in the same districts. In addition, our survey and case study data indicate that MSAP schools made efforts to align their programs with state and district standards and assessments.

At the same time, MSAP schools made only modest progress in preventing, reducing, or eliminating minority student isolation and improving student achievement. There is some indication, however, that MSAP schools with more positive program features (e.g., school climate) outperformed comparison schools in student achievement.

These results suggest a number of approaches that might be taken to enhance the prospects that MSAP schools will produce positive desegregation and achievement outcomes.

- **Narrowing the focus.** It may be useful to permit districts to prioritize the goals or purposes of MSAP projects to achieve one or two focused outcomes rather than attempting to pursue multiple, sometimes competing, goals with limited resources. Case study data suggest that projects sometimes had difficulty balancing the four goals required of them under MSAP's authorization under IASA. As reauthorized under NCLB, MSAP projects are now expected to focus on six goals, potentially making it even more difficult to achieve these goals. Narrowing the focus—and evaluating the grantees on this narrower focus—might improve the chances for positive results.
- **Re-examining the definition of minority student isolation.** Federal regulations currently define minority group isolated schools as those in which more than 50 percent of the students are minority group members. In light of the high proportion of minority students in urban school districts, federal policymakers might wish to re-examine the meaning and utility of equating minority group isolation with a single fixed percentage. Given the high percentages of minorities in the large urban districts that MSAP typically serves, it was not surprising to find that the desegregation objective of targeted schools was overwhelmingly to reduce, rather than eliminate or prevent, MGI. As the proportion of minorities in schools generally continues to rise, there would seem to be a diminishing opportunity for schools to prevent or eliminate MGI as it is currently defined without adversely impacting other schools in the district. Policymakers might wish to examine more broadly the meaning of minority group isolation in an increasingly diverse population.

- **Awarding MSAP grants in a more timely manner.** The timing of a grant award is critical to the first year implementation of recruitment efforts and magnet programs. Inability of districts to begin recruitment efforts and delays in first year programming are particularly likely when funds are not received until June or later of the year the program is expected to begin operation. If funds were awarded by March, or even earlier, of the calendar year the project were to begin, districts might be able to implement more effective recruitment efforts for the first year of magnet programs, and schools would have more time to secure materials, training, and personnel for the first year of the program.
- **Extending the period of funding.** The MSAP program might provide more than three years of funding. Three years may not be sufficient to plan, develop, and implement curriculum and expect to see change in enrollment and student performance around a new theme. It may take several years for magnet school programs to build a strong reputation before they can attract students from outside the immediate neighborhood. Whether or not the period of funding is extended, it would be helpful to continue to examine school outcomes for a period longer than three years.
- **Improving the use of annual performance benchmarks.** Districts receiving MSAP funds are required to set annual performance benchmarks for improvements in minority student isolation and student achievement, and to report on their success in meeting these benchmarks. The benchmarks districts set for their schools varied considerably in ambition and plausibility. If districts are required to set benchmarks, additional technical assistance may be required to ensure that the benchmarks are meaningful and that outcomes are monitored consistently.

As we have indicated, the data collection for this evaluation was conducted prior to the enactment of No Child Left Behind (NCLB). Our results do, however, suggest that the provisions of NCLB may have special implications for magnet schools.

- **Providing assistance in the use of disaggregated achievement data.** By 2005–2006, all states must conduct annual testing in grades 3–8, and at least one grade from 10–12. In addition, achievement scores must be reported disaggregated by ethnicity and other subgroups. The availability of these data will enhance the capacity to examine achievement outcomes, and, in particular, to determine whether magnet schools are effective in closing the achievement gap between minority and nonminority students. As such data are increasingly available, it may be useful to provide technical assistance to MSAP grantees to encourage appropriate uses of disaggregated achievement data in evaluating magnet schools.
- **Supporting district choice systems.** Under the provisions of NCLB, districts are expected to offer a choice of schools to students enrolled in schools that fail to meet adequate yearly progress standards for two consecutive years. Magnet schools may be particularly attractive options for families with students in failing schools, and thus MSAP projects may have particular strengths in assisting districts to build coordinated district choice systems.

- **Providing support for magnet schools that fail to meet adequate yearly progress requirements.** Under NCLB, schools that fail to make adequate yearly progress for two consecutive are expected to revise their plan for the use of Title I funds and engage in other interventions. Magnet schools confronting a failure to meet adequate yearly progress standards may face the additional challenge of maintaining the continuity and integrity of the school's distinctive mission or theme while incorporating changes in curriculum and instruction to improve test scores.

I. Introduction and Overview of the Magnet Schools Assistance Program (MSAP) and Evaluation

For nearly four decades, magnet schools have been an important element in American public school education, offering innovative programs not generally available in local schools and providing opportunities for students to learn in racially diverse environments. The number of school districts offering magnet schools expanded rapidly during the 1980s: from 138 districts in 1982 to 230 districts in 1991. The number of schools offering magnet programs more than doubled during this time from 1,019 to 2,433 schools, while the number of students participating in magnet programs nearly tripled from 441,000 to over 1.2 million (Steel and Levine, 1994). The number of magnet schools continued to increase during the 1990s to an estimated 3,026 schools enrolling 2.5 million students in 1999–2000.[1] Some studies have credited magnet schools with contributing to school desegregation, and with improving educational quality.[2]

Magnet schools have been particularly important in districts that are trying to desegregate. Congressional support for desegregation first came in the form of the Emergency School Aid Act (ESAA) enacted in the spring of 1972 to "encourage the voluntary reduction, elimination, or prevention of minority-group isolation,"[3] and the ESAA was amended in 1976 to authorize grants to support the planning and implementation of magnet programs in school districts attempting to desegregate. ESAA was eliminated as a separate program in 1981 and consolidated along with more than 30 other programs as part of a block grant under the Omnibus Budget Reconciliation Act of 1981.

Congress resumed specific support for magnet schools in 1984 with the enactment of the Magnet Schools Assistance Program (MSAP). MSAP grants are intended to support magnet schools that are part of an approved desegregation plan and that are designed to bring students from different socioeconomic, ethnic, and racial backgrounds together. Since 1984, MSAP has offered multiple-year grants to school districts through a competitive process administered by the U.S. Department of Education (ED). Three-year grants were awarded in 1998 to 57 school districts across the country, and 64 school districts were awarded grants in 2001.

In 1998, the American Institutes for Research (AIR), with the McKenzie Group serving as subcontractor, was given a contract to evaluate the MSAP. This is the final report for our evaluation. It is based on data collected from all 57 projects and 8 case study districts during the 1999–2000 and 2000–2001 school years, from applications and progress reports that the projects have submitted to ED, and extant data from national, state, and district sources. This overview chapter provides a brief description of the MSAP, the evaluation design for this study, and the organization of this report.

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1 Estimates for 1999–2000 refer to schools operating programs intended to promote desegregation. The 1999–2000 estimate for all magnet schools, including those without a desegregation objective, is 5,576 schools that enroll approximately 4.5 million students. Source: Schools and Staffing Survey of the National Center for Education Statistics.

2 See the section on Evaluation Questions below for a discussion of the research literature on magnet schools.

3 P.L. 92–318, Title VII, Sec. 701–720, June 23, 1972.

The Magnet Schools Assistance Program

The results reported here concern MSAP projects that were awarded MSAP funds in the summer of 1998 and received funding during the 1998–1999, 1999–2000, and 2000–2001 school years. At the time of the study, the program operated as authorized by the Improving America's Schools Act (IASA) of 1994 (20 USC 7201–7213).[4]

During the period under study, the Magnet Schools Assistance Program had four purposes. The program was to support the following purposes, through financial assistance to eligible LEAs[5] or consortia of LEAs:

- The elimination, reduction, or prevention of minority group isolation in elementary and secondary schools with substantial portions of minority students.
- The development and implementation of magnet school projects designed to assist LEAs in achieving systemic reforms and providing all students the opportunity to meet challenging state content standards and challenging state performance standards.
- The development and design of innovative educational methods and practices.
- Courses of instruction within magnet schools designed to substantially strengthen the knowledge of academic subjects and the grasp of tangible and marketable vocational skills of students attending such schools.[6]

Districts (LEAs) applying for MSAP grants had to describe the ways in which they planned to support these purposes in their MSAP projects.

The first MSAP grants were for two-year periods, with second-year funding contingent on an ED review; grants were awarded in 1985, 1987, 1989, 1991, and 1993. In 1995, the grant period was extended to three years, to allow districts more time to implement their programs.

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[4] MSAP was recently reauthorized as part of the No Child Left Behind Act of 2001 (NCLB), 20 U.S.C. 7231-7331. The major provisions of the program as authorized under NCLB are similar to the provisions under IASA.

[5] LEAs are *local education agencies*—public school districts or education centers serving students in some or all of grades K–12. This definition and others are included in the glossary at the end of this volume.

[6] 20 U.S.C. 7202 (1994). These purposes were revised under the No Child Left Behind Act of 2001. Under NCLB, MSAP has the following six purposes: "(1) the elimination, reduction, or prevention of minority group isolation in elementary schools and secondary schools with substantial proportions of minority students which shall include assisting in the efforts of the [United States] to achieve voluntary desegregation in the public schools; (2) the development and implementation of magnet school programs that will assist local educational agencies in achieving systemic reforms and providing all students the opportunity to meet challenging State academic content standards and student academic achievement standards; (3) the development and design of innovative educational methods and practices that promote diversity and increase choices in public elementary and public secondary schools and public educational programs; (4) courses of instruction within magnet schools that will substantially strengthen the knowledge of academic subjects and the attainment of tangible and marketable vocational, technological, and professional skills of students attending such schools; (5) improving the capacity of local educational agencies, including through professional development, to continue operating magnet schools at a high performance level after Federal funding for the magnet schools is terminated; and (6) ensuring that all students enrolled in magnet school programs have equitable access to high quality education that will enable the students to succeed academically and continue with postsecondary education or productive employment." 20 U.S.C. 7231(b).

During the period from 1985 through 1998, 379 MSAP grants were awarded to a total of 171 school districts[7] in 35 states and the District of Columbia.

The 57 MSAP grants for 1998 totaled almost $96.5 million and ranged in size from $350,000 to $2,856,392. The average amount was $1,692,982 per district. Awards in 1999 and 2000 were for similar amounts, with some variation based on grantee plans (e.g., the timing of heavy equipment purchases or the use of a planning year for some schools in 1998).

In each school district receiving MSAP funds, MSAP projects were developed to support the four purposes in one or more magnet schools. In this report we refer to the **MSAP** (the U.S. Department of Education source of funding and assistance), the 57 **districts** receiving MSAP grants in 1998, the **projects** that the districts developed with MSAP funds, and the **MSAP schools** and **programs** supported by the projects.

Evaluation of the Magnet Schools Assistance Program

To determine whether the MSAP is fulfilling its purposes and to provide information on the uses, successes, and problems associated with federal funding of magnet schools, AIR began a comprehensive, four-year evaluation of the MSAP in September 1998. Conducted under the authority of the Magnet Schools Assistance Program, Title VI of the Improving America's Schools Act (IASA)[8] and sponsored by ED's Policy and Program Studies Service, the evaluation focuses on the 57 school districts that received funding for MSAP projects in 1998 for a three-year grant cycle.

In applying for MSAP grants, each of the 57 MSAP projects set desegregation objectives for reducing, eliminating, or preventing minority group isolation in each of their MSAP schools and achievement objectives for strengthening student knowledge and skills in those schools. As funded projects, they submitted annual performance reports to the Department of Education in which they documented their progress toward meeting these objectives, as well as other aspects of implementing their magnet programs. Our *Year 1 Interim Report* (issued in 2000) was based on information gathered from the 57 projects' grant applications and 1998–1999 performance reports to ED, as well as through initial interviews and surveys conducted by AIR during 1999–2000. It provided district context and described the objectives that the projects had set and the strategies they were implementing to support systemic reform, implement innovative practices, and attain their desegregation and achievement objectives. This final report updates information in the first report and addresses the extent to which the projects met their objectives. Data are drawn from the grantees' 1999–2000 and 2000–2001 performance reports; from interviews, surveys, and site visits that AIR conducted during 2001 and 2002; and from extant data sources.

[7] In a few cases, the grantee was a consortium of school districts.
[8] 20 U.S.C. 7212

Evaluation Questions

Our evaluation is guided by these major evaluation questions:

I. What are the characteristics of MSAP projects?
II. What are the characteristics of MSAP districts?
III. To what extent are federally funded magnet projects reducing the incidence or degree of minority isolation in their programs?
IV. To what extent are federally funded magnet projects promoting systemic, standards-based reform?
V. To what extent do federally funded magnet projects feature innovative educational methods and practices that meet identified student needs and interests?
VI. To what extent do federally funded magnet projects strengthen students' knowledge of academic subjects and skills needed for successful careers in the future?
VII. How has the MSAP contributed to the development and implementation of magnet projects?

While there has been continuing policy interest in magnet schools, there is surprisingly little systematic research on the effects of magnet schools in reducing minority student isolation or improving student achievement. [9] One of the claims for the support of magnet schools is that they promote desegregation of schools by increasing the school choices afforded to parents. Although the literature examining desegregation outcomes is relatively small, synthesizing the available studies is challenging, in part because studies differ in their approaches to the measurement of desegregation outcomes. While some researchers have found that magnet schools have succeeded in creating desegregated schools (Yu et al., 1997) or significantly contributing to desegregation of schools (for example, Blank et al., 1983), other researchers have been more cautious about the role that magnet schools have had in promoting desegregation (Henig, 1996). In a previous evaluation of MSAP between 1989 and 1991, researchers concluded that the magnet programs had a relatively modest impact on desegregation of schools (Steel and Eaton, 1996).

Several studies have reported positive effects of magnet schools on student achievement outcomes. (See, for example, Archbald, 1995; Blank, 1990a; Hill, Foster, and Gendler, 1990; Gamoran, 1996.) Some show mixed or negative effects. For example, Crain et al. (1999) report positive effects of high school career magnet schools on a variety of achievement outcomes, but negative effects on student graduation rates; and Adcock and Phillips (2000) report no effects of magnet school participation.

[9] For studies examining the impact of magnet schools on minority student isolation or student achievement, see Archbald (1988 and 1995); Blank (1990a); Yu, Taylor, Goldring, Smrekar, and Piche (1997); Blank et al. (1983); Steel and Eaton (1996); Henig (1996); Rossell (2003); Gamoran (1996a&b); Crain, Allen, Thaler, Sullivan, Zellman, Little, and Quigley (1999); Hill, Foster and Gendler (1990); Adcock and Phillips (2000); and Steel and Levine (1994). For a bibilography of research on magnet schools, see Magnet Schools of America (2003). For reviews of the literature on magnet schools, see ERIC Clearinghouse on Educational Management (2002); Blank (1990b), and Goldhaber (1999).

One potential reason for the mixed results that appear in the empirical work on magnet schools is that, by design, magnet schools are quite varied. Apart from differences in grade level served and instructional focus, magnet schools may also vary in terms of desegregation objectives and strategies. There is very little research on the features of magnet schools associated with positive outcomes or the role of the contexts in which magnet schools operate.

The 57 districts receiving MSAP funds beginning in 1998–1999 used the funds to support nearly 300 magnet schools. Thus the evaluation makes it possible to describe the variation in magnet school characteristics and outcomes, as well as variation in the contexts in which the magnet schools operate. While our primary focus in the work reported here is to address the major evaluation questions, where possible, we draw connections between the results we obtain and the findings in the broader research literature.[10]

Studies Comprising the Evaluation

To provide answers to the evaluation questions, we conducted four interrelated studies:[11]

- **Study 1, Profile of All 57 MSAP Projects**—descriptive analyses of program context, program characteristics, and enrollment and achievement outcomes for all 57 of the MSAP projects funded in 1998.
- **Study 2, Profile of All MSAP-supported Schools**—a focus on the nearly 300 schools that received program funds in MSAP-funded districts: the school context, program characteristics, and enrollment and achievement outcomes.
- **Study 3, In-depth Case Studies**—extensive reviews of eight selected MSAP projects to illuminate the aggregate results obtained from the national data collection (Studies 1 and 2). case study districts were not drawn at random, but rather were selected to reflect the variety among the 57 projects (e.g., geographic region, size).
- **Study 4, In-depth Case Studies of MSAP Schools**—detailed reports on four MSAP-supported schools in each of the eight case study MSAP projects, selected to include elementary, middle, and high school levels and a variety of program themes. Also included in each district case study are one or two non-magnet schools that serve students with racial-ethnic backgrounds similar to those in the MSAP schools, to permit comparisons of school programs in general and student achievement in particular.

Data Collected in 1999–2000 through 2001–2002

During 1999–2000 and 2000–2001, we collected and analyzed data on all 57 projects through telephone interviews with the MSAP project directors and through project surveys, also completed by the project directors. We also interviewed MSAP project directors (or in some

[10] This report focuses primarily on questions III, IV, V, and VI. Questions I, II, and VII were addressed in the *Year 1 Interim Report* (U.S. Department of Education, 2001).

[11] A fifth study, a review of the role of the U.S. Department of Education in promoting high quality magnet schools and providing technical assistance to grantees, was completed during the first year of the evaluation and is not discussed further in this report.

cases other knowledgeable district representatives) in fall 2001, after the federal grant period had ended. In addition, we gathered data on the 292 MSAP schools through principal surveys in both 1999–2000 and 2000–2001. Response rates for these data collections are shown in Exhibit I-1 below.[12]

In both spring 2000 and spring 2001, we made site visits to eight MSAP projects selected for in-depth case studies. The site visits entailed interviews at the district level and observations and interviews in four MSAP schools and one or two comparison schools in each district. We also surveyed a sample of teachers in each case study school. In addition, we obtained a variety of school- and district-level descriptive data (e.g., on student and staff characteristics) from districts and state education agencies, as well as school-level achievement data from the National School-Level State Assessment Score Database.

Exhibit I-1.
Response rates for years 1 through 3 data collection

Data Collection Instrument	N	Responses	Response Rate
MSAP Project Director Interview (1999–2000)	57	57	100%
MSAP Project Director Interview (2000–2001)	57	57	100%
Final Project Director Interview (2001–2002)	57	57	100%
Project Survey (1999–2000)	57	56	98%
Project Survey (2000–2001)	57	54	95%
MSAP School Principal Survey (1999–2000)	284	267	94%
MSAP School Principal Survey (2000–2001)	267	266	93%
Comparison School Principal Survey (1999–2000)	21	20	95%
Comparison School Principal Survey (2000–2001)	21	17	81%

Exhibit reads: The response rate for the MSAP Project Director Interview was 100 percent in 1999–2000, 2000–2001, and 2001–2002.

Organization of the Report

The subsequent chapters in this report are designed to update the description of the MSAP projects and to answer the evaluation questions that pertain to the four main legislative purposes of MSAP. Chapters II-V present the results of quantitative analyses of data on student enrollment and achievement, as well as data drawn from surveys administered as part of the evaluation. Chapter II describes the characteristics of the MSAP-supported schools and programs. Chapter III discusses innovative educational practices and systemic reform in MSAP-schools. Chapter IV examines the desegregation objectives of schools targeted for prevention, elimination, or reduction of minority group isolation as defined by MSAP statutes and regulations, and assesses whether the schools have met or made progress in meeting those objectives. Chapter V assesses the student achievement outcomes in MSAP-supported schools between 1998–1999 and 2000–2001.

[12] The number of principal surveys distributed was smaller than 292 because not all schools were operational every year of the grant. For more information, see the methodology section in the introduction to the Case Studies Appendix.

Chapter VI draws on data from the case studies of MSAP projects and schools to place the outcomes presented in Chapters II-V in context, and it examines the broader impact of the MSAP program. Finally, Chapter VII summarizes the evidence concerning the major research questions addressed in this report.

II. Characteristics of MSAP-Supported Schools and Programs

In 1998 the federal Magnet Schools Assistance Program (MSAP) provided funds for programs in 292 schools in the 57 school districts that were awarded MSAP grants. In this chapter, we present a picture of the MSAP magnet schools by describing the following:

- Grade levels of schools served by magnet programs.
- Types of magnet program structures.
- Amount and use of funds received by MSAP-supported schools.
- Recruitment efforts.
- Enrollment levels and trends in MSAP-supported schools.
- Characteristics of MSAP and non-MSAP students and schools.

Where data are available, we compare the characteristics of 1998 federally funded magnet schools to estimates for all federal and nonfederal magnets nationwide in 1999–2000.

Grade Levels of Schools Served by Magnet Programs

MSAP-supported magnet schools are predominantly elementary schools (60 percent), as is the case for all magnet schools nationwide (63 percent).

A total of 285 of the 292 magnet schools funded by the 1998 MSAP grants operated magnet programs in 2000–2001.[1] These schools represent about 5 percent of all magnets nationwide, and 9 percent of the magnet schools promoting desegregation. Recent estimates for 1999–2000 indicate that there are approximately 5,576 magnet schools nationwide, of which 3,026 have programs intended to promote desegregation.[2]

The MSAP-supported schools are predominantly located in elementary schools,[3] which comprise 60 percent of all MSAP schools. Middle schools represent another quarter (23 percent), and high schools account for less than one-seventh (14 percent) of the schools at which MSAP programs are operating. A handful of programs (3 percent) are in schools that serve a combination of grade levels (Exhibit A-II-1).

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[1] Initially 292 schools were funded, but the magnet programs in six schools were not operational and two MSAP elementary magnet schools combined into a single school. Of the six schools in which the magnet programs were not operational, two schools were closed, two schools have programs that never became operational during the 1998–2001 funding cycle, one school was removed from the district and taken over by the state, and one had its magnet status removed by the district after the first year for low performance. Four of the schools were elementary and two were middle schools. All operated whole school programs.

[2] The estimates of magnet schools are based on data from the 1999–2000 Schools and Staffing Survey of the National Center for Education Statistics.

[3] See glossary at the end of this document for definitions used to distinguish elementary, middle, high, and combined-level schools.

Comparison of MSAP-supported schools to all magnet schools indicates that both have similarly high proportions of elementary schools (Exhibit II-1). Elementary schools represent the largest proportion of magnet schools for both federal and nonfederal programs intended to promote desegregation.[4] Nationally, a smaller proportion of magnets overall serve middle schools compared with MSAP-supported magnets, and a somewhat larger proportion serve high schools compared with MSAP-supported magnets.

Exhibit II-1.
Comparison of grade levels of MSAP magnet schools with magnet schools nationally that promote desegregation

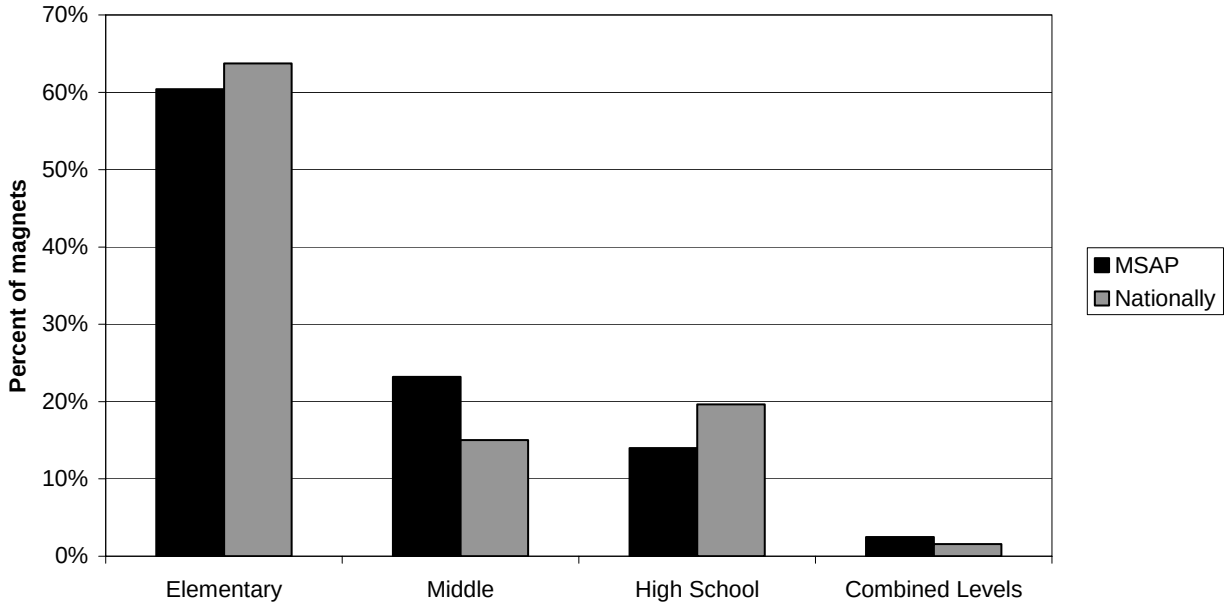

Exhibit reads: Elementary schools represent the largest proportion of MSAP magnets and magnet schools nationally.
Source: 1999–2000 NCES: Schools and Staffing Survey: Public School Questionnaire, item 15a, b, and c
N = 285 MSAP-supported schools in 2000–2001

Types of Magnet Program Structures

MSAP-supported schools overwhelmingly manage whole school programs (88 percent) that offer the magnet to all students in the school who are in the grades at which the program operates. Programs-within-schools (PWS) offering magnet curricula to some, but not all, students in a school are a small proportion of MSAP's magnet programs (12 percent) compared with all magnet programs (i.e., nonfederal and federal) nationwide (32 percent). PWS programs are most prevalent in high schools for MSAP-supported schools (30 percent) and magnet schools generally (56 percent).

[4] This preponderance of programs in elementary schools is consistent with earlier patterns of magnet school programs: a national survey of schools in 1991–1992 indicated that 53 percent of magnet programs are located in elementary schools. The percentages are not strictly comparable as the percentages in the study are based on programs rather than schools and a school may have more than one program (Steel and Levine, 1994).

Magnet schools differ in the manner in which they structure enrollment in their programs. Some schools offer a magnet program to all students in the school who are in the grades at which the program operates. These are referred to as *whole school* magnet programs. They are distinguished from *programs within schools* (PWSs*)* that offer magnet curricula to some but not all of the students in the school. Of the schools supported by 1998 MSAP grants, almost nine out of ten MSAP schools (88 percent) are whole school magnets. PWSs operate in only 33 out of the 285 MSAP magnet schools (12 percent). PWSs represent a larger proportion of the secondary as compared to elementary school programs. Nearly one-third (30 percent) of MSAP high schools are PWSs as compared with about one in twenty (6 percent) MSAP elementary schools.

Over the past decade, the percentage of MSAP supported schools utilizing PWSs has decreased. Among magnet schools supported under the FY 1989 and FY 1991 MSAP grants an estimated 39 percent operated programs within schools.[5]

The percentage of PWS magnets is lower among current (i.e., FY 1998) MSAP schools compared with estimates for all federal and nonfederal magnet schools in 1999–2000, as shown in Exhibit II-2 below. The proportion of MSAP magnets operating a PWS is lower at every grade level compared to all magnet schools. However, the pattern across grade levels is similar, with PWSs being most prevalent in high schools.

[5] Percentage estimates of PWSs for magnet schools supported by FY 1989 and FY 1991 MSAP grants reported in Steel and Eaton (1996), p. 17.

Exhibit II-2.
Percent of MSAP schools in with PWS programs compared with percent magnets nationwide in with PWS programs by grade level, 2000–2001*

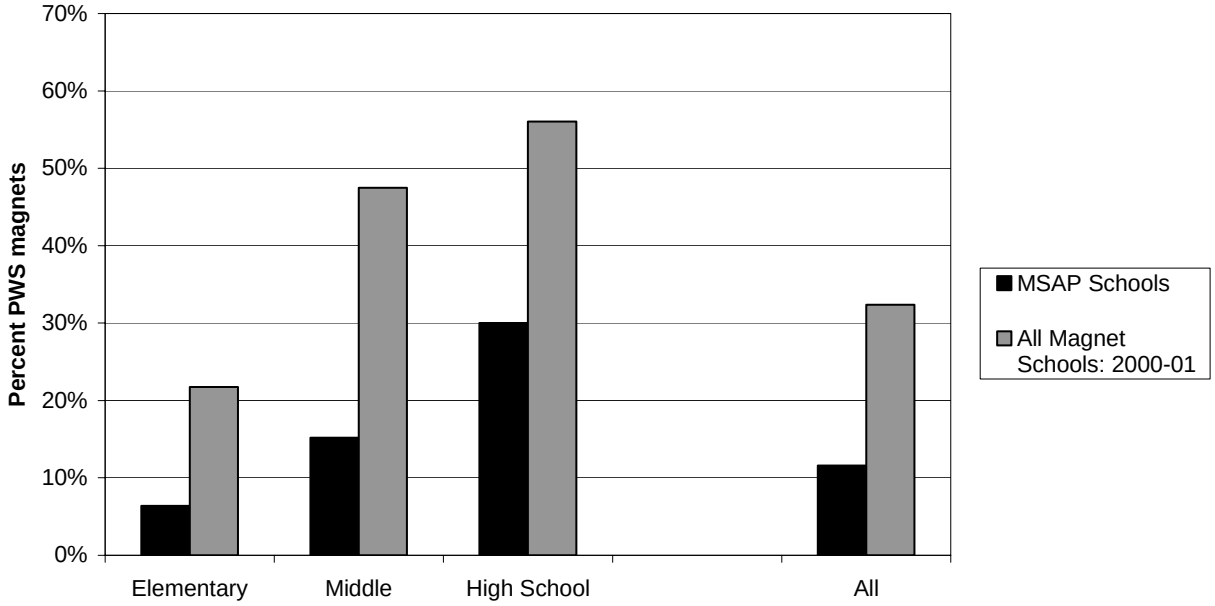

Exhibit reads: Overall and at every grade level, a higher percentage of magnet schools nationwide in 1999–2000 have PWS programs compared with MSAP magnets.
*Nationwide estimates for 1999–2000 based on magnet schools with programs intended to promote desegregation.
Source: 1999–2000 NCES: Schools and Staffing Survey: Public School Questionnaire, item 15a, b, and c
N = 285 MSAP-supported schools

Funding of MSAP-Supported Schools

While the average amount of funds received by MSAP-supported schools is about $300,000 per year, the range varies considerably across projects. Support for personnel constitutes the largest mean budget expenditure.

The amount of funds received by MSAP-supported schools averaged about $300,000 per school year, but the range was considerable across the projects. For example, in 1998–1999, the school budgets ranged from $11,000 (for a school with a planning year) to $844,000 (for a school establishing a technology-based program). To provide an indication of what grants mean at the school level, Exhibit II-3 focuses on school-level MSAP budgets for the 226 MSAP-supported schools (79 percent of all MSAP-supported schools) for which such budgets are available. As it indicates, on average, MSAP-supported schools spent about $120,000–$140,000 on personnel (staff and fringe), about $70,000 on equipment, and about $60,000 on supplies per year.

Exhibit II-3.
Mean budget amounts for 226 MSAP-supported schools in 46 MSAP projects, by year

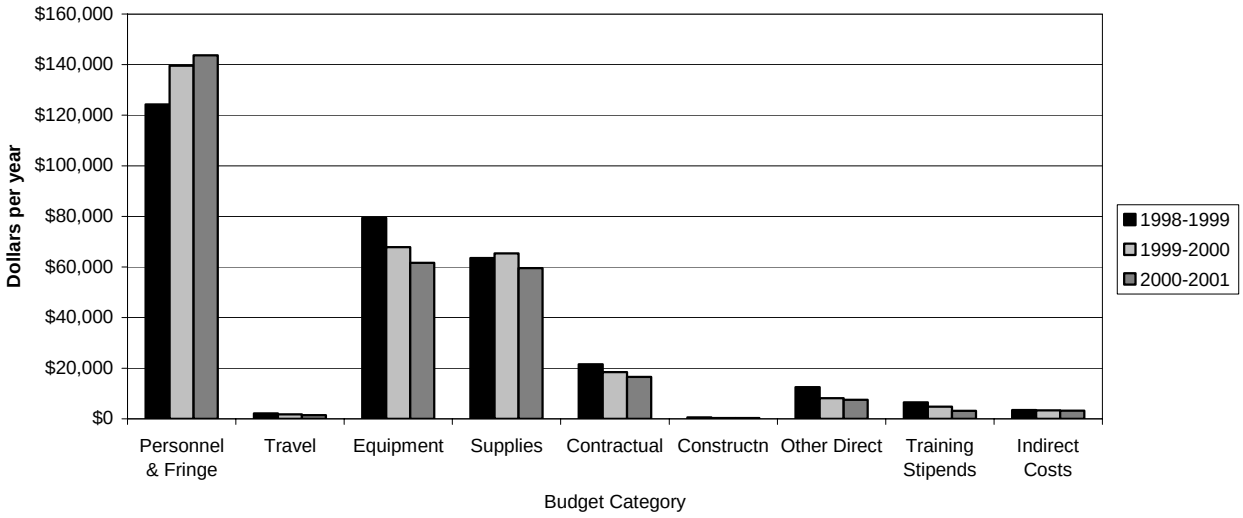

Exhibit reads: Support for personnel constitutes the largest mean budget expenditure of grant funds by MSAP-supported schools, followed by expenditures for equipment and supplies.
Source: U.S. Department of Education
N = 226 MSAP-supported schools

Recruitment of Students

Efforts to recruit students for MSAP programs are coordinated by the MSAP project. While MSAP-funded personnel are responsible for most of the recruitment effort, district-funded recruitment specialists also provide support. In most MSAP districts, the principals, teachers, and students at MSAP-supported schools participate in the recruitment effort through presentations, school tours, or visits to other schools. MSAP districts typically engage in over 10 types of outreach activities. One-third of districts do not focus their outreach on any particular group of students, and less than half report that they focus most of their outreach materials and activities on targeted groups of students.

Recruitment of students is intrinsic to the concept of a "magnet" school because magnet schools must try to attract students from outside the immediate neighborhood who would otherwise not attend the school. In this section, we describe district efforts to recruit applicants to MSAP programs.

Personnel Resources

The personnel that districts can use to assist in recruiting efforts include the MSAP Project Director and other district staff, along with principals and teachers at the school level. In addition, magnet programs often involve students and their parents in outreach activities that publicize the school's program.

Estimates from MSAP Project Directors indicate that an average full-time equivalent (FTE) of 2.1 staff is devoted to the MSAP projects' recruitment efforts. MSAP-funded staff are responsible for most of that recruitment effort, although district-funded recruitment specialists also provide support.

Exhibit II-4 indicates the percentage of MSAP districts that engage in various types of recruitment strategies. In almost all of the districts, principals and assistant principals organize school tours, and teachers make presentations to visiting parents and students. In more than two-thirds of the districts, teachers also assist by visiting other schools to meet with potential students. Students play a role in the recruitment effort in more than 80 percent of the districts by conducting school tours; however, only one-third of the districts have students visit other schools to help recruit students. Parents are the least used resource for recruitment. Just half of the districts report that parents have been enlisted to make presentations to other parents about magnet schools. In one-third of the districts, parents make telephone calls to provide information to others about the magnet schools.

Exhibit II-4.
Percentage of districts with specific types of recruitment efforts by school staff, students, and parents

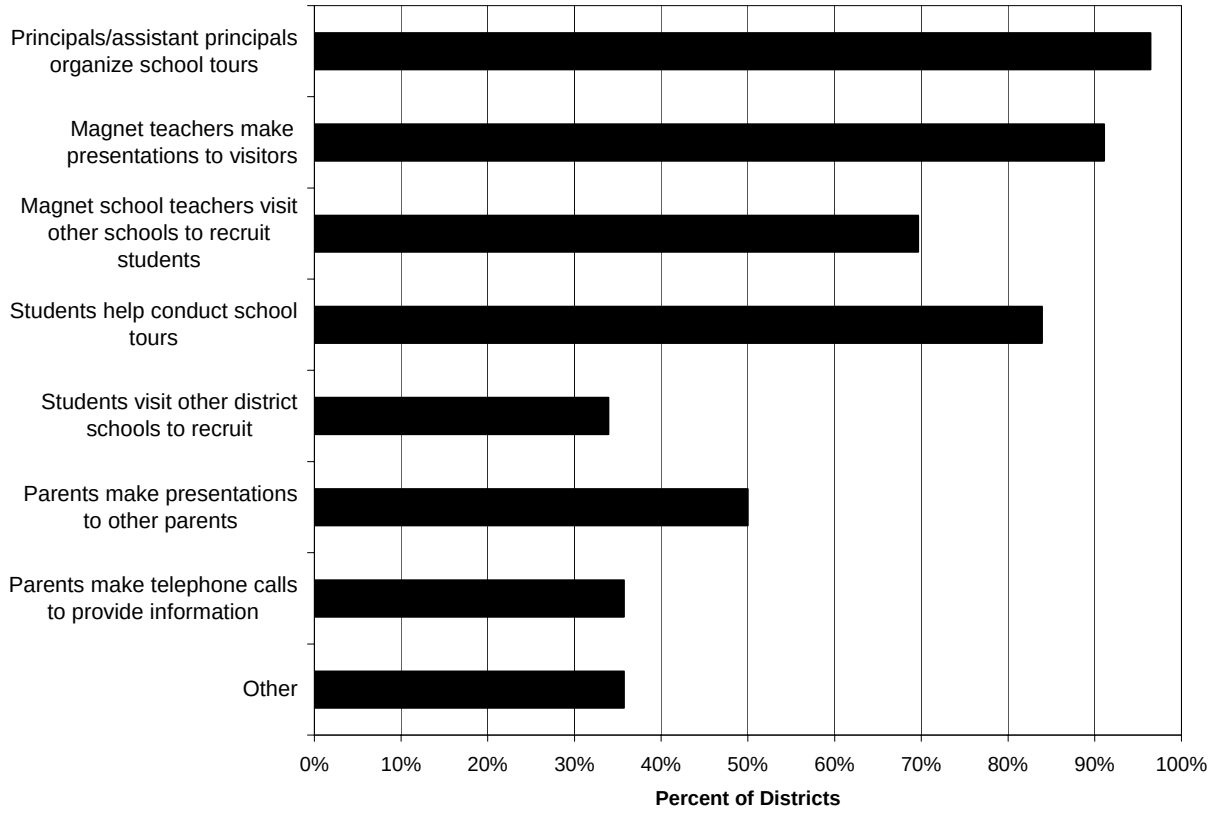

Exhibit reads: Nearly all MSAP districts utilize magnet school principals and teachers to assist with on-site recruitment of students, and most involve magnet teachers in off-site recruitment of students through visits to other schools. Most MSAP districts also utilize magnet students in their recruitment effort, while parents of magnet students are less likely to be included in the district's recruitment strategy.
N = 56 districts
Source: Project Survey, 1999–2000, Item 6

Outreach Activities

The typical MSAP district engages in more than 10 outreach activities to provide information to students, parents, and the community about its magnet programs. The number of activities is one indicator of the importance that most districts place on outreach. Exhibit II-5 displays the wide range of outreach activities that districts report using. The most frequently used strategies include making printed brochures available and distributing information and applications to students. Nine out of ten districts also plan tours of their MSAP schools for visiting parents and students, mail information and applications to parents upon request, and advertise in the media and at fairs or forums. Eight out of ten schools take their presentations on the road and make presentations to church congregations or other community organizations and schools. More than two-thirds canvass their districts by mailing information and applications to the parents of all eligible students.

Exhibit II-5.
Percentage of districts using specific types of outreach to recruit students

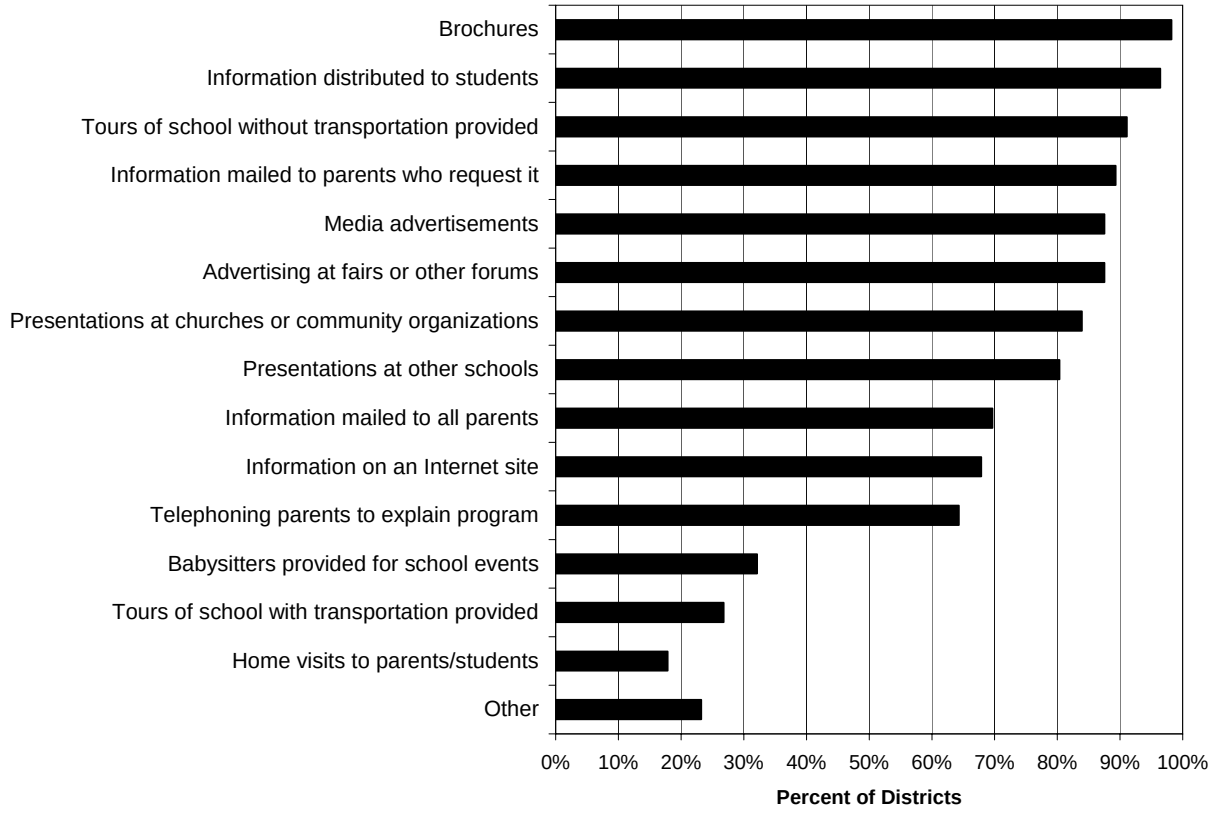

Exhibit reads: While the most frequently used forms of outreach for recruiting students include printed brochures and information distributed directly to students, telecommunications also plays a role in the outreach activities of most districts. Outreach activities that require additional personal services or attention, such as home visits or provision of transportation, are used by a smaller percentage of districts.
N = 56 districts
Source: Project Survey, 1999–2000, Item 7

Telecommunications plays a role in the outreach activities of most districts. Two-thirds of districts use an Internet site to convey information about their programs. A similar proportion of districts report telephoning parents of potential students to explain their MSAP programs.

Strategies that require personal service or attention are used by a much smaller percentage of districts. For example, one-quarter to one-third of the districts provide transportation or babysitting services to allow parents to tour the MSAP school or participate in a school event. Less than one-fifth of the districts make home visits to parents of potential students.

Targeted Recruitment

MSAP districts vary considerably in the extent to which their recruitment efforts focus on targeted groups of students. One-third of districts recruit students from throughout the district and make no effort to target any particular group of students. Slightly less than half of the districts indicate that they focus most of their efforts on targeted groups of students. Less than one-fifth of the districts focus *all* of their outreach on targeted groups of students (Exhibit A-II-9).

Reserve Pool of Applicants

The success of recruitment efforts is indicated to some extent by applicants waiting to get into magnet program. While exact counts of reserve applicants are not available, nearly two-thirds (63 percent) of MSAP Project Directors report that they have one or more schools for which there are more applicants than seats available. Almost all of the directors reporting an excess of applicants indicated that students are admitted after the start of the school year if space becomes available. For programs in which there is not a single grade for entry, applicants who are not admitted in one year typically have to reapply for entry in a subsequent year.[6]

Program Enrollment

MSAP-supported school programs enrolled nearly 184,000 students in 2000-2001, about one-half of whom were in elementary schools, one-quarter in middle schools, and one-fifth in high schools. The vast majority of MSAP students at all grade levels were enrolled in whole school programs. Minority students represent three-quarters of students in whole school programs and slightly less than two-thirds of students in PWS programs.

Total Enrollment

The 285 MSAP schools enrolled nearly 184,000 students, including the students in PWS magnets who were enrolled in the magnet curricula and all students in schools with whole school programs (Exhibit A-II-11). About half of all these MSAP students (52 percent) were enrolled in

[6] While project directors responded to a specific question about waiting lists, we learned that many districts no longer maintain waiting lists, per se, but instead maintain a reserve pool of applicants from which additional names may be drawn as seats become available.

elementary schools, one-quarter (25 percent) in middle schools, and about one-fifth (20 percent) in high schools. The remaining students (4 percent) were enrolled in schools serving combined grade levels.

The MSAP enrollment data indicate that the vast majority of MSAP students (94 percent) are enrolled in whole school programs (Exhibit A-II-12). Although only 6 percent of MSAP students are enrolled in PWS magnets overall, the percentage ranges from 2 percent of elementary school students to 9 percent of middle school students to 12 percent of high school students.

The number of schools operating MSAP programs increased from 263 in 1998–1999 to 285 in 2000–2001.[7] The number of students offered magnet curricula in MSAP-supported schools increased by more than 18,000 students, or 11 percent, between the first and third year of the projects. Three-quarters of the increase (76 percent) reflected the greater number of MSAP-supported schools in operation in 2000–2001 compared with the number operating in 1998–1999. The remainder of the increase reflected a slight increase in the overall average enrollment in MSAP-supported magnet schools. The distribution of students by grade level and type of program is quite constant in both the first and third years of the programs.

Minority Enrollment

MSAP magnets are intended to bring students from different socioeconomic, ethnic, and racial backgrounds together and to improve the educational opportunities of students. In MSAP programs, minority students constitute three-quarters (75 percent) of student enrollments and 70 percent or more of students enrolled at every grade level (Exhibit A-II-13).

Minority students represent three-quarters (75 percent) of students in whole school programs, compared with slightly less than two-thirds (63 percent) of PWS magnet students. As shown in Exhibit II-6, the difference in representation of minority students in PWS and whole school programs is more apparent in MSAP high schools than in middle and elementary schools.

[7] Data for 1998–1999 reported in the Year 1 Interim Report showed magnet program enrollment of 165,789 students including an estimated 157,013 in whole schools and 8,776 in PWS programs. U.S. Department of Education (2001), p. I-3 and Appendix I-4.

Exhibit II-6.
Percent minority enrollment in PWS and in whole school programs, by grade level: 2000–2001

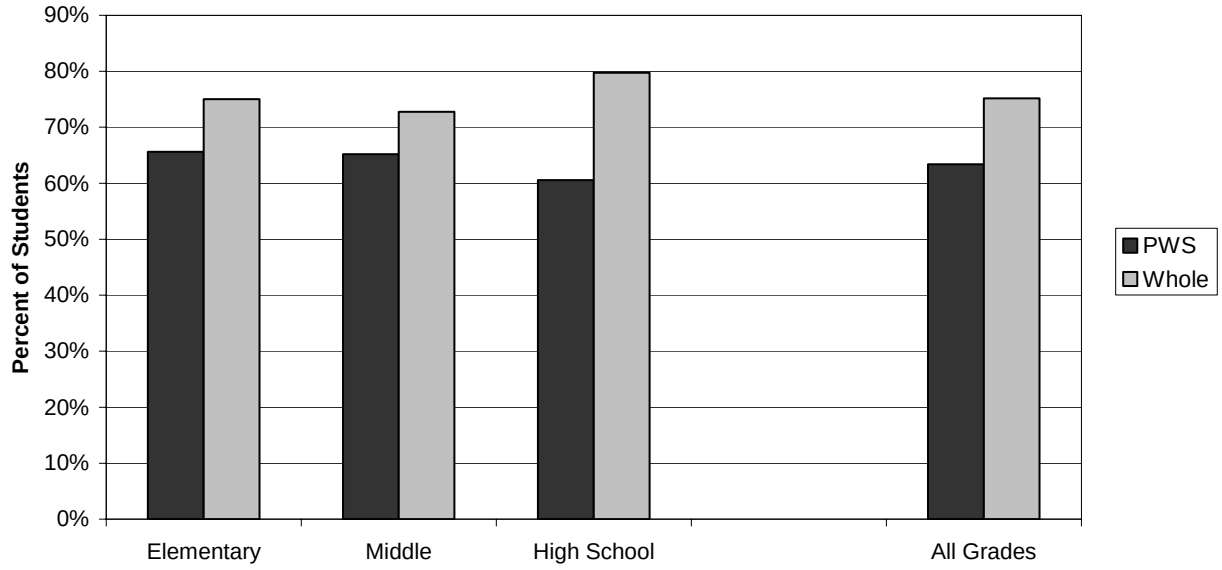

Exhibit reads: Across all grades, minority students constitute 75 percent of the enrollment in whole school magnet schools, compared to about 63 percent of the enrollment in programs within schools (PWS). The gap is larger for high schools than elementary schools.
N = 285 MSAP schools for all grades, including: 33 PWS and 252 whole school magnets overall; 11 PWS and 161 whole school magnets at the elementary level; 10 PWS and 56 whole school magnets at the middle school level; and 12 PWS and 28 whole school magnets at the high school level. There are 7 whole school magnets with combined grade levels with an average minority enrollment of 70 percent.
Source: MSAP 2000–2001 performance reports; MSAP Principal Survey, 2000–2001, Item 24; and NCES 2000–2001 Common Core of Data

Characteristics of MSAP and Non-MSAP Students and Schools

While on average minority students represent a larger percentage of students in a district's MSAP schools (73 percent) than in the non-MSAP schools (63 percent), the average in both exceeds the minority enrollment threshold by which the federal government defines minority group isolation. Available data indicate that on average, students in MSAP and non-MSAP schools within a district are similar in terms of the proportions who are eligible for free and reduced price lunches (60 vs. 58 percent), of Limited English Proficiency (14 vs. 12 percent), and who have Individualized Education Plans (13 vs. 12 percent). However, a larger proportion of MSAP-supported schools operate Title I programs.

Student Characteristics

How do students attending MSAP-supported schools compare to students attending non-MSAP schools? We examine this question by comparing the racial-ethnic, economic, and other

characteristics of students attending MSAP and non-MSAP schools within the same district and comparing the average across districts for each group.

Comparisons of the racial and ethnic composition of MSAP and non-MSAP schools in MSAP districts for 1999–2000 indicated the following:[8]

- On average, minority students represent a larger percentage of the student enrollment in a district's MSAP schools (73 percent) than in non-MSAP schools (63 percent) at every grade level (Exhibit A-II-15) as might be expected since MSAP programs tend to be placed in schools that are initially more minority isolated.[9]
- The average proportion of minority students for both MSAP and non-MSAP schools exceeds the 50 percent minority enrollment threshold by which the federal government defines minority-isolated schools.
- Black students average a larger percentage of students in MSAP schools (42 percent) than in non-MSAP schools (34 percent); the average percentage of students from other racial-ethnic minorities was similar for MSAP and non-MSAP schools (Exhibit A-II-15).

Comparison of the economic status of students in MSAP and non-MSAP schools showed the following:

- Although the average proportion of MSAP students eligible for free or reduced price lunches (60 percent) is slightly higher than that of non-MSAP students (58 percent), more than half of the students in both MSAP and non-MSAP schools are eligible for free or reduced price lunch (Exhibit A-II-16).

Data available for some of the MSAP districts provide evidence for similarity in the composition of students attending MSAP and non-MSAP schools regarding the percentages with Limited English Proficiency (LEP) and Individual Education Plans (IEPs). Counts of the number of LEP students for each school within a district were obtained from districts and state agencies for 24 of the 57 districts (42 percent) that represent 140 (49 percent) of the MSAP schools. Counts of the number of students with IEPs were obtainable for a third of the districts (33 percent), also representing about one-third (35 percent) of the MSAP schools. The percentages of MSAP students who are LEP or who have IEPs were compared with the percentage of LEP and IEP students attending non-MSAP schools that serve a similar grade level to those grade levels served by each district's MSAP schools. The results of this analysis indicated that:

- The mean proportion of students who are LEP in MSAP schools (14 percent) is similar to the mean proportion in non-MSAP schools (12 percent) (Exhibit A-II-17).

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[8] Results are based on comparisons of MSAP and non-MSAP schools in 55 of the 57 MSAP districts for which data were available in the 1999–2000 CCD. Of the two districts not included, data were not available for one district and there were no comparison schools at the same grade level for the second district. The results of these analyses are quite similar to the analyses of 1998–1999 CCD data reported in the Year 1 Interim Report.

[9] Data from the 1999–2000 Schools and Staffing survey indicate that the average proportion of minority students in magnet schools with an explicit desegregation objective is 66 percent, and that the average for all magnet schools, including those without a desegregation objective, is 57 percent.

- The mean proportion of IEP students in MSAP schools (13 percent) is similar to the mean proportion in non-MSAP schools (12 percent) (Exhibit A-II-18).

Title I Programs in MSAP-Supported and Non-MSAP Schools

Title I programs serve disadvantaged students who are considered to be at risk of poor academic achievement in school because they come from low-income families or lack proficiency in English. Schoolwide programs that offer Title I assistance to all students in a school are reserved for schools in which 50 percent or more of the students qualify to receive support from a Title I program. For schools in which less than 50 percent of students qualify, Title I assistance is targeted to only those students who qualify.

The percentage of MSAP-supported schools operating a Title I program is higher than the national average and higher than non-MSAP schools within the district that serve the same grades as the MSAP schools. As seen in Exhibit II-7, about 71 percent of MSAP schools receive Title I program funds, compared to 50 percent of the non-MSAP schools in those districts and 59 percent of schools in the United States overall.[10]

The high proportion of MSAP-supported schools with a schoolwide Title I program is evidence of the prevalence of disadvantaged students in MSAP schools. More than half of the MSAP schools (60 percent) report operating a schoolwide Title I program, compared with 43 percent of non-MSAP schools. The proportion of MSAP schools with schoolwide Title I programs is twice the national percentage (27 percent) (Exhibit A-II-19).

[10] Data for schools in 32 of the 57 MSAP districts were obtained from the 1999–2000 CCD, while data for the United States were obtained from a national survey as receiving Title I funds.

Exhibit II-7.
Percentage of MSAP-supported schools with targeted and schoolwide Title I programs compared with non-MSAP schools in districts and schools nationally

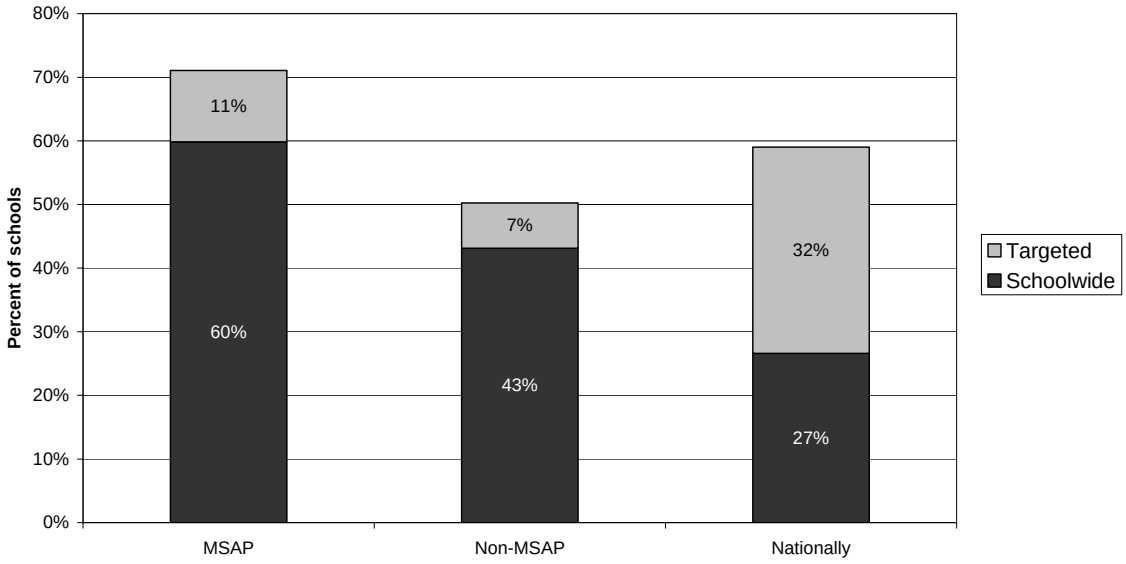


Exhibit reads: About 60 percent of MSAP schools have Title I schoolwide programs, compared with 43 percent of non-MSAP schools in the same districts, and 27 percent of schools nationally.
N = 32 out of 57 MSAP districts
Source: Data for schools in MSAP districts are from NCES 1999–2000 Common Core of Data. National data are for the 1997-1998 school year as reported from the Follow-up Public School Survey on Education Reform by Heid and Webber (1999).

Pupil-Teacher Ratios in MSAP and Non-MSAP Schools

Pupil-teacher ratios provide some insight into the way a district uses its educational resources. How does the staffing of MSAP-supported schools compare with non-MSAP schools? Exhibit II-8 shows that the average pupil-teacher ratio falls within a range of 16 to 18 students per teacher for both MSAP and non-MSAP schools at all grade levels. At the elementary grade level, MSAP schools average one less pupil per teacher than non-MSAP schools in their district. At the high school level, MSAP-supported schools average two fewer students per teacher. In middle schools, the average is about one pupil more per teacher.

Exhibit II-8.
Comparison of average pupil-teacher ratio in MSAP and non-MSAP schools in the same district by grade level

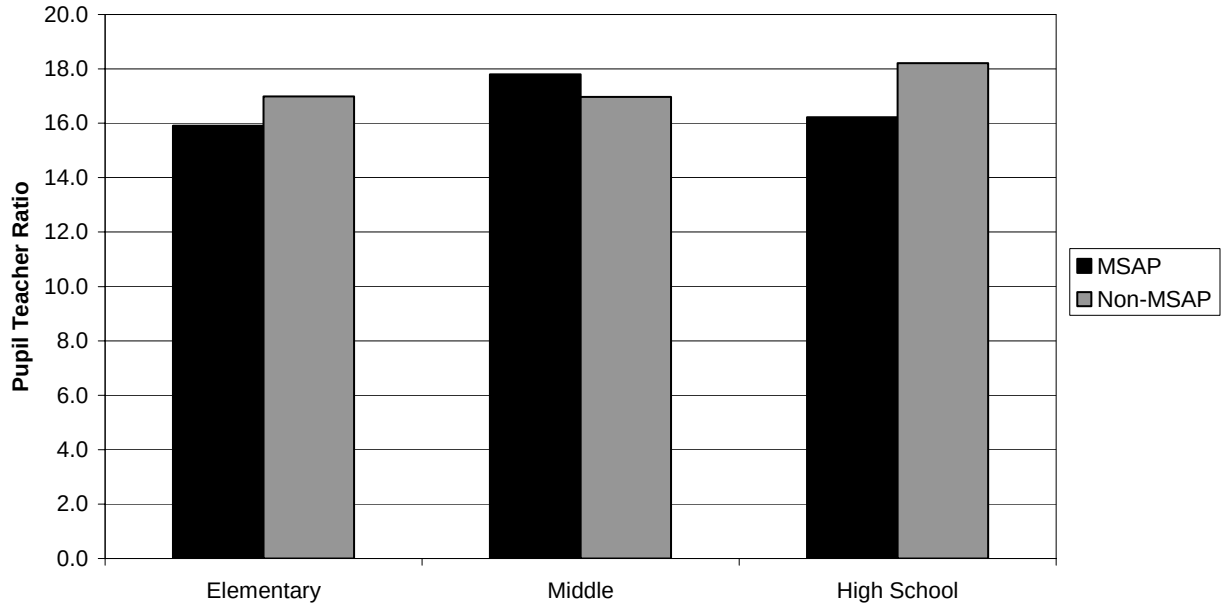


Exhibit Reads: Average pupil teacher ratios of MSAP and non-MSAP schools at every grade level are between 16 and 18 students per teacher.
N = 51 districts
Source: NCES 1999–2000 Common Core of Data

Summary

MSAP-supported magnet schools are predominantly elementary schools (60 percent), as is the case for all magnet schools nationwide (63 percent). Almost one-quarter (23 percent) of MSAP-supported magnet schools are middle schools, while high schools account for about one-seventh (14 percent) of MSAP schools.

MSAP-supported schools overwhelmingly manage *whole school* programs (88 percent) that offer the magnet to all students in the school who are in the grades at which the program operates. Programs-within-schools (PWS) offering magnet curricula to some, but not all students, in a school are a small proportion of MSAP's magnet programs (12 percent) compared with all magnet programs nationwide (32 percent). PWS programs are most prevalent in high schools for MSAP-supported schools (30 percent) and magnet schools generally (56 percent).

While the average amount of funds received by MSAP-supported schools was about $300,000 per year, the range varied considerably across projects. Support for personnel constituted the largest mean budget expenditure.

Recruitment efforts for MSAP programs are coordinated by the MSAP project. While MSAP-funded personnel are responsible for most of the recruitment effort, district-funded recruitment specialists also provide support. In most MSAP districts, the principals, teachers, and students at MSAP-supported schools participate in the recruitment effort through presentations,

school tours, or visits to other schools. MSAP districts typically engage in more than 10 types of outreach activities. One-third of districts do not focus their recruitment effort on any particular group of students, and less than half report that they focus most of their efforts on targeted groups of students.

MSAP-supported school programs enrolled nearly 184,000 students in 2000–2001, about one-half of which were in elementary schools, one-quarter in middle schools, and one-fifth in high schools. The vast majority of MSAP students at all grade levels were enrolled in whole school programs. Minority students represent three-quarters of students in whole school programs and slightly less than two-thirds of students in PWS programs.

While on average minority students represent a larger percentage of students in a district's MSAP schools (73 percent) than in the non-MSAP schools (63 percent), the average in both exceeds the minority enrollment threshold by which the federal government defines minority group isolation. Available data indicate that on average, students in MSAP and non-MSAP schools within a district are similar in terms of the proportions who are eligible for free and reduced price lunches (60 vs. 58 percent), who are of limited English proficiency (14 vs. 12 percent), or who have an Individualized Education Plan (13 vs. 12 percent). However, a larger proportion of MSAP-supported schools operate Title I programs.

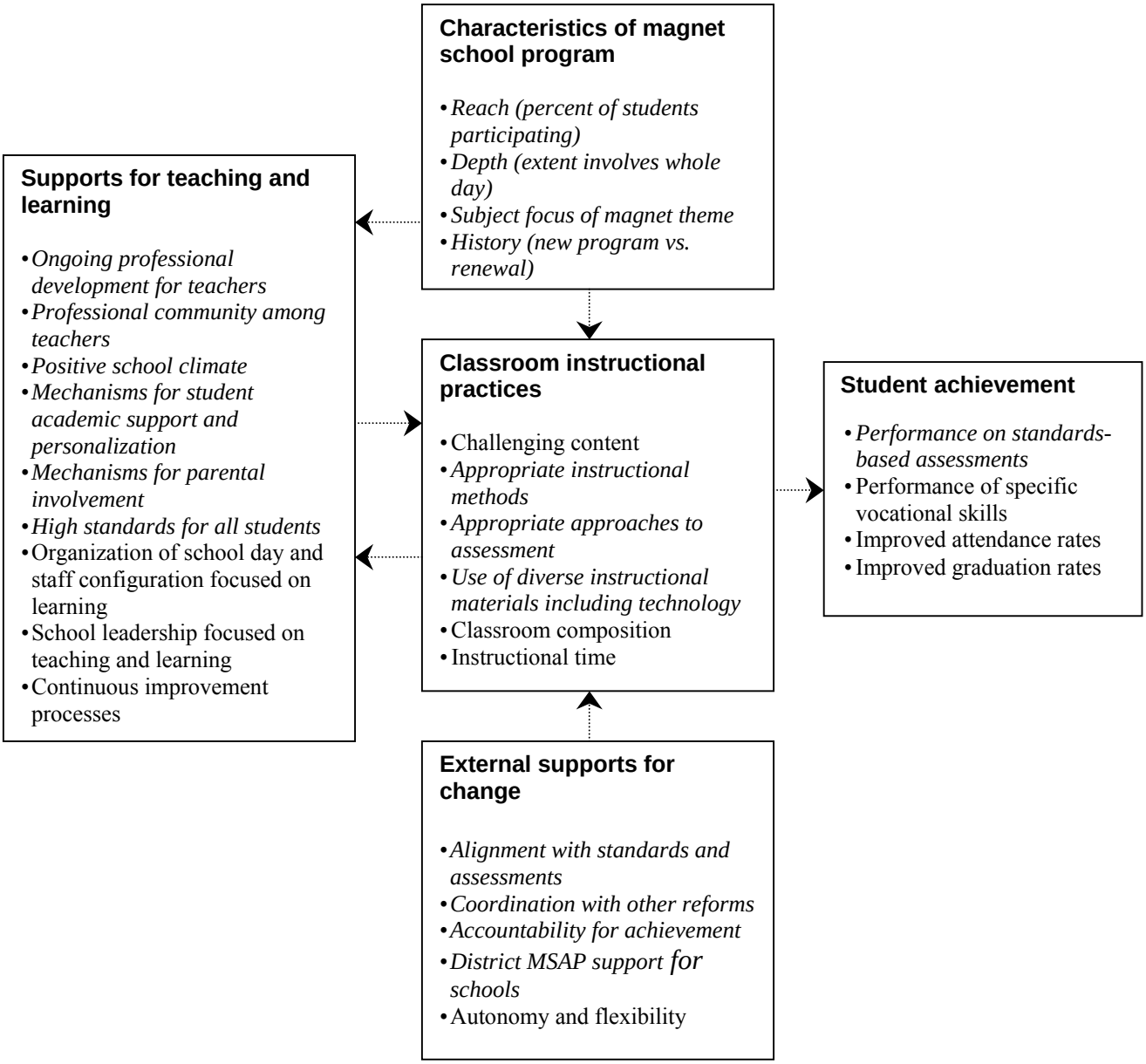
III. Support for Systemic Reform and Innovative Educational Practices in MSAP Schools

Two of the purposes of MSAP projects are to "assist local educational agencies in achieving systemic reforms and providing all students the opportunity to meet challenging State content standards and challenging State performance standards," and to engage in "the development and design of innovative educational methods and practices" in public schools.[1] This chapter examines the extent to which MSAP schools are achieving these legislative purposes. In examining state and district *systemic reform* efforts, we focus on a set of external supports for change, including alignment with standards and assessments and coordination with other reforms. In examining innovative practices in MSAP projects, we take a broad view, focusing on innovation in a number of central elements of the school program. These include innovation in the overall *school program or mission* (e.g., a new school focus or theme); in *supports for teaching and learning* (e.g., new professional development activities for teachers, or improvements in the school climate); and in *instructional practices* (e.g., new curriculum content or pedagogy).

Drawing on recent research on school effectiveness, we hypothesize that changes in these areas may lead to improved student achievement in several ways. In particular, as shown in Exhibit III-1, we anticipate that adopting a clear school mission or focus and implementing strong supports for teaching and learning will help improve the quality of instruction (Bryk, Lee, and Holland, 1993; Coleman and Hoffer, 1987; Newman and Associates, 1996; Purkey and Smith, 1983; Sebring and Bryk, 2000). Improvements in instructional quality, in turn, should lead to gains in student achievement (Brophy and Good, 1986; Carpenter, Fennema, and Franke, 1996; Gamoran, Porter, Smithson, and White, 1997; Knapp, Shields, and Turnbull, 1992; National Reading Panel, 2000; Taylor, Pearson, Clark, and Walpole, 1999; Teddlie and Stringfield, 1993; Wong, Hedges, Borman, and D'Agostino, 1996).

[1] As described in Chapter I, MSAP was recently reauthorized under No Child Left Behind (NCLB, 20 U.S.C. 6301, Section 5301(b)(2–3)). During the period covered by the work reported here, MSAP was operating as authorized under the Improving America's Schools Act (IASA) of 1995. The two purposes discussed in this chapter were included in both IASA and NCLB.

Exhibit III-1.
Conceptual framework: Connections between improved student achievement and various aspects of magnet school educational programs and contexts[2]



[2] Italicized topics have been addressed in this report and/or the year 1 report. For several reasons, a few topics have not been addressed in either report. Although measures of all of the topics pertaining to characteristics of the magnet program, external supports for change, and supports for teaching and learning were included on the principal survey, an examination of the data suggested that a few of the measures were not sufficiently strong or reliable to include in our reported results. Data on classroom instructional practices were gathered primarily on the teacher survey. Because the teacher survey was administered only in MSAP case and matched non-MSAP comparison schools, we have given data from the teacher survey somewhat less emphasis than the universe data, which are based on the principal and project surveys.

Data Sources

The results on innovative practices and systemic reform reported in this chapter are based primarily on a set of surveys administered to project directors, school principals, and teachers. These survey data are complemented by interview and observational data we collected from selected MSAP and matched comparison schools in a sample of eight case study districts that received MSAP funds. Data from the case studies are reported in detail in the Case Studies Appendix. In general, conclusions based on the principal and teacher survey data are consistent with information drawn from the case studies.

Most of the results reported in this chapter are based on data gathered from the *full population* of MSAP projects and schools. We surveyed the full population of 57 MSAP project directors in the second and third years of the MSAP grants (1999–2000 and 2000–2001), and we also surveyed the principals of the full population of MSAP schools in the same years.

In addition to these full population surveys, we conducted several data collection activities in the *purposive case study sample of eight MSAP projects*. In each of these eight case study projects, we selected a set of MSAP schools and matched non-MSAP comparison schools for study. In both 1999–2000 and 2000–2001, we surveyed the principals in the non-MSAP comparison schools, using a survey parallel to the form used in the national survey of MSAP principals. In addition, we surveyed a sample of teachers in both the MSAP and comparison schools.[3] The data collected in the case study districts enable us to compare practices in MSAP schools with practices in other schools in the same districts. While these comparisons allow us to examine possible effects of MSAP support on school practices, the results must be interpreted with care. Although we made an effort to choose comparison schools that are well matched to the MSAP schools in terms of student composition, size, and other features, the schools may differ in ways we could not take into account in the matching process. Thus, when we find differences in practices between MSAP and comparison schools, we cannot be sure that these practices are due to MSAP support.[4] The qualitative case study data reported in the Case Study Appendix cast further light on the extent to which the differences we observed between MSAP and comparison schools can be attributed to MSAP support.

This chapter is written as a companion to Chapters IV and V in the *Evaluation of the Magnet Schools Assistance Program, 1998 Grantees: Year 1 Interim Report*, which reported the

[3] See Appendix A-I for a description of the case study sample and the sampling plan for teachers. See the Case Study Appendix for a detailed description of each case study project and district.

[4] To assess whether the case MSAP schools are representative of the full population of MSAP schools, we conducted a number of analyses to test for differences in key measured variables between the MSAP schools in the case sample and the full population of MSAP schools. Overall, few differences were observed. No significant differences were found between the MSAP-funded schools included in the case study sample (N = 30) and those not included (N = 256) in Title I status (e.g., not eligible, targeted assistance, or schoolwide assistance) or in principal-reported measures of ongoing professional development for teachers, professional community among teachers, positive school climate, mechanisms for parental involvement, high standards for all students, and alignment with standards and assessments. We conducted a number of analyses to examine possible demographic differences between the MSAP and non-MSAP matched comparison schools in the case study sample. No significant differences were found in the school level served, Title I status, or years of teaching and administrative experiences of the principals.

results of the 1999–2000 project director and principal surveys. The organization of the chapter is based on the conceptual framework presented in Exhibit III-1. In each section, we focus on three types of analyses. First, we provide descriptive information on MSAP schools in 2000–2001, the third year of program support, drawing on the principal surveys and on surveys of teachers in the case study schools. Data for some topics in the conceptual framework were only collected in 1999–2000, and for these topics we briefly review the results for 1999–2000. Second, we examine whether practices in MSAP schools improved between the second and third years of the project for those topics asked about in both years. Finally, we examine whether differences are observed between MSAP and comparison schools in the case study districts for those topics covered with both groups of schools. Appendix Exhibit A-III-44 provides a summary of the measures we draw on in the chapter.

In Chapter IV, we examine the relationship between variables reported here and changes in schools' minority student isolation during the period 1998 to 2001. In Chapter V, we examine the relationship between these variables and improvement in schools' student achievement.

External Supports for Change

MSAP principals report a high degree of familiarity with state standards and assessments, and they indicate that the content of state standards and assessments guided decisions regarding curriculum and instruction in their magnet programs.

We examined several aspects of external support for change in MSAP schools, including the influence of state curriculum frameworks and assessments, and district support for MSAP schools (see Exhibits A-III-1 through A-III-14).

Familiarity with and Influence of State Curriculum Frameworks and Assessments

State curriculum frameworks and assessment systems have come to be a major source of external support for systemic reforms designed to improve student achievement. In the 2000–2001 principal survey, principals were asked a series of questions about their familiarity with the mathematics and language arts frameworks and assessments and the influence of these frameworks and assessments on their instructional programs. Principals report a high degree of familiarity with standards and assessments, and they indicate that the content of state standards and assessments match the goals of their magnet programs. The majority of principals report that they are "very familiar" with both sets of curriculum frameworks (72 percent for mathematics and 78 percent for language arts) and their school's scores on the statewide assessment (92 percent for both subjects). Additionally, a majority (ranging from 88 to 91 percent) reported that the frameworks and assessments guided "to a great extent" decisions regarding curriculum and instruction. These results are very similar to the 1999–2000 survey responses of the project directors, who reported being "quite familiar" with the frameworks, assessments, and performance standards for both mathematics (70 percent) and language arts (77 percent) and that the frameworks, assessments, and performance standards match "to a great extent" the MSAP schools' instructional goals in mathematics and language arts (89 percent each) (U.S. Department of Education, 2001).

A majority of MSAP principals also reported that the state assessments reflect the goals of their schools' magnet program (69 percent for mathematics and 71 percent for language arts). These percentages were slightly higher than those of the project directors in the 1999–2000 survey where a majority (55.6 percent) reported that the state frameworks and assessments influenced "to a great extent" their MSAP themes and goals.

The influence of state systemic reforms, as reported by principals in 2000–2001, differed by school level and subject focus. Elementary principals reported greater familiarity with both the mathematics and language arts curriculum frameworks and assessment scores than high school principals ($p<0.01$). Additionally, elementary principals reported that the language arts assessments guide curriculum and instruction decisions to a greater extent than did high school principals ($p<0.05$).

Our case study data on the effects of systemic reform on magnet schools are consistent with the survey data in that they indicate that local schools are highly familiar with state standards and assessments, and magnet programs are generally aligned with state standards. The case data provide a somewhat more complex picture, however. In particular, the data show that some MSAP schools altered their initial plans to bring their curriculum more in line with standards and assessments, or reduced their emphasis on novel programs to increase the time for work directly related to standards and assessments. We consider these issues in more detail in Chapter VI.

Change in District-level Supports between the First and Third Year of the MSAP Grant

District-level support from the MSAP project director is another key source of external support for the implementation and maintenance of magnet programs. In our analysis of data from the 1999–2000 project director survey, we found that a majority of project directors provided technical assistance to MSAP schools on issues relating to curriculum and instruction more than once a month during the first year of the MSAP grant (U.S. Department of Education, 2001). By the third year of the grant, MSAP project directors were spending less time providing technical assistance to MSAP schools with regard to both curriculum and instruction and leadership than they did during the first year of the grant ($p<0.10$), but were still providing such technical assistance at least once a month on average. (See Exhibit III-2.) These findings indicate that project directors were heavily involved during the start-up phases of the new magnet program—crafting and implementing a specific academic curriculum and establishing school-level support for the magnet program. With this accomplished, as one might expect, they spent less of their time on these matters in subsequent years.

Exhibit III-2.
Percent of MSAP project directors providing MSAP schools with technical assistance on curriculum and instruction from never to once a week or more, 1998–1999 and 2000–2001

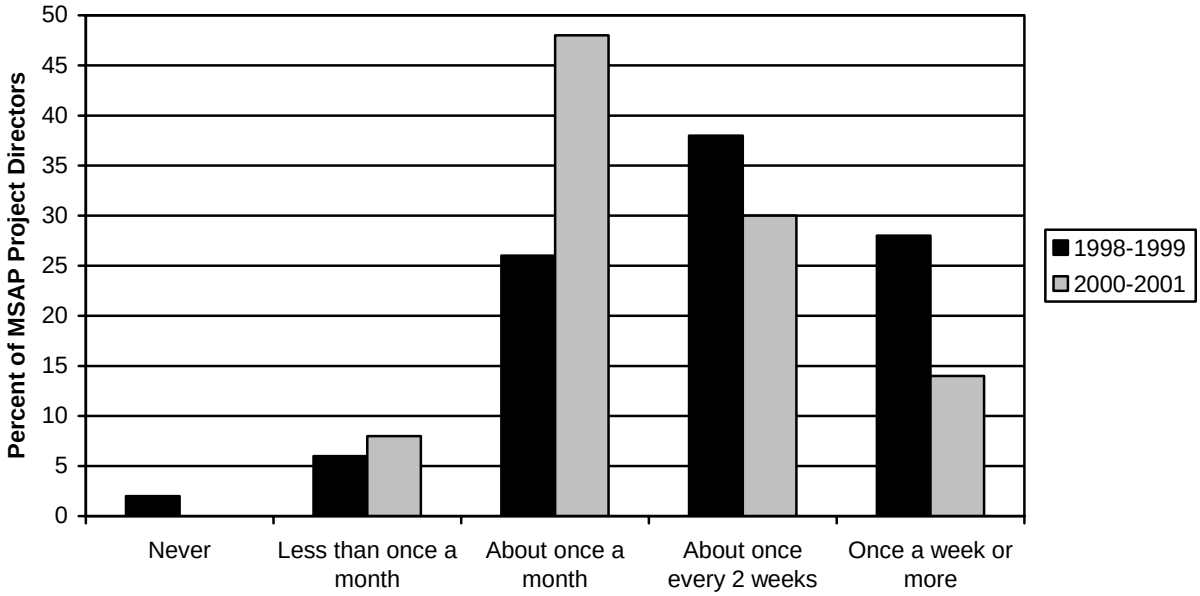


Exhibit reads: 28 percent of MSAP project directors provided their MSAP schools with technical assistance on curriculum and instruction once a week or more in 1998–1999, but only 14 percent of them offered such technical assistance at that frequency in 2000–2001.
N = 51 projects
Source: MSAP Project Survey, 1999–2000, Item 13; MSAP Project Survey, 2000–2001

External Supports in MSAP and Comparison Schools

Based on the 2000–2001 principal survey data, there were almost no differences in the external supports for MSAP and non-MSAP matched comparison schools in the case study sample. There were no differences between the two groups in their familiarity with assessments and standards or their reported influence on curriculum and instruction. Interestingly, comparison schools reported that both the state mathematics and language arts assessments reflect their instructional programs to a greater extent than at the MSAP schools. However, this difference was only significant for language arts ($p<0.05$).

Characteristics of Magnet School Programs

MSAP schools have adopted a diverse set of themes. Over a third of MSAP schools included technology among their themes, and more than a quarter of MSAP magnet schools included a science theme. Arts, communication, and mathematics were also common themes. Survey data indicate that the programs adopted in MSAP schools include specialized elective courses and added program requirements in secondary schools; and the magnet programs have led to changes in English and language arts and mathematics instruction in both elementary and secondary schools.

In our initial conceptualization of the key organizational and instructional features of magnet schools, we defined four features that we believed would be particularly important in describing the quality of the implementation of magnet programs: the theme or focus area of the program, the program's reach and depth, and the school's prior experience with magnet programs. Brief descriptions of each of these characteristics follow.

- Magnet school programs select **themes or focus areas** (e.g., science and technology, arts and communication) that are intended to guide curricula and instruction. To describe the themes, we drew on data from MSAP applications and other materials. Some schools adopt a comprehensive school reform (CSR) model to reinforce their theme (e.g., the "Co-NECT" school reform model emphasizes the use of technology in instruction to improve student achievement). Therefore, principals were asked what, if any, CSR models their school had adopted.
- The **reach** of a magnet school program is the proportion of students involved in the magnet program. To measure reach, we included items on the principal survey asking whether the magnet program was available to all students in the school, or was instead intended for a subgroup of students.
- The **depth** of a magnet school program is the proportion of a student's instruction affected by the magnet program. To measure depth we asked secondary school principals a series of questions about how the magnet program influenced which courses students took. We also asked teachers if the magnet program led them to make changes in their instruction.
- A school's previous experience or **history** with magnet programs prior to the 1998 MSAP grant was measured through a question on the principal survey.

Themes of Magnet School Programs

In the *Year 1 Interim Report*, we provided descriptive information on a number of characteristics of the magnet programs in MSAP schools, focusing in particular on the theme or focus area and the adoption of comprehensive school reform models. As discussed in the earlier report, the most popular MSAP themes were science and technology.[5] More than a third of MSAP magnet schools included technology among their themes, and more than one-quarter included science. The arts, communication, and mathematics were also common themes. (See Exhibit III-3.) Also about 54 percent of principals of MSAP schools reported that they had selected or developed a comprehensive school reform model.[6] Analysis of principal survey data

[5] See Exhibits A-V-1 and A-V-2 in U.S. Department of Education, Office of the Under Secretary, Planning and Evaluation Service, Elementary and Secondary Education Division. *Evaluation of the Magnet Schools Assistance Program, 1998 Grantees: Year 1 Interim Report Appendices*, Washington, D.C., 2001, Chapter V, pp. 1–2.

[6] Externally developed CSR models adopted by MSAP schools include Accelerated Schools, Audrey Cohen Purpose-Centered Education, Coalition of Essential Schools, Comer School Development Program, Core Knowledge, Different Ways of Knowing, Direct Instruction, the Foxfire Fund, High Schools That Work, High-Scope Primary Grades Approach to Education, HOSTS, Integrated Thematic Instruction, International Baccalaureate, Junior Great Books, the Learning Network, Lightspan, Literacy First, Microsociety, Modern Red Schoolhouse, Montessori, Paideia, Success For All-Roots and Wings, Success-in-the-Making, and Talent Development High School.

from the case study sample indicates that MSAP schools were much more likely to have adopted a school reform model than the non-MSAP matched comparison schools (47 to 25 percent).

Exhibit III-3.
Percentage of MSAP schools with selected themes

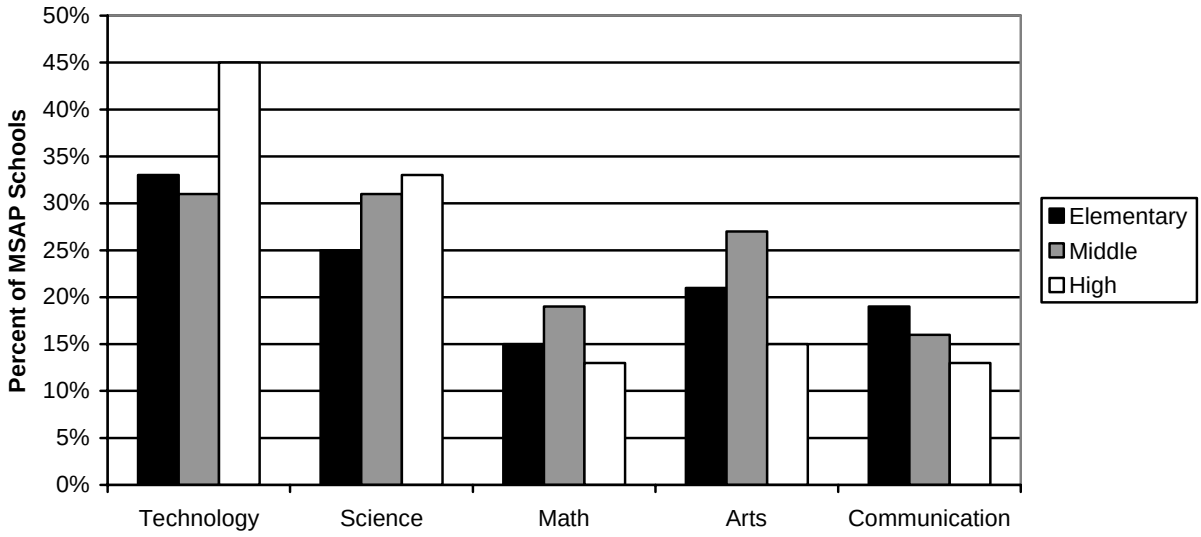


Exhibit reads: 33 percent of elementary schools, 31 percent of middle schools, and 45 percent of high schools had technology as one of their themes. (Schools could, and many do, have multiple themes.)
N = 173 elementary schools, 70 middle schools, and 40 high schools
Source: Grantee applications; MSAP Principal Survey, 1999–2000, Item 49

Reach and Depth of Magnet School Programs

We found very little variation in the reach of the magnet programs, but greater variation in program depth. As we reported in Chapter II, in almost all magnet schools, magnet programs were whole school programs offering magnet curricula to all students enrolled. Only 12 percent of the programs targeted specific students within a school.

To measure depth in the full population of MSAP secondary schools, we included a small set of items on the principal survey. In particular, we asked the secondary principals whether the school provided special elective courses as part of the magnet program; whether students were able to select a theme or area of specialization, and, if so, if the selection of a theme or area was required; and if students were required to complete courses in addition to those required in other high schools in the district. We reasoned that high school magnet programs with these characteristics would have greater curricular depth than schools without these features.[7]

Overall, the 2000–2001 principal survey data indicate that most MSAP secondary schools offer special courses and permit students to select areas of specialization. More than three

[7] Because elementary schools generally offer instruction in self-contained classrooms rather than through electives and other courses, we did not include items on electives, areas of specialization, and requirements for elementary school principals.

quarters of MSAP secondary schools offer special electives as part of the MSAP program. In more than half of the of MSAP schools, students can pick an area of specialization, and, in about two-thirds of these schools, students are required to select an area of specialization. In about half of the schools, students are required to complete courses in addition to those required by other schools in the district.

The 2000–2001 survey data indicate that MSAP high school magnet programs have somewhat greater depth, based on these measures, than middle school programs. More high school principals (91 percent) than middle school principals (74 percent) reported that they offered special or elective courses as part of their magnet program ($p<0.10$). Also, students in high school magnet programs are also more likely than middle school students (70 vs. 39 percent) to pick a theme or area of specialization ($p<0.005$). However, high schools do not differ from middle schools in whether or not they require students to select a theme or area of specialization (67 vs. 79 percent). Students in magnet programs at high schools were more likely than those in middle school programs (68 vs. 45 percent) to be required to complete courses in addition to those required by other schools in the same district ($p<0.05$) (see Exhibit A-III-15).

As another way of gathering information on the depth of the magnet programs in MSAP schools, we included items on the teacher survey administered in 2000–2001 in the case schools. In particular, we asked a sample of English and language arts and mathematics teachers who indicated that they had taught at the school prior to the start of the MSAP grant (43 percent of the sample) whether or not their instruction had changed as a result of the introduction of the magnet program. Those who had changed were asked about various types of changes in their instruction, such as adding new topics, adding more advanced work, changing teaching methods, changing assessment methods, increasing the use of technology, and increasing material that connects English and language arts or mathematics with other subjects.

Most (81 percent) of the surveyed teachers at all grade levels who had taught English language arts and mathematics prior to the start of the MSAP grant reported that magnet school programs encouraged or facilitated changes in their instruction, particularly in terms of increased use of technology and the increased material that connects English and language arts or mathematics with other subjects. The data indicate that elementary teachers made somewhat more changes than did secondary teachers in these areas. For example, elementary teachers were more likely than secondary teachers to report that they added more new topics to their curriculum ($p<0.005$), changed teaching methods ($p<0.05$), and incorporated technology into their instruction ($p<0.005$). There were no differences between mathematics and reading and language arts teachers in reported changes introduced as a result of the magnet program (Exhibit A-III-16).

Overall, the 2000–2001 survey data provide some indication that in many MSAP schools, the magnet program had some impact on curriculum throughout the whole day, but there is clearly variation among MSAP schools in program depth. Our case study data, reported in Chapter V and the Case Study Appendix, provide examples of the range of variation in the depth of magnet programs.

History with Magnet School Programs

We hypothesized that a school's experience implementing some form of a magnet program prior to receiving the MSAP award might have a major influence on the quality of the school's program. On the 1999–2000 principal survey, we asked each principal to indicate whether the school had operated a magnet program prior to the MSAP award, and if so, whether the pre-MSAP magnet program was still operating. (The item did not ask specifically about whether the earlier magnet program was MSAP supported.) Overall, about 47 percent of principals indicated that their school was operating a magnet program immediately prior to the MSAP award (i.e., 1997–1998), and another 7 percent reported that their school had once had a magnet program, but it was no longer operating at the time of the MSAP award (i.e., it was not a magnet school in 1997–1998). Our case data provide more detailed information on the various ways schools with prior magnet experience made use of MSAP resources. The case data also suggest that at least some magnet schools add or eliminate magnet themes relatively frequently. This is a topic to which we will return in Chapter VI.

Change in Program Characteristics between the Second and Third Year of the MSAP Grant

Only the principal measures of depth were asked in both waves of survey data collection, and there was little change between the second and third year of the MSAP grant in the depth of the magnet programs. The only significant difference ($p<0.05$) was that more high schools allowed students to select their theme or area of specialization in 2000–2001 than 1999–2000. Among MSAP middle schools, there was no significant change either in the measures of program depth or in requiring students to select a theme or area of specialization.

Supports for Teaching and Learning

Survey data indicate that MSAP schools differ from non-MSAP schools serving similar students in several key supports for teaching and learning. In particular, they have somewhat more positive school climates and a somewhat stronger sense of professional community among staff. There is some evidence that these supports for teaching and learning improved during the three years of program support. For example, MSAP elementary schools reported that their professional community improved between 1999-2000 and 2001-2002, and both elementary and middle MSAP schools reported improvements in school climate.

In the *Year 1 Interim Report*, we provided descriptive information on several supports for teaching and learning, including professional community among teachers, positive school climate, mechanisms for student academic support and personalization, and high standards for learning. In this report, we provide additional results for these and two additional supports: ongoing professional development for teachers and mechanisms for parent involvement. A brief description of each follows.

- **Professional Community Among Teachers** describes the extent to which the teachers in a school share a common set of goals and beliefs, and have frequent

opportunities for collegial interaction. To measure professional community in the full set of MSAP schools, we included items on the principal survey asking about the presence of a common focus about the central mission of the school, collegiality, collaboration among teachers, and collaboration between teachers and the administration.[8]

- **Positive School Climate** concerns the level of academic engagement and safety in the school. To measure school climate, we included survey items asking principals about the extent to which various problems exist at the school, including student disengagement (e.g., tardy, transient, and unprepared to learn), student misbehavior (e.g., physical conflicts among students, verbal abuse of teachers, and student disrespect for teachers), and other severe student problems (e.g., alcohol and drug abuse).[9]
- **Mechanisms for Student Academic Support and Personalization** include strategies for taking individual differences among students into account in the educational program. We measured two types of school practices in this domain. First, we asked about schools' use of parent satisfaction and student surveys to identify student needs and interests. We reasoned that the use of such surveys might reflect an interest in providing services tailored to parent and student needs and concerns. Second, we asked about the ways in which students with individual education plans (IEPs) and limited English proficiency (LEP) participated in the magnet program, reasoning that encouraging participation of all students might be an indication of efforts to respond to students with special needs and interests.
- **High Standards for Learning** concern the specific instructional activities required of students in MSAP schools. For example, we asked each elementary school principal whether the school required a minimum number of hours of instruction in reading and math each day, and we asked each middle and high school principal if students were required to complete a portfolio of work.[10]
- **Ongoing Professional Development for Teachers** concerns the extent to which teachers participate in sustained and intensive professional development related to instruction. To measure the availability of professional development, we asked principals to report on the degree of emphasis given in the school to professional development related to standards-based reform, such as state or district academic performance standards and addressing the needs of students with limited English proficiency or disabilities.[11]
- **Mechanisms for Parental Involvement** include mechanisms used to facilitate parent participation in the instruction of their children (as measured by parental participation

[8] For more information on the importance of teacher professional community for effective schools, see Marks, Secada, and Doane (1996), Sebring, et al. (2000), Sebring and Bryk (2000), and Wenzel, et al. (2001).

[9] For more information on the importance of school climate for effective schools, see American Association of University Women (1992), Lee, Chen, and Smerdon (1996), Sebring and Bryk (2000), and Wenzel, et al. (2001).

[10] For more information on the importance of high standards for learning for effective schools, see Lee and Smith (1999).

[11] For more information on the importance of professional development for effective schools, see Cohen and Hill (1998), Kennedy (1998), and Corcoran, Wang, and Foley (1999).

in special events such as an open house or science fair); and mechanisms for involvement in school governance (e.g., instructional issues or budget decisions).[12]

Professional Community among Teachers and Positive School Climate

Based on data from the 2000–2001 surveys, most MSAP schools appeared to exhibit relatively strong levels of professional community and positive school climate, although we found some variation. A majority of MSAP principals "agreed" or "strongly agreed" that their schools had a strong sense of professional community, with elementary MSAP principals reporting stronger professional community than either middle or high school MSAP principals ($p<0.05$). We found somewhat more mixed results concerning school climate. While MSAP schools tended to report only minor problems, many—especially high schools—reported "moderate" or "serious" problems in areas relating to student disengagement. Fewer schools reported the existence of more serious problems, although these were reported as occurring at a moderate level in some MSAP schools. MSAP high school principals reported more problems (i.e., student disengagement, misbehavior, and severe student problems) than MSAP elementary school principals ($p<0.05$).

Mechanisms for Student Support and Personalization

With respect to mechanisms for student support and personalization, we found that about 61 percent of MSAP principals reported using a parent satisfaction survey for school self-assessment, and about 55 percent reported using a student survey. MSAP principals also reported that on average 87 percent of both students with IEPs and LEP students are included in the same magnet activities as other students. They also reported that 30 percent of students with IEPs and 32 percent of LEP students take part in magnet-related activities that accommodate their special needs.

High Standards for Learning

With respect to academic standards, our 2000–2001 data showed substantial variation across schools in the extent to which high standards for all students have been implemented. We asked principals which of a variety of academically demanding activities (e.g., year-long projects, reading a minimum number of books in a grading period, completing a portfolio of work in one or more academic subjects) their students were required to undertake. For example, on average more than 90 percent of MSAP elementary schools required an hour of math instruction and an hour of reading instruction for students each day; however, only 57 percent required students to give an oral presentation at regular intervals. Similarly, 84 percent of MSAP middle schools require students to complete an individual or small group project during the year, but only 54 percent require students to give an oral presentation at regular intervals (U.S. Department of Education, 2001, Chapter V).

[12] For more information on the importance of parental involvement for effective schools, see Wasley, Hampel, and Clark (1997), Newmann and Wehlage (1995), and Haynes (1998).

Ongoing Professional Development for Teachers

The 2000–2001 principal survey data indicate that MSAP elementary, middle, and high schools placed substantial emphasis on professional development focused on state or district content and performance standards, as well as student performance assessments. For example, 76 percent of the principals in MSAP schools reported that the school had placed a major emphasis on providing professional development for teachers on state or district curriculum and performance standards, and 62 percent had placed a major emphasis on student performance assessment.

Mechanisms for Parental Involvement

Our survey data indicate wide variation across MSAP schools in the extent to which parents were involved in school activities. For example, about 56 percent of elementary MSAP principals reported that most parents participated in regularly scheduled schoolwide parent-teacher conferences, but only 16 percent reported that most parents were involved in subject area events such as science fairs or concerts. Middle school and high school principals reported lower levels of parental involvement in most events. For instance, only 23 percent of middle school principals and 12 percent of high school principals reported that most parents attended parent-teacher conferences. While 16 percent of both elementary and 21 percent of middle school principals reported that most parents attended special subject area events, only 9 percent of high school principals did so. Similarly, while 38 percent of elementary principals reported that half or more of the parents participated in at-home learning activities to support school objectives, only 21 percent of middle school principals and 6 percent of high school principals did so.

Change in Supports for Teaching and Learning between the Second and Third Year of the MSAP Grant

Data from the 2000–2001 principal survey show improvements in some supports for teaching and learning during the third year of the MSAP grant (see Exhibits A-III-17 through A-III-35). For example, the sense of professional community among teachers at elementary schools was strengthened between 1999–2000 and 2000–2001, the second and third years of MSAP support ($p<0.01$). School climate in elementary schools also improved ($p<0.01$), as evidenced by fewer reports of student behavior problems such as physical conflict among students. Middle schools reported improvements in their school climate in the area of student disengagement ($p<0.10$).

Apart from the changes observed in professional community and school climate, a few other differences were observed in the areas of professional development and parental involvement. For example, both elementary and high school principals reported significantly more offerings for professional development on curriculum frameworks and assessments in 2000–2001 than in 1999–2000 ($p<0.05$ for elementary principals and $p<0.10$ for high school principals). Parental involvement in special events, such as open houses and parent-teacher conferences, increased at elementary schools ($p<0.01$). Additionally, parental involvement in school governance issues increased in both elementary and middle school ($p<0.01$).

In other areas, however, little change was observed. There were no differences in the average number of academic requirements for elementary, middle, or high school students. Nor were there significant changes in the reported inclusion of students with IEPs or limited English proficiency in regular or modified magnet activities.

Supports for Teaching and Learning in MSAP and Comparison Schools

Analysis of principal survey data from schools in the case study sample indicates stronger supports for teaching and learning at MSAP schools than at non-MSAP comparison schools. Principals in MSAP schools reported a stronger sense of professional community among teachers ($p<0.01$) and a more positive school climate with fewer problems with student disengagement ($p<0.05$) and misbehavior ($p<0.01$). (See Exhibit III-4.) Parental involvement in special events was also greater at MSAP than comparison schools ($p<0.05$) (see Exhibits A-III-21, A-III-24, A-III-25, and A-III-34).

Exhibit III-4.
Sense of professional community and school climate in MSAP and comparison schools, 2000–2001

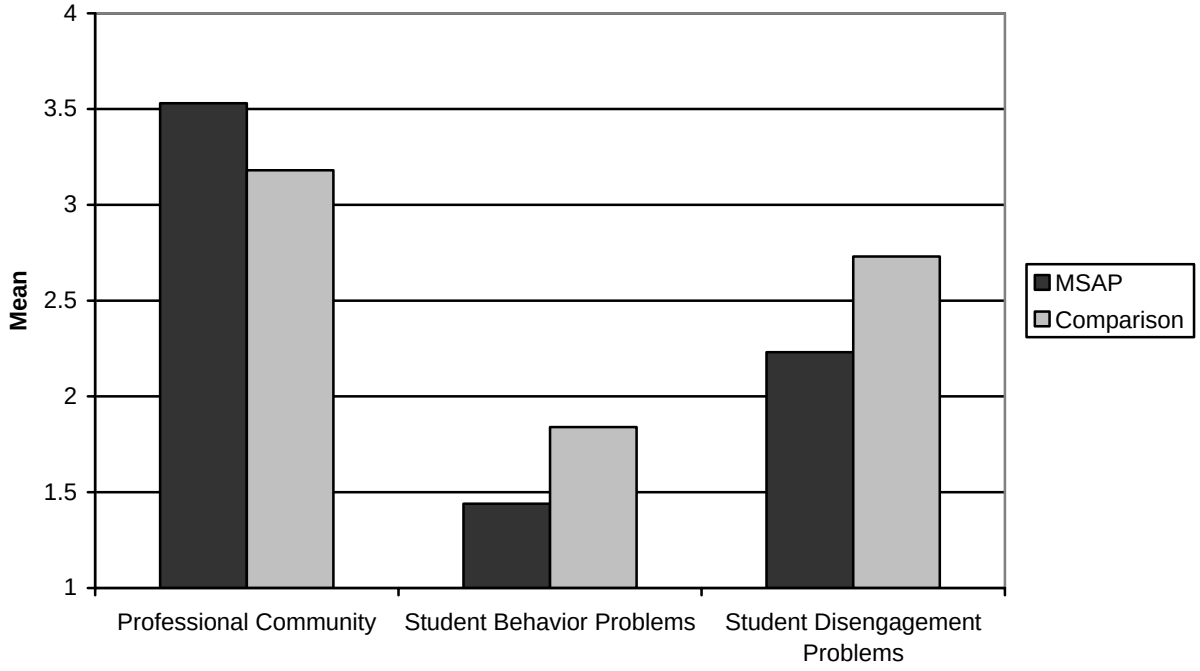


Exhibit reads: On a scale of "strongly disagree" to "strongly agree," MSAP principals report "strongly agree" (mean=3.5) that there is a strong sense of professional community in their school while comparison principals "agree" (mean=3.2) that their schools have a strong sense of professional community. Also, on a scale of "not a problem" to "serious problem," MSAP principals report that student disengagement problems are a "minor problem" (mean=2.2) at their school, while comparison principals state that these problems are a "moderate problem" (mean=2.7) at their schools.
N = 29 MSAP schools and 16 matched comparison schools
Source: MSAP Principal Survey, 2000–2001, Item 17

Classroom Instructional Practices

Survey data indicate that teachers in MSAP schools are more likely than teachers in non-MSAP schools to use teaching methods that focus on higher-order thinking skills, such as project-based learning. MSAP teachers also make more use of technology in instruction in ways that support higher-order thinking, and make more use of varied assessment strategies.

To examine classroom instructional practices, we analyzed survey responses from the case study schools, focusing on measures of the use of different types of instructional methods (e.g., use of long-term projects), instructional use of computers, and use of assessment tools (see Exhibits A-III-36 through A-III-42). As these data were collected with the primary purpose of providing insight on how MSAP schools differ from comparison schools in their same district, we highlight these results below.

Classroom Instructional Practices in MSAP and Comparison Schools

Survey results suggest that MSAP teachers have gone further than teachers in the matched comparison schools in incorporating into their classroom practices instructional methods that require higher-order thinking skills. Examples of such instructional methods include assignments that challenge students to provide verbal or written explanations of their understanding of a mathematical problem, give their own interpretation of something they have read, or apply recently acquired knowledge to a similar problem arising in a new situation. Mathematics teachers in MSAP schools, both elementary and secondary, use activities that require higher-order thinking skills significantly more often than their non-MSAP counterparts ($p<0.05$), as do MSAP elementary reading and languages arts teachers ($p<0.10$).

Both MSAP and non-MSAP teachers reported using computers in their instruction between 11 and 20 times on average during the 2000–2001 school year. According to responses on both the mathematics and language arts teacher surveys, students in MSAP and non-MSAP schools used computers for the same general purposes. However, while there are no significant differences in the frequency with which MSAP and non-MSAP students used computers for some purposes, such as mastering new skills or remediating skills not learned well, MSAP students were reported to use computers more frequently to do the following:

- Express themselves in writing ($p<0.01$).
- Find out about ideas or information ($p<0.01$).
- Engage in simulations or explorations of ideas ($p<0.05$).
- Present information to an audience ($p<0.05$).

Exhibit III-5.
Percent of surveyed case study teachers in MSAP and matched comparison schools who use computers for specific instructional purposes at least once a week, 2000–2001

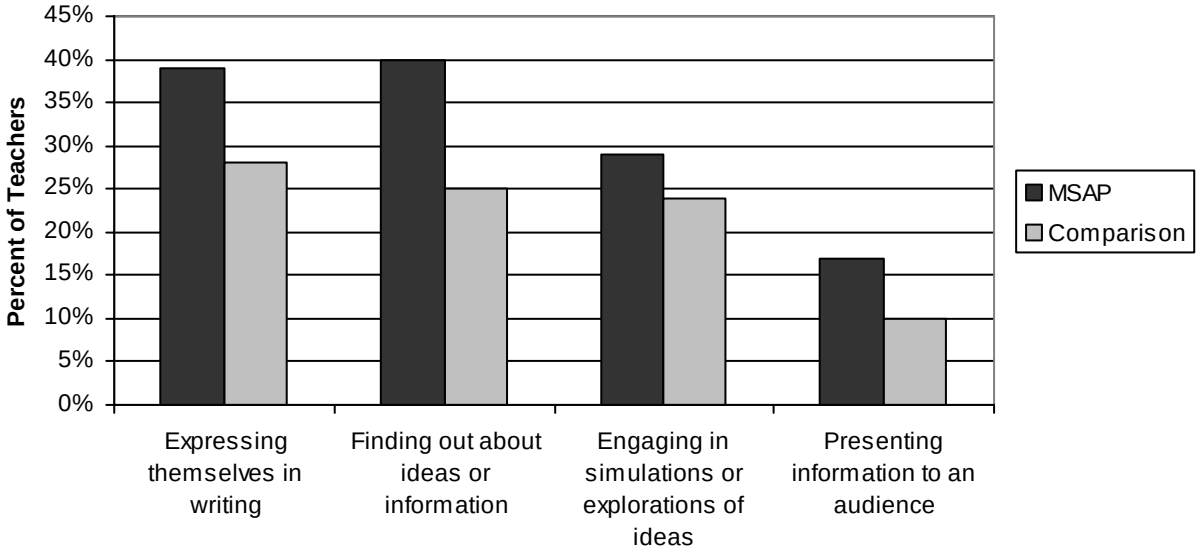


Exhibit reads: 39 percent of surveyed case study teachers in MSAP schools have their students express themselves in writing on a computer at least once a week whereas only 28 percent of matched comparison case study teachers use computers for this purpose at least once a week.
N varies between 216 and 219 MSAP teachers and 132 and 133 matched comparison teachers.
Source: Elementary Mathematics Teacher Survey, 2000–2001, Item 30; Middle and High School Mathematics Teacher Survey, 2000–2001, Item 30; Elementary Reading Teacher Survey, 2000–2001, Item 37; Middle and High School Language Arts Teacher Survey, 2000–2001, Item 31; Elementary Mathematics Teacher Survey (non-MSAP), 2000–2001, Item 24; Middle and High School Mathematics Teacher Survey (non-MSAP) Survey, 2000–2001, Item 24; Elementary Reading Teacher Survey (non-MSAP), 2000–2001, Item 31; Middle and High School Language Arts Teacher Survey (non-MSAP) Survey, 2000–2001, Item 25

These survey results are consistent with the data we collected as part of the case studies. For example, in a MSAP middle school at one of the case study sites (see District B case study), students in the digital photography class created slide show presentations on iMac laptops, and students in a technology-based history class worked on an Internet-based project in which they researched and produced museum displays that other students across their state could view on the Internet.

Additionally, MSAP teachers used a more varied approach to assessing the academic progress of their students than non-MSAP teachers. Mathematics teachers made significantly ($p<0.01$) greater use of short or long written responses and individual or group projects or presentations.

Sharing Innovative Practices with Others

Survey data indicate that many MSAP schools shared their experiences with innovative practices with other educators and with the general public.

MSAP principals were asked if other educators, the media, and other members of the general public had approached them for information about their magnet programs. The results indicate that MSAP schools, especially at the elementary level, were sharing their experiences with innovative practices with other educators as well as the general public. In 2001, more MSAP schools than in 2000 reported that they had provided information, hosted visits, or provided professional development to educators from other schools. Additionally, more schools reported receiving requests for information or permission to visit from reporters, researchers, or other individuals or groups besides educators or parents (see Exhibit A-III-43). These individuals and groups may have learned about how the MSAP schools have increased their emphasis on professional development, strengthened their professional communities, improved school climates, and increased parental involvement.

Summary

Magnet schools are expected to adopt distinctive themes and innovative programs, and are designed to promote a positive school climate and professional community among teachers. These conditions in turn are expected to lead to effective instructional practices. The survey data, as well as the case data discussed in Chapter VI, indicate that MSAP schools have done just this. They have adopted a wide variety of themes. More than half of the MSAP schools have adopted comprehensive school reform models, which is higher than the proportion reported among the full national population of Title I schools or among comparable schools in the MSAP districts.[13] MSAP schools on average have a somewhat more positive sense of professional community and school climate than comparable schools, although there is considerable variation. Survey data indicate that MSAP schools make somewhat more use of technology in instruction than do comparable schools, and place more emphasis on instructional methods designed to elicit higher order thinking skills, such as open-ended projects and presentations. We found some evidence of improvement in school climate and instructional practice between the second year of program implementation (1999–2000) and the third year of implementation (2000–2001). Principals' responses indicated that there was improvement in professional community and parental involvement. Other elements, including the level of challenge reflected in the number of academic requirements for students, showed little improvement. We theorize that with these

[13] Reported estimates of the national percentage of Title I schools adopting reform models based on data from the National Longitudinal Survey of Schools range from 31 percent in 1998–1999 to 43 percent in 1999–2000. See U.S. Department of Education, Office of the Under Secretary, Planning and Evaluation Service, Elementary and Secondary Education Division. *The Same Standards for Migrant Students: Holding Title I Schools Accountable. Volume I: Title I Schools Serving Migrant Students: Recent Evidence from the National Longitudinal Survey of Schools.* Washington, D.C.: Author, 2002; and U.S. Department of Education, Office of the Under Secretary, Planning and Evaluation Service, Elementary and Secondary Education Division. *Schools Identified as in Need of Improvement under Title I: Recent Evidence from the National Longitudinal Survey of Schools,* Washington, D.C.: Author, 2002. Nationally representative data are not currently available on the percentage of non-Title I schools that have adopted comprehensive models.

elements in place, MSAP schools will realize improved student achievement. We examine this connection in Chapter V.

Furthermore, while MSAP schools were intended to adopt innovative themes and practices, they were also intended to ensure that these programs were aligned with state and district standards and assessments. We found that the relationship between magnet schools and state and district standards is complex. Principals report that they are familiar with standards and assessments and that the content of state standards and assessments match the goals of their magnet programs. As we consider in more detail in Chapter VI, our case data support the conclusion that magnet themes are generally consistent with the content emphasized in state standards, although staff in some MSAP schools indicated that they feel pressured to learn how to teach a new theme or curriculum while simultaneously being mindful of the state content standards and assessments.

IV. Desegregation Objectives and Outcomes

Since the 1970s magnet schools have been used by school districts to promote desegregation efforts by increasing school choices. Public officials have sought to increase racial and ethnic integration of schools within and sometimes between districts by structuring the incentives for parents to choose particular schools for their children. The federal government policy as represented in Improving America's Schools Act (IASA) and more recently in No Child Left Behind (NCLB) supports these efforts through the Magnet Schools Assistance Program (MSAP). One of the federally mandated objectives of MSAP is to foster desegregation of schools. This chapter does the following:

- Describes the desegregation objectives of schools that have been targeted for desegregation under the 1998 MSAP grants.
- Evaluates the desegregation outcomes for those schools based on changes in percentage of minority enrollments.
- Discusses the factors that influence a school's ability to desegregate.

Desegregation Objectives of MSAP's Targeted Schools

More than 90 percent of schools targeted by MSAP for desegregation are minority group isolated; that is, more than one-half of their students are minority (i.e. black, Hispanic, Asian-Pacific Islander, or American Indian-Alaska Native). These schools are seeking to reduce or eliminate minority group isolation. Less than 10 percent of schools targeted by MSAP for desegregation are seeking to prevent minority group isolation by keeping the number of minority students in the school from exceeding more than half of all student enrollment.

The MSAP was enacted in 1984 to provide federal support for magnet schools that are part of an approved voluntary or required (i.e., required by court or other government agency) desegregation plan. Through the MSAP, funds are provided to support programs that will promote the *reduction, elimination, or prevention* of minority group isolation (MGI) in elementary or secondary schools. Minority group isolation refers to schools in which minority group children constitute more than 50 percent of school enrollment.[1] Minority group is defined to include children from the following racial-ethnic backgrounds: American Indian or Alaskan Native, Asian or Pacific Islander, Hispanic, and black (not of Hispanic origin).[2]

The categories of desegregation objectives are the following:

- Schools with the objective of *reducing* minority group isolation have more than 50 percent minority enrollment before a program starts, and their objective is to lower the proportion of minority enrollment (although they may still remain minority isolated).

[1] 34 CFR §280.4

[2] In four districts with required desegregation plans, a court or other government agency has defined minority as black. In a fifth district with a required desegregation minority plan, a court order defines minority as black or Hispanic.

- Schools with the objective of *eliminating* minority isolation are also minority-isolated before a program begins, and their objective is to lower the percent of minority enrollment level below 50 percent during the grant period (i.e., for the 1998 grantees, between 1998–1999 and 2000–2001).
- Schools with the objective of *preventing* minority isolation are in danger of becoming minority isolated and aim to keep minority enrollments from rising above 50 percent of enrollment during the three-year project period. These schools' minority enrollment is expected to remain below 50 percent with the magnet program.

Districts with required desegregation plans may have requirements established by a court or other agency that vary from those defined above. In general, however, the grantees in districts with required desegregation plans have also identified goals consistent with the desegregation objectives defined above. The purpose of the analysis reported in this chapter is limited to examining the extent to which schools targeted for desegregation in MSAP-funded districts are preventing, eliminating, or reducing minority group isolation.[3]

In the 2000–2001 school year that ended the 1998 MSAP funding cycle, a total of 294 schools were "targeted" for the reduction, elimination, or prevention of minority group isolation in connection with an MSAP-supported program. Typically the school that is targeted for desegregation is the same school in which the magnet programs are implemented. However, school districts may establish a magnet program in one or more schools with the aim of drawing students from higher minority enrollment schools into those programs. In these situations, the objective is to reduce, eliminate, or prevent minority group isolation in the "feeder" schools from which students are being drawn. Among the 294 schools that were targeted for desegregation, 30 were targeted feeder schools.

The overwhelming objective of the 294 desegregation-targeted schools was to reduce minority group isolation. Fully three quarters (77 percent) of targeted schools sought to reduce MGI, while about one-sixth (16 percent) aimed to eliminate MGI by reducing their minority enrollment to 50 percent or less. Less than one-tenth (8 percent) of targeted schools were aiming to prevent MGI isolation by keeping the school's minority enrollment from exceeding 50 percent. The general pattern of objectives is similar for schools in voluntary and required districts (see Exhibit IV-1).

The small proportion of schools seeking to prevent or eliminate MGI is understandable given the large percentage of schools that are located in districts with high minority enrollment. Three-quarters of the targeted schools are in districts in which minority students constitute more than 50 percent of public school enrollment. Two-thirds of the targeted schools are in districts with over 60 percent minority student enrollment in public schools (Exhibit A-IV-2).

[3] Compliance with a court order is determined by a judge, not the Department of Education (likewise an agency determines compliance with an agency order). Therefore, if a judge or agency deems a magnet school operation and enrollment to be in compliance with an order, the Department of Education will defer to that interpretation. See 1998 Magnet School Application Notice 63 Federal Register 8021 (February 17, 1998). (See also 34 CFR 280.2(a)(1).)

In their applications, the MSAP grantees were required to include benchmarks or goals in the form of projected enrollments for schools targeted for desegregation. Those projections typically indicated the number and percent of minority students for each year of the grant. The benchmarks were intended to reflect the changes in enrollment that grantees expected to result from implementation of the district's MSAP project. Some districts were more ambitious than others in setting their benchmarks. Thus rather than focusing on whether or not targeted schools met their benchmarks, this evaluation focuses on the extent to which targeted schools reduced, prevented, or eliminated MGI.

Exhibit IV-1.
Desegregation objectives of MSAP's targeted schools, overall and by type of desegregation plan

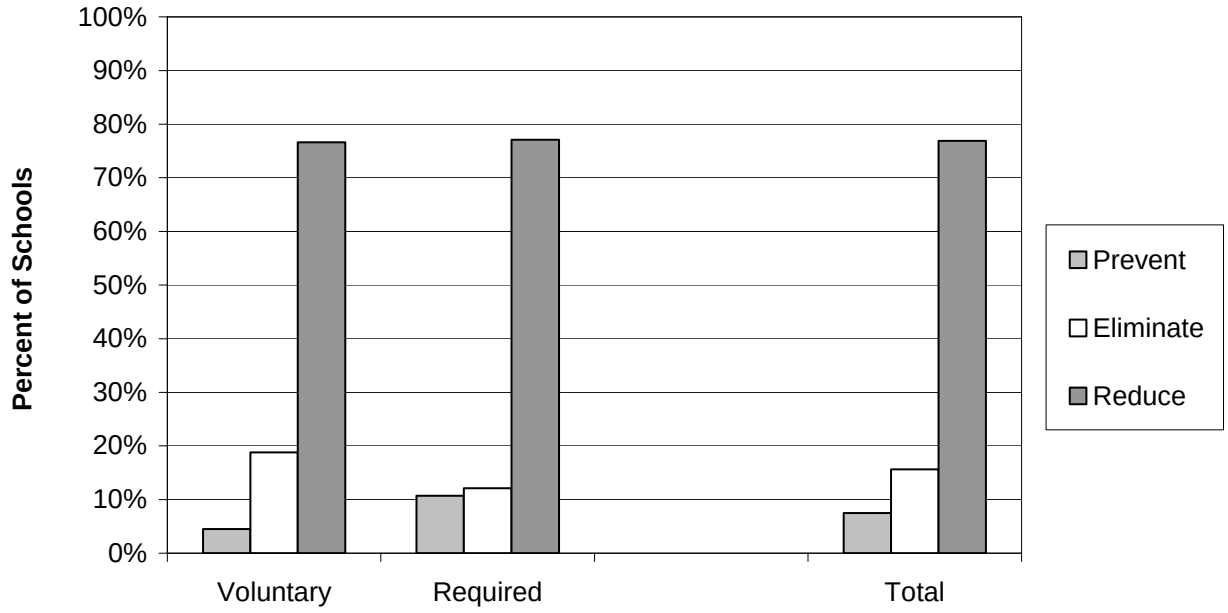


Exhibit reads: The predominant objective for MSAP's desegregation-targeted schools in both districts with required and voluntary desegregation plans was to reduce minority group isolation.
N = 294 targeted schools
Sources: Grantee applications, performance reports, NCES 1997–1998 and 1998–1999 Common Core of Data, and U.S. Department of Education personnel

Desegregation Outcomes at MSAP's Targeted Schools

Adjusting for districtwide demographic trends, the magnet programs for 57 percent of MSAP's desegregation-targeted schools made progress in preventing, eliminating, or reducing minority group isolation, while 43 percent did not show progress.

The success of magnet programs in making progress toward their desegregation objective is based on the extent to which MSAP's desegregation-targeted schools have reduced, prevented, or eliminated MGI between 1997–1998 and 2000–2001. Targeted schools have succeeded in

preventing or eliminating MGI if the school's minority student attendance in 2000–2001 does not exceed 50 percent of student enrollments, and targeted schools have made progress toward reducing MGI isolation if their minority enrollment is less in 2000–2001 than in 1997–1998 even though it still exceeds 50 percent.[4] Specifically:

- Targeted schools have *prevented* minority group isolation if their minority enrollment did not exceed 50 percent prior to the 1998 funding cycle (i.e., 1997–1998) nor at the end of the funding cycle (i.e., 2000–2001).
- Targeted schools have *eliminated* minority group isolation if their minority student enrollment exceeded 50 percent prior to the 1998 funding cycle, but was 50 percent or less by the end of the funding cycle.
- Targeted schools whose minority enrollment exceeds 50 percent in 1997–1998 and 2000–2001 have *reduced* minority group isolation if the proportion of minority students is lower at the end of the funding cycle compared with enrollment prior to the 1998 funding cycle.

In determining the progress of a targeted school in reducing MGI, the Department of Education takes into account the changing demographic conditions in a district. If an increase in MGI at a desegregation-targeted school is less than the districtwide increase in MGI of students at the same grade level (i.e., elementary, middle, or high school) as the targeted school, the Department considers the school as having made progress in reducing MGI.[5]

Taking into account demographic trends by adjusting for districtwide changes in minority enrollment indicates the increase or decrease in percent minority enrollment at a school *relative to the percent minority enrollment districtwide*. For example, if minority enrollment at an elementary school targeted for desegregation under MSAP increases by 1 percent, but the percent minority enrollment in elementary schools districtwide increases by 2 percent, the magnet program is considered to have made progress in meeting its desegregation objectives. Even though the targeted school has a higher percent minority enrollment at the end of the program than at the beginning, the difference between the proportion of minority enrollment in the targeted school and the district is reduced because of the district's larger percentage increase.

Adjusting for demographic trends is an important consideration for the schools that have been targeted for desegregation by MSAP programs. More than three-quarters of targeted schools were in districts in which the proportion of minority enrollment at their grade level increased by at least 1 percent between 1997–1998 and 2000–2001 (Exhibit A-IV-3).

[4] Grantees provided estimates of minority enrollment levels for schools that were not open in the year prior to the start of the funding cycle.

[5] One of the roles of the Office of Civil Rights (OCR) and ED is to provide technical assistance when districts have trouble making progress in the statutory objective of reduction, elimination, or prevention of minority group isolation.

Progress in Meeting Desegregation Objectives

This analysis focuses on whether and to what extent schools targeted for desegregation prevented, eliminated, or reduced minority group isolation.[6] After adjusting for district trends in percent minority enrollment, MSAP's magnet programs have evidenced progress in reducing, preventing, or eliminating minority group isolation in 57 percent of the schools targeted for desegregation.[7] The other 43 percent of targeted schools did not show progress in reducing MGI.[8]

Were some targeted schools more likely to make progress in meeting their desegregation objective than others? For example, were targeted schools in districts operating with a voluntarily initiated desegregation plan more or less likely to make progress than those in districts with desegregation plans required by an external authority? How similar were the desegregation outcomes for elementary schools as compared to secondary schools? The evidence indicates that the proportion of targeted schools in districts with voluntary desegregation plans that made progress in meeting their desegregation objectives was slightly higher compared to districts with required desegregation plans (60 percent vs. 53 percent). (Exhibit A-IV-5). However, overall differences were more substantial between grade levels, with a larger proportion of elementary schools making progress compared with high schools (60 percent vs. 48 percent). This difference was observed in districts with voluntary as well as required desegregation plans (Exhibit IV-2). The proportion of middle schools making progress toward desegregation (54 percent) generally fell between that of elementary and high schools. However, in districts with voluntary desegregation plans, the proportion of middle schools making desegregation progress was close to that of elementary schools, whereas in districts with required desegregation plans, a lower proportion of middle schools made progress compared with elementary schools.

Progress in meeting desegregation objectives also differed by type of magnet program. Overall, a larger proportion of whole school programs (59 percent) showed progress toward meeting their desegregation objectives compared with PWS magnet schools (49 percent). The proportion of targeted feeder schools that showed progress (47 percent) was similar to that of PWSs (Exhibit A-IV-6).[9]

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[6] Whether or not a district with a required desegregation plan met the desegregation goals set out in a court or agency order is not being assessed in this study. Compliance with a court or agency order is determined by a judge or agency, not by the Department of Education. (See footnote 3 in this chapter).

[7] Without adjusting for district trends in minority enrollment, 39 percent of desegregation-targeted schools made progress in reducing, preventing, or eliminating MGI. Thus adjusting for district trends increases the proportion of targeted schools making progress by 18 percentage points. That increase consists of schools whose percent minority enrollment is actually greater in 2000–2001 than in 1997–1998. They are, however, considered to have made progress because the increases are less than the districtwide increase at comparable grade levels.

[8] For purposes of this evaluation, the standard MSAP definition of minority is applied to all districts to maintain comparability of analysis with respect to reducing, preventing, and eliminating MGI. The count of targeted schools making progress in reducing MGI increases by one school if the definition of minority is modified for the five districts in which a court or other government agency order limits the definition of minority to blacks or to blacks and Hispanics.

[9] We have not drawn comparisons of progress by program type for districts with required and voluntary desegregation plans, given the small number of PWS magnets (N = 8) and targeted feeder schools (N = 10) in districts with voluntary desegregation plans.

Exhibit IV-2.
Percent of MSAP targeted schools making progress on their desegregation objectives by grade level after adjusting for districtwide changes in proportion of minority students in public schools

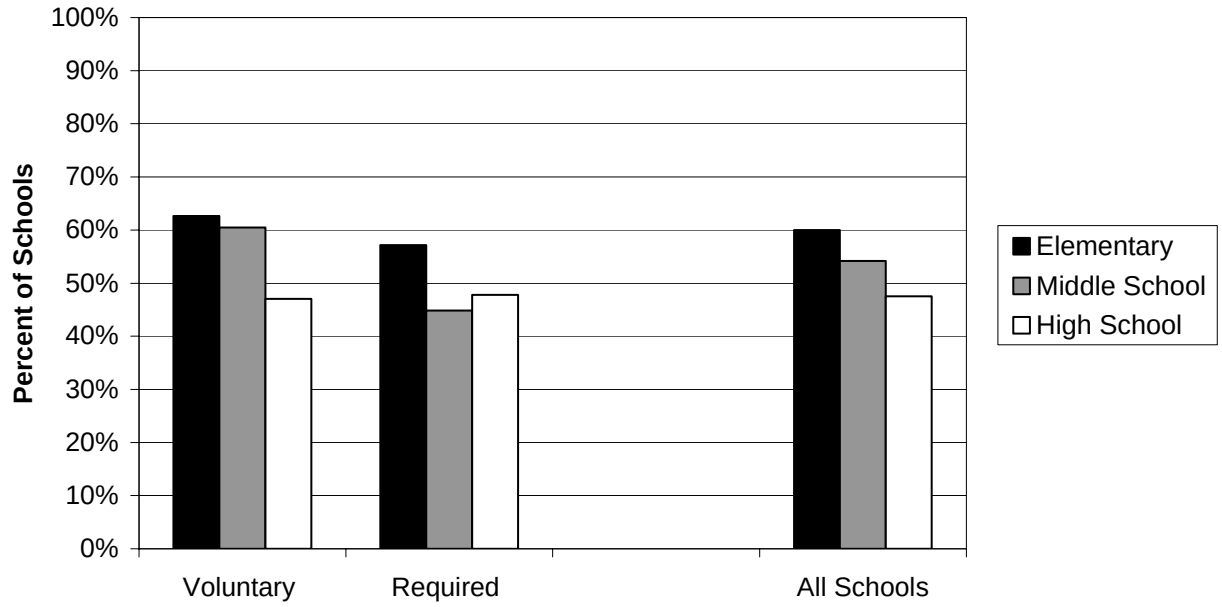


Exhibit reads: A higher proportion of desegregation-targeted elementary schools made progress in meeting their desegregation objectives compared with high schools in both districts with required and voluntary desegregation plans. Evidence of progress toward desegregation for middle schools was similar to elementary schools in voluntary desegregation plan districts, but less than elementary schools in districts with required desegregation plans.
N = 294 targeted schools
Source: Grantee applications, performance reports, NCES 1997–1998 and 2000–2001 Common Core of Data, and U.S. Department of Education personnel

Extent of Reduction in MGI

The previous section focused on the percent of schools making progress. In this section, we turn to the *amount* of progress schools made in reducing MGI between 1997–1998 and 2000–2001. One in twenty (5 percent) of the targeted schools prevented or eliminated MGI. One in six (17 percent) experienced a reduction of 5 percentage points or more in MGI relative to the district (see Exhibit IV-3). About one-quarter (27 percent) experienced a reduction of 1 to 5 percentage points. One in fifteen (7 percent) experienced a reduction that was less than 1 percentage point. In the remaining 43 percent of schools that did not make progress, MGI increased or remained constant during this period.

Does the amount of progress differ for targeted schools in districts with voluntary desegregation plans as compared to districts with required desegregation plans? The differences and similarities are shown in Exhibit IV-3. A higher proportion of targeted schools in voluntary districts experienced reductions in MGI of 1 to 5 percentage points relative to the district minority enrollment, whereas a higher proportion of targeted schools in districts with required

desegregation plans prevented or eliminated MGI. Similar proportions of targeted schools in both voluntary and required desegregation plan districts reduced MGI by smaller amounts of less than 1 percentage point, as well as larger amounts of 5 percentage points or more relative to the percent minority enrollment in the district at comparable level schools.

Exhibit IV-3.
Percent of MSAP targeted schools reducing minority group isolation by extent of progress and type of district desegregation plan, after adjusting for districtwide changes in proportion of minority students in public schools

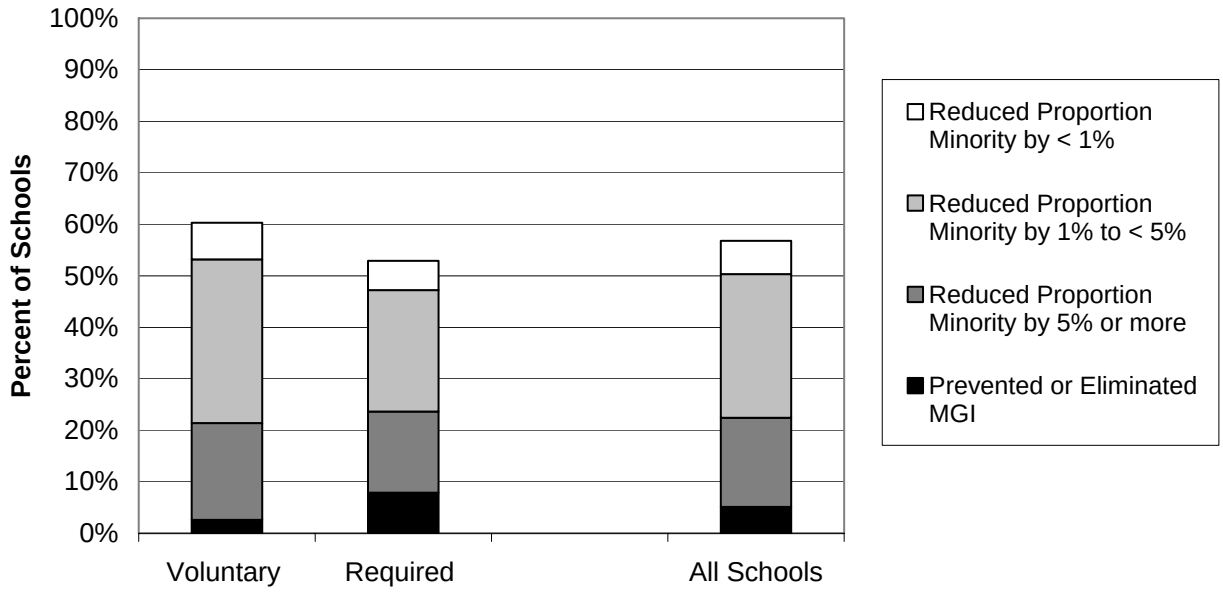


Exhibit reads: If allowances are made for districtwide changes in the percent minority, one-half of MSAP's desegregation-targeted schools would have either prevented or eliminated MGI or experienced a decrease of at least 1 percentage point in the proportion of minorities in their school.
N = 294 targeted schools
Source: Grantee applications, performance reports, NCES 1997–1998 and 2000–2001 Common Core of Data, and U.S. Department of Education personnel

Factors That Influence MSAP Targeted Schools' Ability to Reduce Minority Group Isolation

Schools are more likely to experience decreasing minority isolation when they have a racially and ethnically mixed group of minority students and when parents are involved in school events and activities. On the other hand, schools with larger numbers of students per teacher are more likely than those with lower student to teacher ratios to experience increases in minority group isolation.

Among the schools targeted for desegregation, what are the characteristics of those that have been more successful in reducing MGI? Whereas the preceding analysis evaluates the

extent to which schools targeted for desegregation met or made progress in meeting their objectives, this section examines factors related to changes in the percent minority enrollment at MSAP's desegregation-targeted elementary schools between the 1997–1998 and 2000–2001 school years.

The framework for assessing the factors that might influence a school's ability to reduce minority group isolation considers both district setting and school-level characteristics. Within each of these categories, contextual or general characteristics may be distinguished from MSAP project or program features.[10] The factors that are considered in this analysis include the following:

District context:

- Changes in percent minority enrollment districtwide.
- Percentage change in the number of nonminority students in district.
- Non-MSAP school choices (e.g., non-MSAP magnet schools, charter schools, private religious and sectarian schools).

District's MSAP project characteristics:

- Type of desegregation plan (i.e., voluntary vs. required).
- Complexity of program (i.e., number of grade levels and number of schools).

School characteristics:

- Pupil-teacher ratio.
- Attendance zone school (i.e., school giving enrollment priority to students living in school's neighborhood attendance area).
- "Mixed" minority enrollment (i.e., no single race-ethnic minority represents more than half of the minority students in the school).
- Poverty level (i.e., percent of students eligible for free or reduced-price lunch).
- School climate and other organizational features (e.g., student disengagement or behavioral problems, sense of community among staff, school's emphasis on professional development, and parental involvement in governance and special events).

School's MSAP program characteristics:

- PWS vs. whole school program.
- Targeted feeder program.

[10] In the previous section we examined overall differences in progress based on the type of program (i.e., PWS, whole school, or targeted feeder school) and type of desegregation plan (i.e., voluntary vs. required). The analysis in this section permits us to see the extent to which reductions in minority isolation differ with respect to these district and program characteristics while controlling for other factors that may influence changes in minority isolation.

- Performance-based admissions standards (i.e., based on test performance, auditions, academic record).
- Desegregation objective (i.e., prevent, reduce, or eliminate MGI).
- Magnet history (i.e., school was magnet prior to 1998 funding).

Analysis was conducted using a hierarchical linear model to examine annual changes in minority enrollment in 172 elementary schools targeted for desegregation. The model was developed incrementally beginning with analysis of the district context variables, followed by MSAP project characteristics, general school characteristics, and finally MSAP program characteristics. At each stage, only those characteristics that contributed to an improvement in the overall model were retained.

As anticipated, we found that increases in the district minority enrollment had a significant effect on the progress schools made in reducing minority group isolation. For targeted schools in districts in which the percent minority rose over the period from 1997–2000, the schools also tended to become more minority group isolated. For every percentage point growth in percent minority in the district, MSAP's targeted schools tended to grow 0.41 percent per year in percent minority (see Exhibit IV-4). Thus, the average change in percent minority in targeted schools was proportionately half of the change occurring in their district.

We found that several school features are also related to improvement in MGI. On average attendance zone schools showed 1.17 percent per year greater decrease in percent minority than nonattendance zone schools.[11] The direction of the effect is the opposite of what we expected. We had anticipated attendance zone schools would show less improvement because by giving priority to the students in the neighborhood, the magnet has fewer opportunities to recruit nonminority students from outside the neighborhood compared to nonattendance zone schools.

Nonminority parents may be more willing to choose a predominantly minority school when there is a mix of race-ethnic groups in that school. In our analysis, mixed minority schools experienced 2 percent more improvement in MGI per year compared to schools in which any single race-ethnic minority represents over half of the students in the school.

Schools in which parents are involved in special events experienced more progress in reducing MGI compared with schools in which parents are not involved. On a zero-to-four scale summarizing principals' reporting on the level of parental involvement in special events, each unit of increase in parental involvement resulted in a 0.67 percent per year average decrease in MGI.

The failure of schools to reduce minority group isolation is related to high student-to-teacher ratios. That is, more students per teacher in a school tended to result in increases rather than decreases in the percent minority enrollment. A difference of one student per teacher is

[11] While attendance zone schools showed more improvement in MGI than non-zoned schools, attendance zone schools started the period with an average proportion minority that was 3 percentage points higher than non-zoned schools. See Exhibit A-IV-8 in Appendix IV.

associated with a 0.19 percent per year increase in MGI. This result may indicate that schools with smaller class sizes, as indicated by fewer students per teacher, are able to attract a larger ratio of white applicants relative to minority applicants. This result is consistent with evidence reported by Henig (1996), based on an analysis in Montgomery County magnet schools. In that study, the ratio of transfer requests into a school by white families to transfer requests by minority families decreased as the student-teacher ratio increased.

Of the MSAP program features examined, schools with PWSs on average showed 1.34 percent per year greater decrease in minority isolation of students compared with whole school programs. Schools with PWSs started the period from 1997–1998 with an average percent minority enrollment that was 14 percentage points higher than whole schools. It is only when we control for the fact that PWS schools begin at a higher level of MGI that we are able to see that on average these schools experience a greater improvement in MGI.

Exhibit IV-4.
Summary of factors influencing the average annual change in percent minority enrollment

District Characteristics	Effect on Annual Change in School's Percent Minority
Change in % Minority 1997–1998 to 2000–2001	0.41***
School Level Characteristics	
Attendance Zone School	-1.17***
Pupil-Teacher Ratio	0.19***
Mixed Minority Group	-1.98***
Parental Involvement in Special Events	-0.67**
Program-within-a-School (PWS)	-1.34*

Exhibit reads: Progress of schools in reducing MGI is greater in schools with neighborhood attendance zones, a mixed race-ethnic makeup of minority students, greater parental involvement in a school's special events, and schools with a PWS program.
***p <.01; **p<.05; *p<.10
Source: Appendix IV, Exhibit A-IV-8

Other factors examined in this analysis did not significantly improve our model. For example, neither the complexity of the MSAP project nor the district's desegregation plan was related to changes in minority enrollment in targeted elementary schools. Among school features, for example, parental involvement in school governance was not significant. Likewise, none of the other measures of school climate and organization (e.g., student problems, sense of community among staff, support of professional development) were related to change in the percent minority at targeted schools. Similarly, several of the magnet program features, such as the use of performance-based admissions standards and prior history as a magnet school, did not have a significant effect on changes in minority enrollment.

While we found several features of magnet schools related to an improvement in minority student isolation, the variables we tested explained only a modest part of the variation across districts and schools in the progress they made. (See Exhibit A-IV-8 for coefficient estimates.) We are not sure what factors explain this variation, because we lack good measures. One possibility is that the variation across districts may be due to differences in the quality of the information and other supports for choice. In a similar vein, variation across schools may be due to differences in the "identity" schools are able to communicate. These possibilities should be explored in future research.

Other Factors That May Explain Desegregation Outcomes

The preceding analysis of district and school characteristics associated with success in reducing minority groups isolation examines differences among targeted schools and their magnet programs. Two other potentially important factors might also help explain why more than 40 percent of desegregation-targeted schools were not successful in making progress on their desegregation objective. One factor is related to the timing of the MSAP grant awards. Grantees were limited in their ability to conduct first year recruitment efforts in the spring of 1998 as they did not receive funding until June 1998 or later. The second factor is related to the processes by which MSAP schools may select students. Limitations placed on the use of race as a factor in selection of students may make it more difficult to achieve desegregation objectives. We discuss these issues further in Chapter VI.

Summary

The desegregation objective of targeted schools was overwhelmingly aimed at reducing MGI. The small proportions of schools seeking to eliminate or prevent minority isolation is understandable, because most of the targeted schools are in districts that have high proportions of minority students.

Adjusting for districtwide demographic trends, the magnet programs for 57 percent of MSAP's desegregation-targeted schools were successful in preventing, eliminating, or reducing minority group isolation, while 43 percent did not show progress. The extent to which MGI was reduced, prevented, or eliminated differed somewhat for targeted schools in districts with required and voluntary desegregation plans. The proportion of targeted schools preventing or eliminating MGI was greater in districts with required desegregation plans, while a larger proportion of targeted schools in voluntary districts reduced MGI by 1 to 5 percentage points. Almost one-fifth of targeted schools in districts with voluntary and required desegregation plans experienced reductions in MGI of more than 5 percentage points.

Analysis of the factors influencing an elementary school's ability to reduce minority group isolation revealed several features of schools that were related to reduction in minority isolation. Schools with a racially and ethnically mixed group of minority students and schools in which parents are reported to be involved in school events and activities were the schools that saw the greatest decrease in minority isolation, whereas high pupil-teacher ratios were related to increases in minority group isolation. Two unexpected findings were the reduction in minority isolation of schools with neighborhood attendance zones as compared to those without

attendance zones, and the improvement of schools with PWS programs as compared to those with whole school programs. Our analysis accounted for only a small portion of the variation across schools and districts in changes in minority isolation.

V. Student Achievement Outcomes in MSAP-Supported Schools

Strengthening students' knowledge of academic subjects and skills needed for successful future careers is a primary legislative purpose of MSAP. Accordingly, student achievement outcomes are a primary focus of the MSAP performance indicators and of this evaluation. All applicants for MSAP grants must describe project objectives that address this federal legislative purpose, and all grantees must annually provide data on the progress their projects have made toward meeting the objectives.

As we have found through our surveys and case studies, MSAP projects also operate within local contexts of increasing accountability for improving student achievement, particularly in the areas of English language arts and mathematics. Over the past few years, many districts have adopted or revised their standards and curricula, as well as invested in professional development to strengthen instruction in these (and other) content areas. MSAP-supported magnets, like other schools in their districts, are expected to show improved performance over time on state assessments. In some cases, magnet schools have been in the vanguard of their district's reform efforts, thanks to the additional resources provided by the MSAP grant that have supported professional development training, release time for planning, and the purchase of new instructional materials and technology. While magnet schools enjoy the advantages of augmented resources and engaging themes to capture students' interest and increase their learning, they also face substantial challenges. In particular, many serve substantial numbers of children whose circumstances—poverty, mobility, and limited proficiency in English—may increase the difficulty of showing dramatically improved performance in the short term. Implementation of programs may be impeded by unexpected circumstances or mid-course corrections, which may lead, in turn, to delays in the appearance of the program's effects on student performance. Thus, while substantial improvement in student performance within the three-year span of an MSAP grant is an objective for MSAP projects, universal attainment of that objective is not guaranteed.

In the nationwide MSAP evaluation, we investigated student achievement outcomes during the 1998–2001 grant period in two studies that are reported in this chapter. First, we examined the achievement objectives that projects adopted as MSAP performance indicators in their grant applications. In our *Year 1 Interim Report* (2000), we provided a detailed description of these objectives. In this final report, we update the description and discuss the degree to which the MSAP-funded magnet schools met the objectives their projects set for them. The data used in this analysis were drawn from projects' annual performance reports to the U.S. Department of Education (ED). The second study is a series of detailed analyses comparing the performance of students in similar MSAP and non-MSAP schools on state assessments in reading and mathematics. While the first study evaluates the projects in accordance with the standards they set for themselves (which vary considerably in scope and sophistication), the second gauges the performance of MSAP schools in different districts using a common standard—the improvement in performance of the MSAP schools relative to that of non-MSAP schools serving similar student populations.

Achievement Objectives Study

Data Sources

Information about student achievement objectives and corresponding student achievement outcome data were obtained primarily from the grantees' applications and their annual and supplementary performance reports. We also contacted project directors to request data that were missing from their reports, and in a few cases we extracted information from state Department of Education Internet sites. As explained in more detail later in this section, data needed to determine the extent to which goals were met were available for some but by no means all of the objectives set forth in projects' applications.

Project-Level Objectives and School-Specific Goals

In this study, we describe grantees' expectations for student achievement at two levels of aggregation. First, each of the MSAP grantees stated one or more project-level objectives in their applications. These objectives typically applied to all of the MSAP-supported schools in the district, or to all of the MSAP schools at a given grade level (for example, "Each year of the grant, the average mathematics scores of MSAP magnet schools will increase by 3 percentile points over the previous year's average score."); some applied only to one or a few schools. In total, we identified 564 project-level objectives that the 57 MSAP funded districts had set at or near the beginning of their three-year grant period. Most objectives specified a benchmark for each of the three grant years, while a few called for one or two measurements during the grant.

While project objectives are stated in general terms, the unit of analysis for determining the extent to which those expectations are met is the school. Each project objective translates into one or more school-specific goals for the performance of students at a particular grade level on a particular measure of achievement. For example, in a district that administers a mathematics test to students in grades 1 through 5, a project-level objective calling for improved mathematics scores of elementary school students implies five school-level goals (one for each grade) for each MSAP elementary school in the district. When an objective takes account of additional factors such as students' minority status and gender, it translates into even more school-level goals.

The first part of this exploration of student achievement objectives describes the range of project-level objectives set by the grantees. The second part summarizes the extent to which schools met or made progress toward meeting the specific goals that had been set for them.

Types of Objectives Set by MSAP Grantees

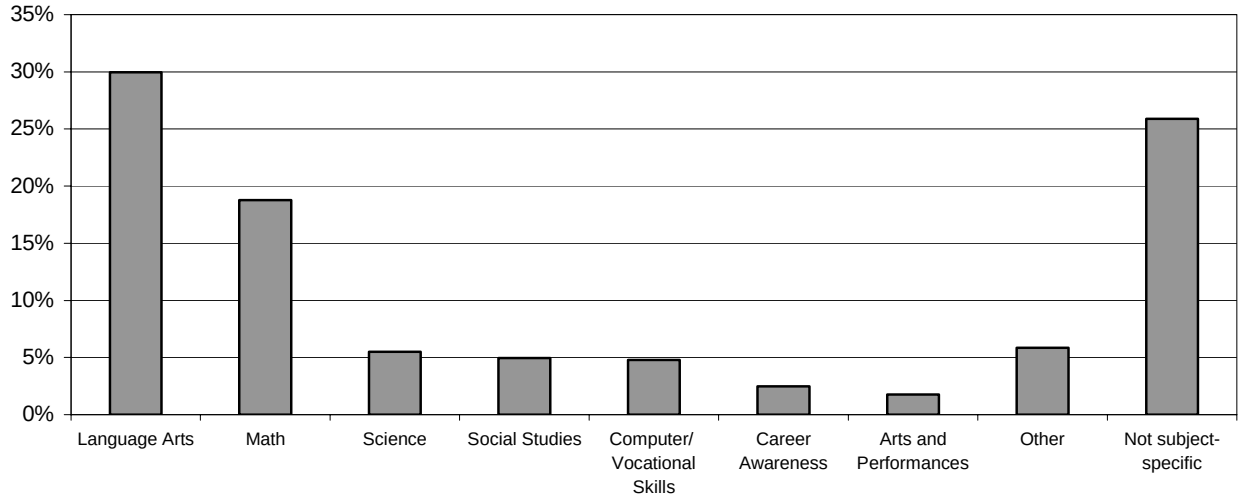
Approximately half of the project-level objectives set by MSAP grantees are either for reading, writing, or English language arts (30 percent), or for mathematics (19 percent). A little more than a quarter of the objectives focus on more general outcomes, such as rates of school attendance, course-taking, dropping out, or acquiring applied learning skills. Standardized tests are by far the most common measures upon which objectives are based.

An achievement objective consists of several components: the content domain assessed, a description of the students to whom it applies (e.g., school, grade level, minority status, and possibly English proficiency), the achievement measure used, the magnitude of the change in performance that is expected, the time frame within which change will occur, and the external reference group (if any) with which the performances of magnet students will be compared. Exhibits V-1 and V-2 describe project-level objectives in terms of the subject areas they address, and the measures used to track them.

Subject Area

Exhibit V-1 shows the subject domains addressed by the 564 project-level objectives. (See Exhibit A-V-1 for the corresponding table.) Approximately half of the objectives are either for reading, writing, or English language arts (30 percent)[1] or for mathematics (19 percent). The prevalence of these two subjects reflects the fact that MSAP projects base most of their objectives on state or district assessment results, and these are the subjects most commonly assessed in these tests. A little more than a quarter of the project-level objectives are not related to one specific academic subject. Typically, these objectives focus on more general outcomes such as rates of school attendance, course taking, dropping out, or acquiring applied learning skills, or they refer to test scores in multiple academic subjects.

Exhibit V-1.



Project-level objectives by subject domains

Exhibit reads: About 30 percent of the achievement objectives set by MSAP projects were in language arts, compared with about 19 percent in mathematics, and 5 percent in science and social studies. About 25 percent were not subject-specific.
N = 564 project-level objectives
Source: MSAP grant applications and annual performance reports

[1] Throughout this report, the combined subjects of reading, writing, and English language arts are considered together and referred to as "language arts" or "English language arts."

Type of Measure

Standardized tests are by far the most common measures upon which objectives are based; as shown in Exhibit V-2, about three-quarters of all project-level objectives use them. (See Appendix Exhibit A-V-2 for the corresponding table.) Virtually all of the 57 MSAP-supported projects have at least one objective based on standardized test scores. The next most commonly used measures are other assessments (approximately 15 percent) that document student performance in academic knowledge and skill areas not covered by district or state assessments. For example, one project planned to devise an Internet research task and a rubric to assess students' mastery of computer research skills; several projects planned to assess students' career awareness, work-related habits, or attitudes toward school using surveys or teacher ratings.

Exhibit V-2.
Project-level objectives by type of measure

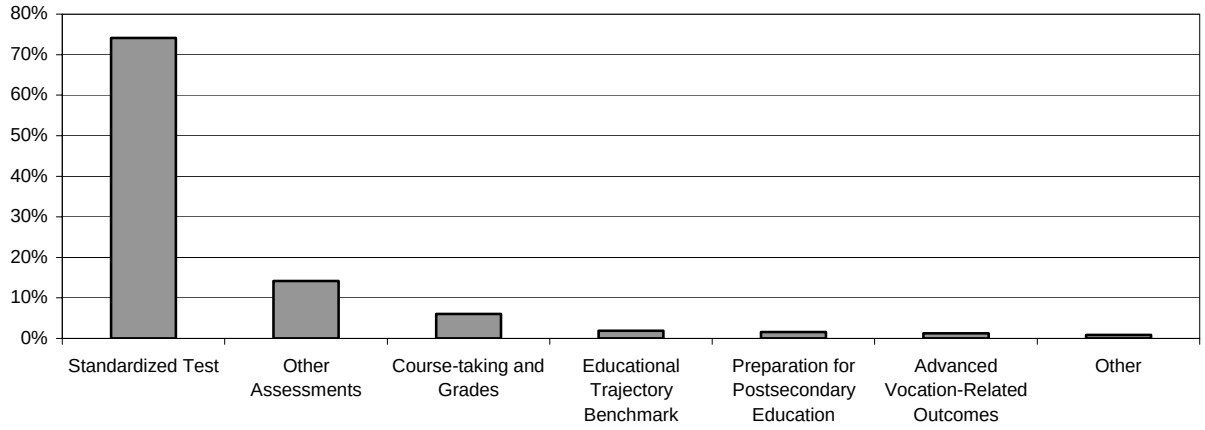


Exhibit reads: About 75 percent of the measures used to set achievement objectives were standardized tests, compared with about 15 percent that were other assessments. Other types of measures were less commonly used.
N = 564 project-level objectives
Source: MSAP grant applications and annual performance reports

Frequency of Measuring Outcomes

About 87 percent of the project-level objectives specify annual benchmarks that are to be reached by the end of each of the three grant years, while about 11 percent are to be measured only at the end of the grant period. The rest are to be measured at only two points during the grant period (either at the end of each of the first two years or each of the last two years of the project).

Although these data suggest that the MSAP-supported districts expected to collect and report annual outcome data for at least 87 percent of the 564 project-level objectives, the number of objectives for which analyzable annual school-level outcome data were available is considerably smaller. In the next section, we discuss the factors that reduced the number of objectives that could be included in the analysis of school-level outcomes.

Project-Level Objectives for Which School-Level Outcome Data Are Available

For each grant year, usable school-level data were available for about one-third of the objectives. The most common reason given for the lack of outcome data was that the state had revised or discontinued the assessments upon which the projects had based their objectives.

Exhibit V-3 below summarizes the availability of school-level data that addressed the project-level objectives for each of the three years of the grant period. The total number of objectives tracked varies slightly by year due to the fact that a few project-level objectives called for progress to be measured in only one or two years. For each grant year, usable school-level data were available for about one-third of the objectives, with the most data available for 1999–2000 (38 percent). [2] Five to six percent of the objectives did not have analyzable data because their projects dropped them during the grant period. Some were dropped formally—that is, project staff explicitly stated (in a performance report or an interview with AIR) that they had dropped the objective. The most common reason given was that the state had revised or discontinued its assessments so that the projects could no longer track the test scores that they had planned to use in their evaluations.[3] In addition, a few objectives were described in grant applications but never mentioned again, even though project staff did not formally acknowledge dropping them. Another small group of objectives (3 to 6 percent) could not be evaluated at the school level because project reports aggregated achievement results across magnet schools. Because the unit of analysis for our study of goal attainment was schools, these district-level outcome data could not be included in our analyses.

Exhibit V-3.
Percentage of project-level objectives with and without analyzable data each year

Data Availability	1998–1999	1999–2000	2000–2001
Analyzable	30.3%	38.3%	29.2%
Objective dropped	6.5%	4.8%	5.3%
Analyzable at the district level	4.7%	5.6%	2.8%
Missing/Not usable	58.5%	51.3%	62.6%
Total number of annual objectives	489	499	562

Exhibit reads: Analyzable school-level data were available for about a third of project-level objectives each year. The proportion of objectives with analyzable data was highest in 1999–2000 (38 percent).
N = 564 project-level objectives (some pertain to only one or two project years)
Source: MSAP grant applications and annual performance reports

[2] In many cases, the lack of information can be attributed to factors beyond the control of the MSAP projects—most notably changes in their state tests or the format in which test results were reported. Thus, lack of information cannot be construed as lack of progress in improving student achievement.

[3] A few objectives that were revised to take account of changes that occurred during the grant period are included among the 564 project level objectives described in this section.

Between 51 and 63 percent of the objectives could not be evaluated each year either because projects submitted no results for them or provided information in a form that did not allow us to determine whether the specific goal set by the project had been attained (for example, a district might report schools' average test scores to track an objective that called for increases in the percentage of students who scored at proficiency level on the state test). Outcome data for the first grant year (1998–1999) were unavailable for some magnet schools because they did not go into operation until 1999–2000. In the final grant year, a few schools had ceased to be MSAP-funded magnets, and some projects were unable to obtain 2000–2001 assessment results from their state testing agencies in time to include them in their final performance reports.[4] We will discuss the issue of data availability further in Chapter VII.

School-Level Goals Included in the Analysis

More than 80 percent of the school-level goals that could be tracked involve student performance in language arts (46 percent) or mathematics (36 percent). By far the most common measures used for evaluating student performance are standardized tests.

In order to assess the degree to which individual schools met the goals set for them in the project-level objectives, we separated each objective for which any usable outcome data had been reported into a series of year-specific school-level goals (e.g., goals pertaining to spring 2000 and 2001 mathematics scores for grades 3, 4, and 5 for School A and for School B). This process yielded a total of 2,894 school-level goals that are included in our analysis.[5]

Subject Domain

As shown in Exhibit V-4, more than 80 percent of the school-level goals that could be tracked involve student performance in language arts (46 percent) or mathematics (36 percent). As stated earlier, these are the subjects that are most frequently measured by state assessment programs and thus, subjects for which data are most easily available to projects. The remaining 20 percent of the school-level goals are distributed in small numbers among many other areas of endeavor. "Non-subject-specific" objectives involve a variety of behavioral outcomes associated with student achievement such as end-of-year promotions or retentions, high school graduation, taking college aptitude tests, and participating in community-based experiences. "Other" goals are based on a variety of measures including composite scores on multiple subject assessments (e.g., high school competency examinations), enrollment in honors courses, and teachers' ratings of students' work habits.

[4] About three quarters of schools with little or no usable outcome data were in districts in which little or no usable data were reported for any of the MSAP schools, or any of the schools at a particular grade level. The remaining one-quarter included new schools that opened during the grant period or were discontinued as magnets during the study. Overall, about one-third of MSAP-funded elementary and middle schools, and half of the high schools had missing or unusable data for two or three of the three years included in our analyses.

[5] An additional 184 goals for which projects reported only district-level data are not included in the analyses.

Exhibit V-4.
Description of the school-level goals by subject domain

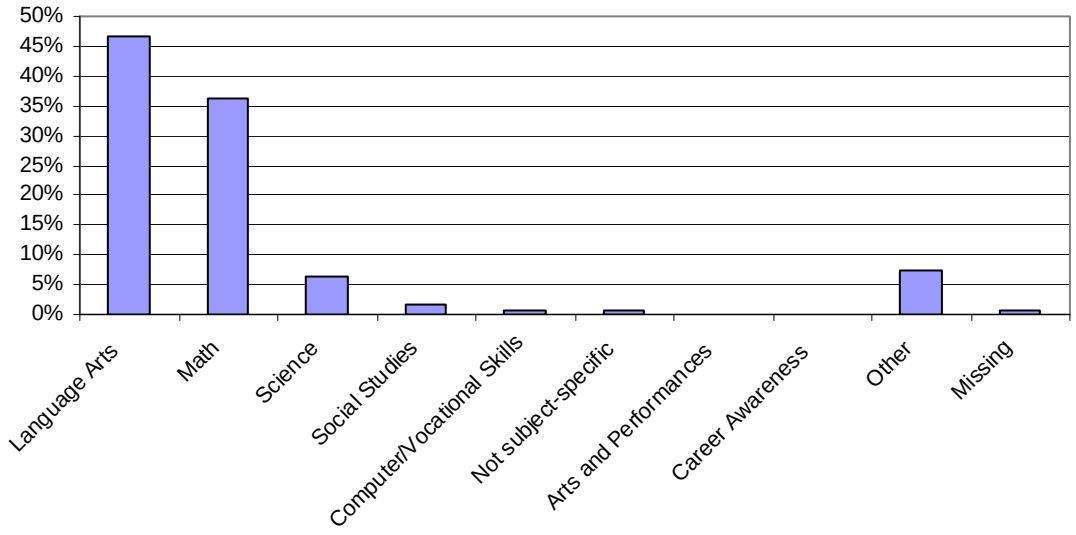


Exhibit reads: Forty-six percent of school-level goals involve student performance in language arts, while 36 percent of the goals involve student performance in mathematics.
N = 2,894 school-level goals
Source: MSAP grant applications and annual performance reports

Type of Measure

As may be seen in Exhibit V-5, by far the most common measures used for evaluating student performance are standardized tests, which account for approximately 88 percent of the school-level goals. (These account for 93 percent of the goals for mathematics achievement and 92 percent of the goals for language arts, and these two subject areas account for 87 percent of goals based on standardized tests.) Other measures are less common and are distributed across a variety of categories such as alternative (non-standardized) assessments, enrollments and grades in particular courses, completion of requirements for college admission, and educational attainments such as promotion or graduation. (Most of the objectives whose measurement type is categorized as "other" undertook to relate student achievement outcomes and measures of program implementation and curriculum alignment with state standards.)

Exhibit V-5.
Types of measures used for school-level goals

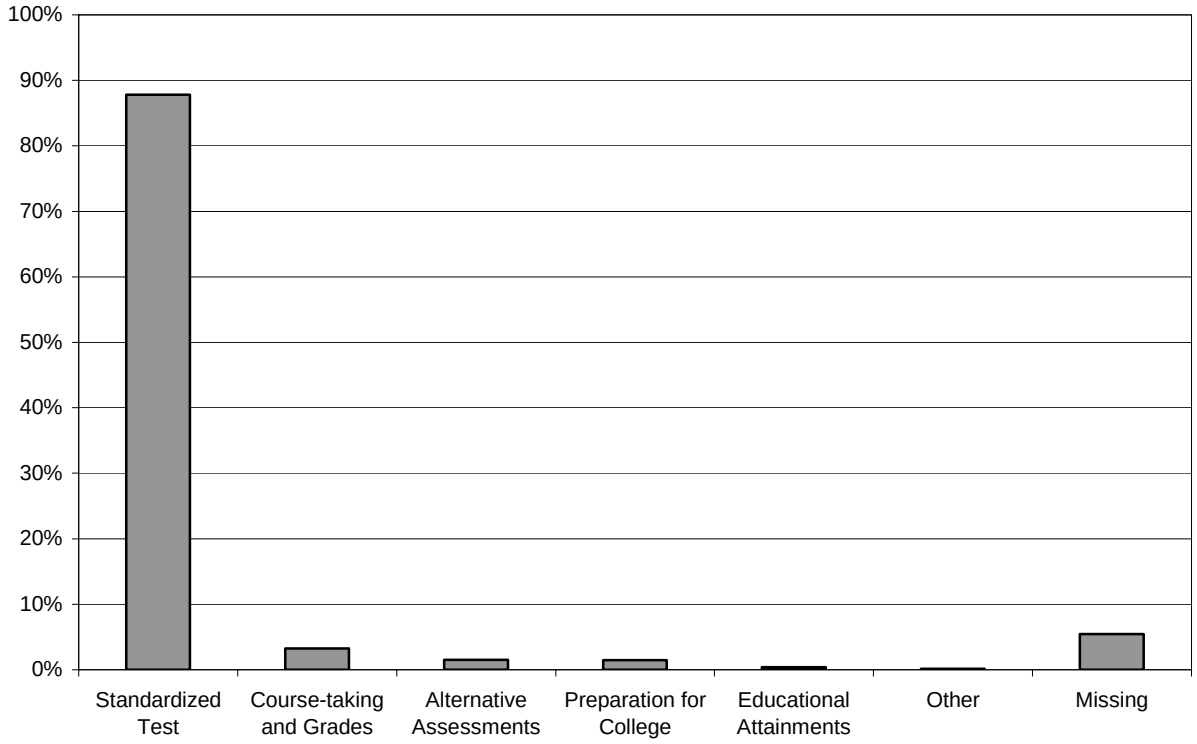
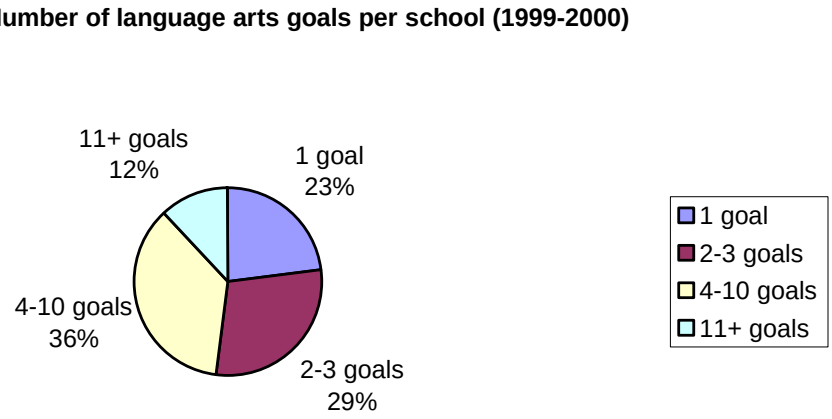


Exhibit reads: Standardized tests are the measures used for approximately 88 percent of the school level goals for which data are available. Other types of measures are much less common.
N = 2,894 school-level goals
Source: MSAP grant applications and annual performance reports

Exhibit V-6 shows that the numbers of goals pursued by the MSAP-supported schools varied considerably. (The exhibit summarizes the numbers of goals per school reported in 1999–2000; Appendix Exhibits A-V-5 and A-V-6 provide detailed information for all three years). A majority of schools have multiple goals for both subjects, usually because multiple grades within the school are tested. (In addition, some schools specify goals for both minority and nonminority students separately rather than just for "all students.") Schools tend to have more goals in language arts than in mathematics because many states assess students in both reading and writing. The average number of goals per school is between 3 and 4 for each project year (not shown), but a small percentage of schools had more than 10 goals per subject.

Exhibit V-6.
Number of language arts and mathematics goals per school (1999–2000)



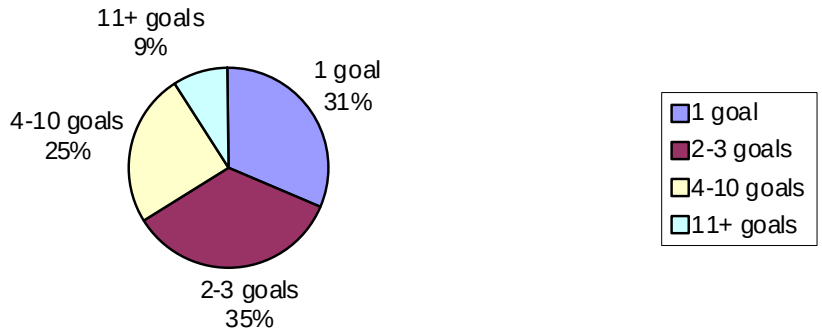


Exhibit reads: In 1999–2000, 23 percent of the MSAP magnet schools had one goal for language arts achievement, in contrast to 36 percent that had between 4 and 10 goals and 12 percent that had 11 or more goals.
N = 185 schools with language arts and 183 schools with mathematics goals in 1999–2000
Source: MSAP grant applications and annual performance reports

Attainment of School-Level Goals

Outcomes could be assessed for about half of the MSAP-supported schools in 1998-1999 and for just under two-thirds of the schools for the latter two years of the study. Overall, schools were most successful in meeting or making progress toward their initial goals, but continued improvement over longer periods of time proved more difficult. Overall, about 51 percent of all schools met half or more of their final goals for language arts and approximately 36 percent did so for mathematics. About one in five magnet schools met virtually all of their end-of-project goals for language arts and mathematics, and two in five made progress toward meeting all of their end-of-project goals for these subjects.

To what extent did MSAP-funded schools meet, or make progress toward meeting, the student achievement goals that their projects set for them? Of necessity, the analysis undertaken to answer this question is limited to the school-level goals for which projects supplied usable outcome data in documenting their annual progress. In this section, we examine the percentage of year-specific goals that schools *met* during each year of the grant, as well as the percentage of "final" (end-of-project) goals they met. In the next section we examine the extent to which schools *made progress* toward meeting these goals, even when they did not meet them outright. As explained above, the vast majority of the school-level goals for which outcome data are available relate to students' performances on standardized tests in language arts and mathematics, and these are the focus of this study. Goals of other types are too few and diverse to support detailed analyses.

Our analysis addresses two related questions concerning annual and end-of-project goals. First, what proportion of the benchmarks that were set for them at the beginning of the project did each school meet? This question is an important one, but sets a very high standard: it does not take into account the fact that schools faced different levels of challenge in meeting their goals. Schools differed both in the number of goals they had to meet and in the amount of improvement required to meet them. Thus, one school might make laudable progress and yet not meet its benchmarks, while another school made minimal progress but met a higher proportion of goals that were less demanding or fewer in number. To take into account this variation in challenge, we explored a second question: even if the schools did not meet their benchmarks, what proportion of their goals did they make progress toward meeting? Not only is this question sensitive to any improvement in performance, but it can take into account some results that were reported in a format that did not match the format specified by the objective. (For example, if the objective called for improvements in the percentage of students passing a test, but the project only reported average student scores, we could not determine whether the objective was met, but we could determine whether progress had been made.)

Meeting Annual Goals

We examined the percentage of year-specific goals in language arts and mathematics that schools met in each year and also whether they met their final goals by the end of the third year. A *year-specific goal* sets a benchmark to be measured in a particular grant year. The nature of the change specified by these goals are of several types. Most common are goals that require schools to meet increasingly demanding performance benchmarks in successive years. For instance, a school may be required to show annual increases in performance relative to its

baseline year scores ("The average mathematics score for third grade will increase by 2 percentile point in the first year of the grant, 3 additional points in the second year of the grant, and an additional 4 points in the final year of the grant."); to meet an escalating standard that is not tied specifically to a baseline year ("The proportion of students scoring at proficient or above in reading will be at least 75 percent in the first year, 80 percent in the second year, and 85 percent in the third year."); or to narrow the performance gap between its students and the district average ("The school's average score will be no more than 5 percentile points below the district average in the first year, will equal the district average in the second, and exceed it in the third."). In all of these cases, first year goals are less demanding than second and third year goals. A second type of goal requires the magnet school's annual performance or gains over time to compare favorably with those of a comparison group ("Each year, magnet students' gains will equal or exceed those of the district as a whole."). The challenge set by such goals depends on the school's initial level of performance relative to the reference group and the reference group's subsequent increases or decreases in performance. Finally, some goals set an unchanging standard of performance to be met each year ("Each spring, at least 85 percent of students will score at mastery level on the district's computer skills test."). In evaluating the attainment of year-specific goals, we classified a goal as having been met if the school's performance in that year equaled or exceeded the amount set in the objective. (In the case of objectives calling for cumulative growth relative to a baseline level, to continue the first example, a school that increased by 1 percentile point in the first year and an additional 3 percentile points in the second would be counted as having met the second year goal but not the first year goal.)

Final goals set a level of performance that the school is expected to reach by the end of the grant. Some call explicitly for cumulative growth (a school meeting the objective described above would have to show 10 percentile points of improvement between 1998 and 2001), while others simply set a level to be met (for example, "by the end of the final project year, 85 percent of students will demonstrate awareness of science careers").

Although MSAP-supported programs operated in a total of 292 schools over the course of the 1998–2001 grant period, the number of schools for which analyzable outcome data were available each year was considerably smaller. Outcomes could be assessed for about half of the schools in 1998–1999 and for just under two-thirds of the schools for the latter two years of the study (detailed information for all three years is included in Appendix Exhibits A-V-5 and A-V-6**)**. In view of the number of schools for which outcome data were unavailable, the results presented below must be interpreted with caution.

Exhibits V-7 and V-8 display the percentages of schools at each grade level and overall[6] that met half or more of their school-level goals for language arts and mathematics, respectively (see Exhibits A-V-7 through A-V-14 for more details). The figures show that overall, schools were most successful in meeting their initial goals, but meeting benchmarks over longer periods of time proved more difficult. About 57 percent of the schools met half or more of their 1998–1999 English language arts goals, whereas only 42 percent met half or more of their 2000–2001 goals. The corresponding percentages for mathematics goals were 57 percent for 1998–1999 and 33 percent for 2000–2001. This decline in goal attainment is most pronounced for high schools and least pronounced for elementary schools. As will be seen in the second part of this chapter,

[6] The analysis for "all schools" includes the elementary, middle, and high schools displayed in the charts as well as a few additional schools whose wide grade spans did not allow us to assign them to a single grade level.

the downward trend in the proportion of goals met does not reflect an actual decline in the schools' performance over time. It does indicate that schools had more difficulty in meeting continuous improvement goals later in the grant. In some cases, schools failed to sustain initial gains in later years, while in others they were unable to meet goals that called for levels of student performance to increase each year.

Exhibit V-7.
Percentage of schools that met half or more of their English language arts goals

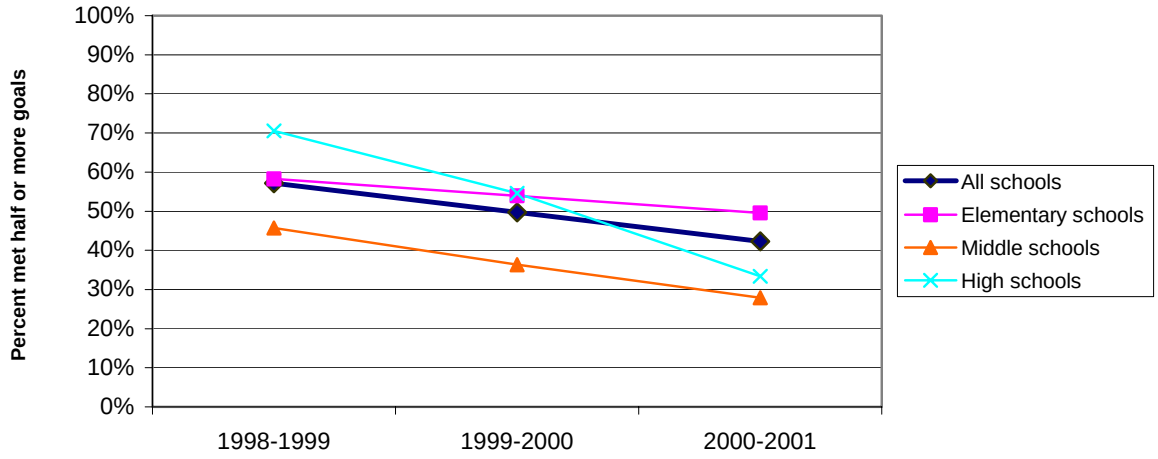


Exhibit reads: The percentage of all schools that met half or more of their English language arts goals declined from about 57 percent in 1998–1999 to 42 percent in 2000–2001.
N = 147 (1998–1999), 185 (1999–2000), and 182 (2000–2001) schools with English language arts outcome data
Source: MSAP annual performance reports

Exhibit V-8.
Percentage of schools that met half or more of their mathematics goals

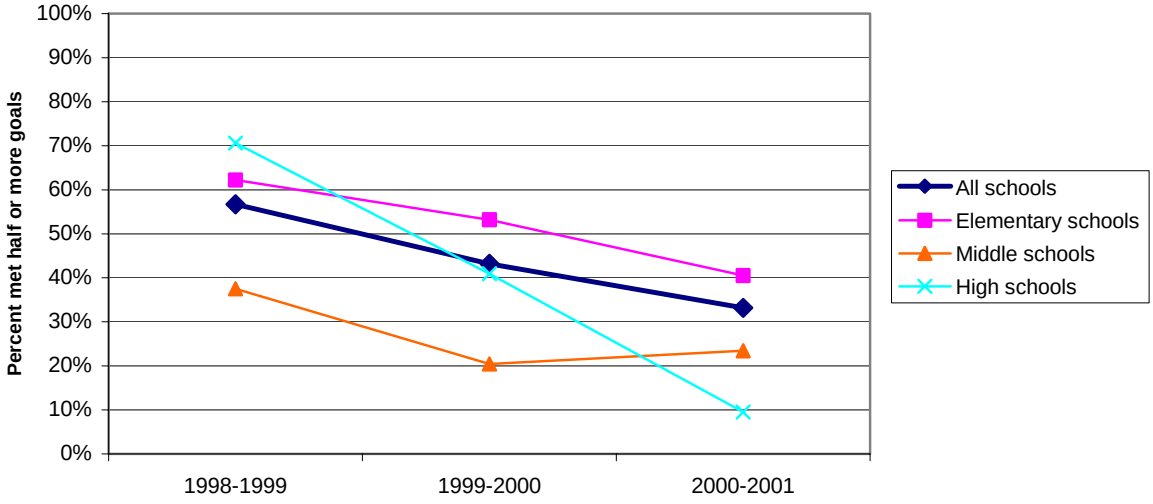


Exhibit reads: The percentage of all schools that met half or more of their mathematics goals declined from about 57 percent in 1998–1999 to about 33 percent in 2000–2001.
N = 134 (1998–1999), 183 (1999–2000), and 190 (2000–2001) schools with mathematics outcome data
Source: MSAP annual performance reports

Meeting End-of-Project Goals

Thus far, we have seen that percentages of schools meeting goals set for them by the MSAP projects dropped over the three-year grant period. We also examined the extent to which magnet schools had reached their end-of-project goals. Summary results are presented in the following two figures, and detailed information is provided in Appendix Exhibits A-V-7 through A-V-14. Exhibit V-9 shows that a slight majority (51 percent) of all schools met half of their language art achievement goals, while about one-third (36 percent) of schools met half their mathematics achievement objectives. At all three grade levels, schools tended to meet a greater proportion of their language arts goals than their mathematics goals. This result may reflect a greater or longer-term emphasis on improving literacy instruction during the grant period or a greater challenge involved in bolstering the effectiveness of mathematics instruction.[7] Overall, about one in five schools met virtually all of their end of project goals for language arts and mathematics (see Appendix Exhibits A-V-7 and A-V-8).

Exhibit V-9.
Percentages of schools that met half or more of their final goals

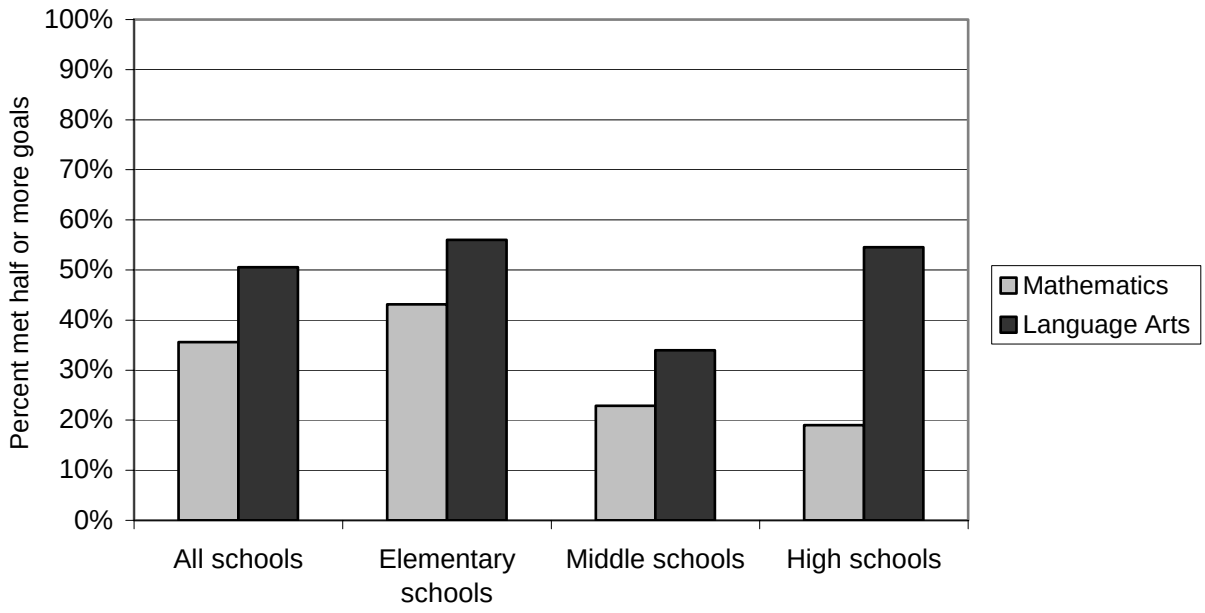


Exhibit reads: Overall, about 51 percent of all schools met half or more of their final goals for language arts and approximately 36 percent did so for mathematics.
N = 184 schools with English language arts outcome data and 191 schools with mathematics outcome data in 2000–2001
Source: MSAP annual performance reports

[7] We explored the possibility that schools with fewer goals in a subject were more successful in meeting half or more of them than schools with more goals. We found that schools with the largest and smallest number of goals (more than ten or only one) were least successful in meeting half or more of them, but for schools in the middle range (two to ten goals) there was no consistent relationship between numbers of goals and success in meeting them. It should be noted that the number of goals pursued by a school was largely a function of the number of grades assessed by the state rather than of multiple goals being set for a particular set of students. Thus, the inconsistent relationship between number of goals and proportion met is not particularly surprising.

Making Progress toward Meeting Annual Goals

Exhibits V-10 and V-11 display the percentages of schools that made progress toward meeting half or more of their school-level goals (see Appendix Exhibits A-V-15 through A-V-22 for more details). The decline in the percentage of schools making progress each year is less precipitous than that of schools meeting their goals outright. Thus, some schools had difficulty in meeting the specific targets set for them even though their overall test scores may have been increasing. In some cases, schools failed to sustain initial gains in later years while in others they were unable to meet goals that called for levels of student performance to increase each year.

Exhibit V-10.
Percentage of schools that made progress toward half or more of their English language arts goals

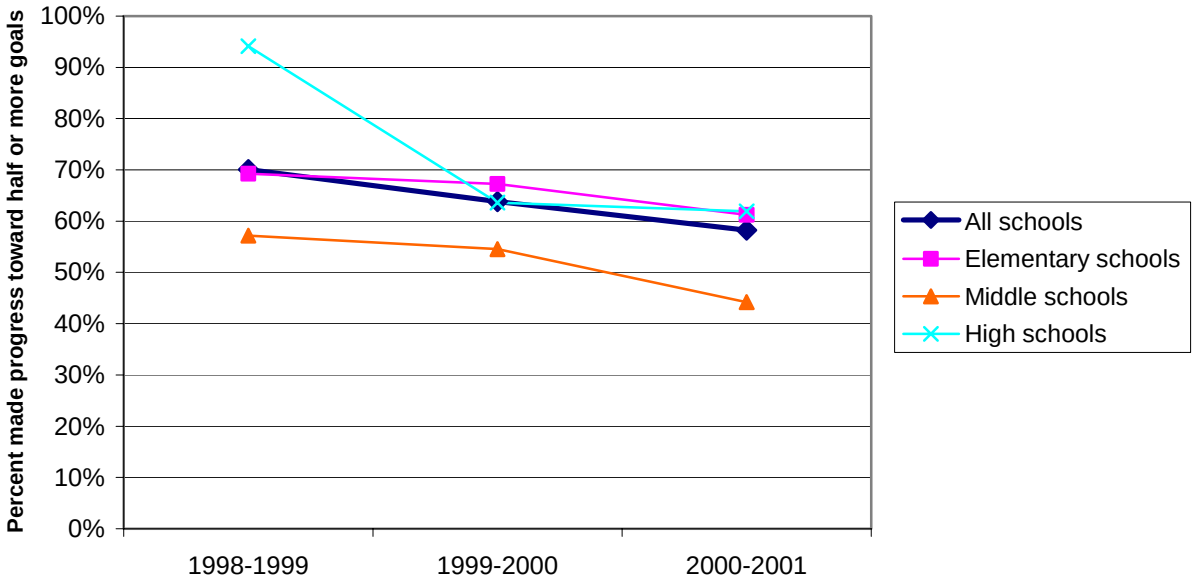


Exhibit reads: The percentage of schools that made progress toward half or more of their English language arts goals declined from about 70 percent in 1998–1999 to about 58 percent in 2000–2001.
N = 147 (1998–1999), 185 (1999–2000), and 182 (2000–2001) schools with English language arts outcome data
Source: MSAP annual performance reports

Exhibit V-11.
Percentage of schools that made progress toward half or more of their mathematics goals

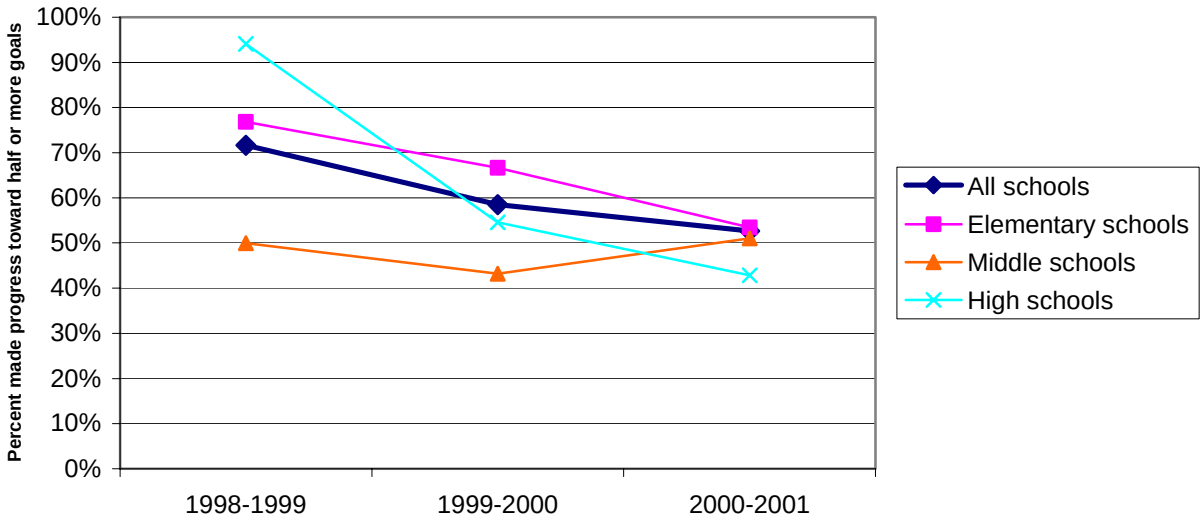


Exhibit reads: The percentage of schools that made progress toward half or more of their mathematics goals decreased from about 72 percent in 1998–1999 to 53 percent in 2000–2001.
N = 134 (1998–1999), 183 (1999–2000), and 190 (2000–2001) schools with mathematics outcome data
Source: MSAP annual performance reports

Making Progress toward End-of-Project Goals

Exhibit V-12 presents the percentages of schools that made progress toward their end-of-project goals. Approximately 67 percent and 59 percent of the magnet schools made progress toward half or more of their final goals for language arts and mathematics, respectively. (See also Appendix Exhibits A-V-15 through A-V-22.) At all grade levels, more schools made progress toward goals for language arts than for mathematics. About two in five magnet schools made progress toward meeting *all* of their end-of-project goals for language arts and mathematics (see Appendix Exhibits A-V-15 and A-V-16).

Exhibit V-12.
Percentage of schools that made progress toward half or more of their final goals

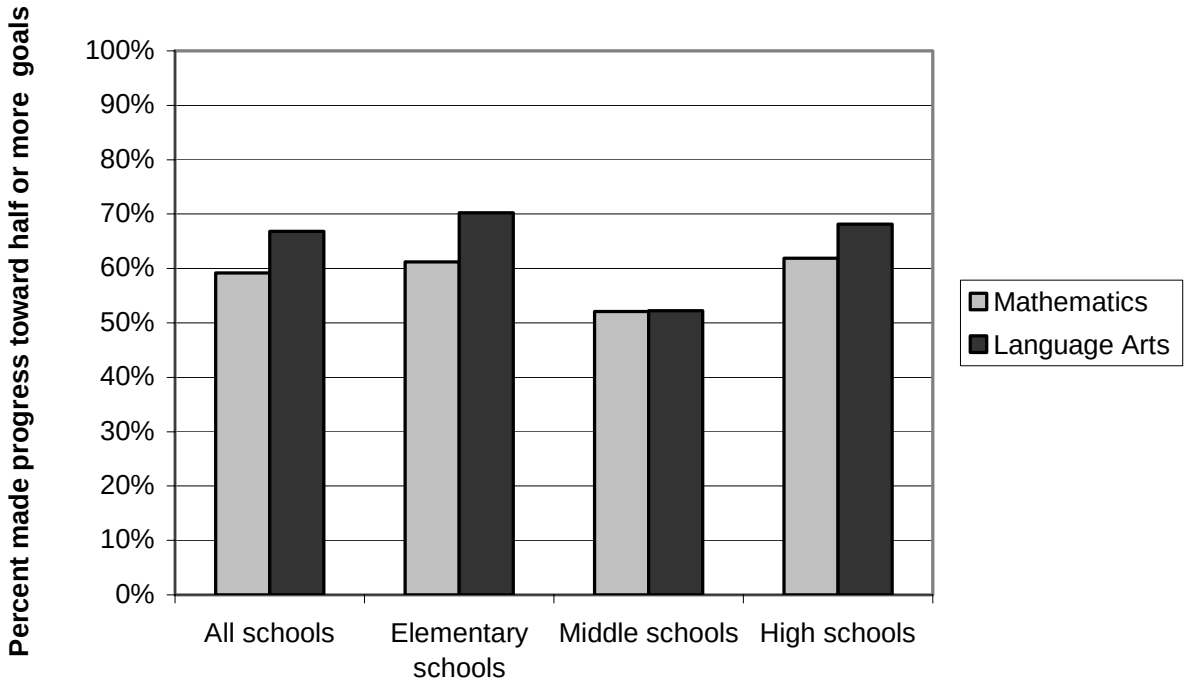


Exhibit reads: Overall, about 67 percent of schools made progress toward half or more of their final goals for language arts and approximately 59 percent did so for mathematics.
N = 184 schools with English language arts outcome data and 191 schools with mathematics outcome data in 2000–2001
Source: MSAP annual performance reports

Discussion of Achievement Objective Results

In response to the federal mandate to strengthen students' knowledge and skills, MSAP projects pursued many and varied student achievement objectives over the three-year grant period. Although these objectives involved accomplishments in several academic subjects and performance domains such as computer literacy and performing arts, the largest proportion of these objectives focused on achievement in English language arts and mathematics. For individual MSAP-supported schools, these objectives translated into a profusion of specific goals. The vast majority of those goals for which outcome data are available involve students' performances on standardized tests in language arts and mathematics. It is noteworthy that the projects were unable to report three years of outcome data pertaining to a considerable fraction of the goals they set at the beginning of their grants, often due to problems in developing local measures and to discontinuities in the assessment programs operating in their states. Overall, only about one-third of the objectives adopted by the 57 MSAP projects were represented by analyzable outcome data in annual performance reports, and the annual goal attainment analyses reported here are based on test results from about one-third of the 292 MSAP schools that operated between 1998 and 2001.

In general, it appears that MSAP projects set ambitious performance benchmarks for their magnet schools. Overall, about half of the MSAP schools met a substantial proportion (half or more) of their annual English language arts and mathematics goals outright, and about two-thirds of them made progress toward doing so. Schools were most successful in meeting their 1998–1999 goals, somewhat less so in meeting the goals set for the later years. This pattern was evident in the results for schools at all three grade levels. Overall, elementary schools were somewhat more successful in meeting their goals, and the decrease in the proportion of schools meeting or progressing toward their goals in the later years was somewhat smaller for them. Although these results are not dramatically positive, it is important to keep in mind that MSAP-supported programs are usually located in schools with a substantial need for improvement that may not be easy to accomplish over the short term, and the goals set for schools varied in the magnitude of change they required. Goals for later years frequently required sustained growth over three years, and some required magnet schools to show higher scores or greater growth than other schools in their districts.

A number of factors may account for the grade level differences observed in these results. The smaller size and simpler organization of elementary schools and the greater uniformity of content covered in the elementary grades may make it easier for them than for the departmentalized middle and high schools to design and implement coherent educational interventions that yield discernable school-level performance gains within the timeframe of the MSAP grants. Given the focus of most state accountability systems and instructional improvement initiatives on the performance of elementary students, it is also possible that the non-MSAP resources to help schools improve student achievement are more substantial for elementary than secondary schools. It is also possible that districts have greater experience with setting realistic growth targets for elementary than secondary schools.

It is important to keep in mind that the downward trend observable in these results does not indicate that students' average scores were declining over this period, but rather that they were not meeting goals that were set for them in applications for MSAP grants. The context in which these goals were set—applying for a magnet school grant—may well have encouraged optimistic estimates of schools' potential for improved performance. Without considerable knowledge of the conditions existing in each school, it would be difficult to assess how realistic these goals were. In view of the fact that some projects revised or abandoned some of their objectives over the course of the grant, it seems likely that grant writers were overly optimistic about the districts' ability to collect achievement data and schools' ability to meet the goals set for them.

Because most of these goals focused on changes in MSAP-supported schools' performance without reference to the performance of comparison schools facing similar challenges, these results do not tell us how the magnet schools' performance compared to that of similar schools that did not have MSAP grants. The study described in the next section addressed this question with data provided by state testing agencies. These data allowed us to examine the performance of MSAP elementary schools relative to that of matched comparison schools in the same states.

Study of Achievement Trends in MSAP and Comparison Schools

AIR used school-level state assessment scores to examine gains in reading and mathematics performance of MSAP-supported magnet schools and a sample of matched comparison schools without MSAP funding. Both the MSAP-supported magnet schools and the comparison schools made noticeable progress in reading and mathematics during the grant period. However, when changes in the demographic composition of the schools were controlled, the gains exhibited by MSAP schools were not significantly different from those exhibited by non-MSAP schools with similar characteristics.

The preceding analysis provides information about the MSAP projects' success in meeting objectives they set for themselves, but has a number of limitations. First, the projects set different standards for themselves (different numbers of objectives with varying degrees of challenge), making it difficult to generalize about the overall improvement in student achievement accomplished by the MSAP-supported schools as a group. In addition, most achievement objectives set by districts were made without reference to the performance of comparable students who had not been involved in MSAP magnet programs. Because it is common for all schools' test scores to rise over time (as instruction becomes oriented to the state assessments and students become more familiar with what is expected of them), comparative data from similar schools that did not receive MSAP support are needed to gauge the degree to which MSAP students made progress over and above the general trend in their states. Finally, districts were unable to provide much of the outcome data needed to determine whether they had met their objectives. Consequently, we could calculate rates of meeting or making progress toward meeting objectives for only a fraction of the MSAP-supported schools.

This section presents the results of a study that avoided some of these problems by using a common standard and comparison groups to gauge the accomplishments of the MSAP-supported schools. The study used average school scores on state assessments in reading and mathematics administered between 1997–1998 and 2000–2001. These data were obtained from the National School-Level State Assessment Score Database, which contains test scores and student demographic data for virtually all of the schools in the United States. Therefore, we were able to identify non-MSAP-supported schools in each state to serve as comparisons for the MSAP magnet schools. Furthermore, we were able to convert multiple years of data from different tests (or in different metrics) to a common scale for purposes of analysis. A major limitation of these data for the period of the study is that they are overall school averages that cannot be disaggregated by student characteristics such as minority and poverty status, and thus do not allow us to determine the degree to which different student groups are showing similar trends. Nonetheless, they represent a substantial advance over the self-reported data analyzed in the first part of this chapter.[8]

[8] The original plan of this study called for an analysis of longitudinal achievement data of individual students in MSAP-supported and comparison schools in selected districts. Changes in policy regarding the use of student-level data in federally sponsored research required us to abandon this plan in favor of an analysis of school-level data for a larger number of districts.

The analyses reported in this section are based on outcomes from 135 MSAP-supported elementary magnet schools from 14 states.[9] We focused on elementary schools both because there are more MSAP-supported schools at this level than at higher grades and because more state assessment data are available for these schools than for middle and high schools. Two major questions are addressed. First, did achievement trends for MSAP schools from the spring of 1998 (prior to the MSAP award) through spring 2001 differ by a statistically significant amount from the trends for matched non-MSAP schools? We used hierarchical linear modeling (HLM) regression techniques to compare the changes in achievement of MSAP and comparison schools, while controlling for other factors that might account for differences in their performance. Second, among the MSAP magnet schools, were particular aspects of the schools or their projects associated with greater student achievement growth? To explore this question, we conducted correlational analyses using achievement trend measures and indices of school and magnet project characteristics derived from responses to AIR's Principal and MSAP Project Director surveys.

Did achievement trends for the MSAP schools differ by a statistically significant amount from the trends for matched non-MSAP schools?

To address this question, we used hierarchical linear modeling to compare trends in reading and mathematics achievement of MSAP-supported and comparison schools, while controlling for additional factors that might account for differences in their students' achievement. For each MSAP-supported school, we selected 10 additional schools in the same state that were most like the MSAP school in 1997–1998 (the year before the MSAP grants were awarded) in terms of:

- Urbanicity of the community served.
- Number of students in the school.
- Percentages of Asian-Pacific Islander, Black, Hispanic, and Native American students.
- Percentage of students in poverty (i.e., eligible for free or reduced-price lunches).
- Average test scores in reading and mathematics in the baseline year (spring 1998).[10]

Thus, schools were matched on their demographic and achievement characteristics.[11] MSAP schools that had relatively low performance on statewide tests were matched with comparison schools with similarly low performance.

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[9] The study includes MSAP elementary schools that had usable score data in both 1997–1998 (or 1998–1999) and 2000–2001 for at least one grade and were located in states that had such data for at least two MSAP-supported schools. Fifty elementary schools were excluded. See Appendix Exhibit A-V-23 for an explanation of the exclusions.

[10] Matches for each MSAP school were made using the Mahalanobis's distance measure to identify its 10 statistically "closest" neighbors within the state. The statistic takes account of two schools' similarity on all of the selection characteristics simultaneously. Descriptive data comparing characteristics of MSAP to matched non-MSAP elementary schools are provided in Appendix V. See Exhibit A-V-24.

[11] Demographic and achievement characteristics were matched for the year prior to grant awards, except in the case of free or reduced price lunches where the best available data for matching were from 1999-2000.

The outcome measures for each school were the trend (amount of change) in their reading and mathematics scores between their baseline year and the last year of the MSAP grant (2000–2001). Because testing conditions and outcome measures differ among states (and sometimes within states in different years), it was necessary to standardize all the school-level scores before calculating the school trends (see Appendix V for a discussion of the standardization method).

We conducted a multilevel regression analysis that modeled the schools' achievement trend as a function of the change in minority composition between the baseline year and 2000–2001, the percentage of students in poverty, and the school's MSAP status. By restricting the analysis to the 135 MSAP magnet schools and their matched comparison schools, we also controlled for the effects of demographic composition and performance on the state assessment at the beginning of the MSAP grant period. (For details of the regression analysis, see Appendix Exhibit A-V-25.)

Results for both reading and mathematics showed that both the MSAP magnets and their non-MSAP comparison schools made noticeable progress during the grant period (an average of 0.5 standard deviation units). Changes in enrollment composition were associated with small but statistically significant increases (an increase in nonminority students was associated with higher achievement gains). When changes in demographic composition were controlled, however, the gains exhibited by MSAP schools were not significantly different from those exhibited by non-MSAP schools with similar characteristics.

The analysis described above compared the achievement of MSAP magnet schools and the 10 most similar non-MSAP schools in the same state. Because differences between districts might themselves play a role in the academic success of students, we also conducted an analysis that compared the achievement of MSAP-funded and non-MSAP schools located in the *same* district. (Whereas each MSAP-supported school had 10 comparison schools selected from throughout its state, the number of these comparison schools that were located in the same district ranged from 0 to 10.) The results of the full analysis were reproduced in the same-district analysis: that is, the gains of the MSAP-funded schools still did not differ significantly from those of non-MSAP schools once changes in demographic composition were taken into account.[12]

These results warrant some comment. First, they argue against the common assumption that improvement in MSAP schools' test scores over time is merely a reflection of the different mix of students enrolled in them as a result of the magnet program. When changes in demographic composition are controlled for, the MSAP schools still show growth equivalent to the comparison schools. Second, it is possible that the magnet schools do not show greater growth than their counterparts because the three-year time frame of this study may have been too

[12] We also considered the possibility that the lack of difference between MSAP-supported and comparison schools was due to the inclusion of magnet schools supported with state or local funds among the randomly selected comparison schools. We found that information about magnet programs available in NCES's school census (the CCD) is too incomplete to allow identification of all magnet schools in the comparison sample. However, it appears that the proportion of such schools is quite small—not enough to account for the similarity of achievement results in the MSAP and non-MSAP schools.

short to allow instructional improvements to be fully implemented and the benefits of these efforts to be realized to their full potential.

Third, and perhaps most importantly, magnet schools may not stand out from their counterparts because both sets of schools have been working to improve their students' achievement. Systemic reform is intended to be systemic—that is, to improve all schools through standards-aligned curricula, targeted professional development for teachers and administrators, and resources to make instruction more effective and to support struggling students. While MSAP grants helped to fund such efforts in the magnet schools, district and school administrators sought funds from other sources to support similar work in non-MSAP schools. This pattern was evident in a number of our case study sites, where we found substantial similarities between the language arts and mathematics instruction in magnet and comparison schools. For instance, District G's school reform program provided a common, district-developed curriculum and professional development for all of its schools. In District A, the magnet and comparison schools had adopted the same accelerated reading program and deployed newly acquired computers and software for instructional purposes. It is likely that what occurred in the microcosm of the case study districts reflects statewide trends affecting the non-MSAP comparison schools in our statewide samples. We consider these issues in more detail, using data from our eight case studies, in Chapter VI.

Among the MSAP magnet schools, were achievement gains associated with particular characteristics of the school or the MSAP project?

The measure most strongly associated with achievement growth in both reading and mathematics in MSAP-supported magnet schools was the overall strength of the professional community of the school. Greater progress in reading was also associated with professional development related to standards-based reform. Greater progress in mathematics was also associated with schools in which state or district standards and frameworks reportedly had a strong influence on curriculum and instruction decisions, and with programs in schools whose magnet programs were in operation prior to the 1998 grant award.

Although overall results showed no significant differences between MSAP and comparison schools, some magnets made greater achievement gains than others. To investigate the extent to which these differences were associated with school and project characteristics, we used regression methods to create a "residual achievement measure" that indicated the degree to which each school's actual achievement trend from 1998 to 2001 diverged from the trend that would be predicted based on its demographic composition and prior performance on state tests. Correlation methods were then used to gauge the relationships between this performance indicator and the school and project characteristics measures derived from responses to AIR surveys (see Chapter III).

As shown in Exhibit V-13, for both reading and mathematics, the measure most strongly associated with achievement growth in the MSAP magnet schools was the overall strength of the professional community in the school. This measure combines principals' responses to 15 items concerning the extent to which the school staff share a common vision for the school, support

and respect each other, coordinate instruction and enforce school rules, continue to learn and seek new ideas, and care for students.

Two other factors correlated ($p<.05$) with growth in one of the subject areas. Greater progress in reading was associated with more professional development related to standards-based reform (that is, training about state or district standards, assessment of student performance, and addressing the needs of students from diverse cultural backgrounds, students with limited English proficiency, and students with disabilities). Greater progress in mathematics was associated with principals reporting that mathematics frameworks and assessments had a strong influence on curriculum and instruction decisions in the school. Progress in mathematics was less strongly associated ($p<.10$) with two additional measures: (1) the degree to which state curriculum frameworks and assessments were seen to align with the goals of the school's program, and (2) the salience of factors associated with student disengagement with school (e.g., tardiness, absenteeism, lack of preparation to learn, apathy, poor health, lack of parent involvement).

Finally, another factor correlated with achievement growth in mathematics ($p<.05$) was the length of time that the magnet school program had existed. Of the 135 schools included in the study, 61 (45 percent) had been operating a magnet program in 1997, the year prior to the MSAP award. The other 74 schools initiated new magnet programs in 1998. Continuing a magnet program that had been established prior to 1998 was associated with higher gains in mathematics achievement between 1998 and 2001. This suggests that "mature" magnet schools may be more successful in improving achievement than newer schools.

Exhibit V-13.
Correlations between magnet school achievement growth and school or program characteristics

	Correlation with Achievement Growth	
School/Program Characteristic[13]	**Reading**	**Mathematics**
Overall strength of professional community as measured in 1999–2000	0.20**	0.17**
Overall strength of professional community as measured in 2000–2001	0.24***	0.22***
Professional development related to standards-based reform (1999–2000)	0.23**	(n.s.)
Extent to which subject area frameworks and assessments guide curriculum and instruction decisions	(n.s.)	0.21**
Extent to which state assessment and standards relate to magnet program goals	(n.s.)	0.17*
Extent of student disengagement (1999–2000)	(n.s.)	-0.16*
Extent of student disengagement (2000–2001)	(n.s.)	-0.16*
Magnet program new in 1998–1999	(n.s.)	-0.17**

* = p:<.10
**= p <.05
***=p <.01

Exhibit reads: The correlation between the overall strength of a school's professional community as measured in 1999–2000 and the school's gains in reading achievement is 0.20, indicating that schools with stronger professional community tend to have higher achievement growth.
N = 135 MSAP elementary schools
Source: National School-Level State Assessment Score Database

We explored a variety of other factors that were potentially related to the magnet schools' academic performance, but none of them correlated significantly with the degree of achievement growth. Specifically, we constructed several measures of project features based on project director responses to the 1999–2000 and 2000–2001 Project Surveys. These scales indicated the extent to which state frameworks, assessments, and performance standards were judged to have influenced MSAP themes and goals, the degree to which the MSAP project's district officers provided technical assistance to the schools on curriculum and instruction, and the degree to which they provided technical assistance on leadership. None of these scales correlated at a statistically significant level with the degree of student achievement growth among MSAP-supported schools. Furthermore, the following school-related scales also did not show statistically significant correlations:

- Extent of student misbehavior (e.g., disrespect or abuse of teachers, physical conflict among students, vandalism).
- The number of academic activities (e.g., books read) the magnet program required of students.

[13] See Chapter III and Appendix III for a discussion of the school characteristic scales and the survey items on which they are based.

- Structures for involving parents in school activities (e.g., regular parent conferences, parent education workshops).
- Structures for involving parents in school governance.
- Principal's familiarity with frameworks and assessments in mathematics and language arts.

Summary

The results presented in the first part of this chapter showed a decline in the proportion of MSAP-supported schools meeting student achievement goals between 1998 and 2001. In contrast, the results of the second study show that overall the students in MSAP-supported elementary schools accomplished gains in reading and mathematics that were commensurate with those of their counterparts in non-MSAP schools. Information from surveys, interviews and site visits indicate that schools varied substantially in the speed with which they implemented their programs, the strength of the professional community that operated in the schools, the challenges presented by the student population, and the alignment of school programs with state standards and assessments. The analysis of factors associated with gains in student achievement suggests that magnet schools in which faculty members participated in a strong professional community were more likely than others to show gains in student achievement in both subjects. Gains in mathematics were associated with schools reporting alignment of the instructional program with state standards and assessments, while gains in reading were associated with standards-based professional development—that is, student achievement on state tests was associated with program features that supported teachers in aligning their instruction with state standards.[14] The results also provide some evidence that the three-year grant period did not provide new magnet schools sufficient time to get their programs in place *and* show measurable gains in student achievement that those programs were expected to produce.

In sum, the results for student achievement are mixed. On the one hand, the overall achievement of students attending MSAP-supported magnet schools (as measured by standardized test scores in elementary schools) increased between 1998 and 2001, and many schools at all grade levels met or made progress toward meeting a complex array of achievement goals that had been set for them. On the other hand, the gains of the MSAP schools were not significantly different from those of similar non-MSAP schools. In addition, schools were less able to meet the (usually more demanding) goals set for them in later years than initially. Finally, there was some evidence that variations in program features and implementation conditions were related to achievement gains. Chapter VI will address in more detail the program implementation issues and other factors that affected projects' success in meeting the legislative purposes of the MSAP.

[14] Differences in the types of standards alignment associated with reading and mathematics may relate to differences in content area differences. For instance, state standards may specify the sequence in which students encounter mathematical topics, making alignment of curricula with standards a more salient issue in mathematics than in reading.

VI. Putting the Results in Context

In Chapters III, IV, and V, we examined the success of MSAP projects and schools in meeting the four main goals set by the program: supporting systemic reform; promoting innovative educational practices; reducing, preventing, or eliminating minority student isolation; and improving student achievement. We reported results based primarily on quantitative demographic, survey, and achievement data for the full population of MSAP districts and schools. Based on these data, we reported that MSAP projects made progress toward meeting the program objectives in some areas, but less progress in others.[1]

In brief:

- With respect to the support of *systemic reform*, we found that MSAP projects generally sought to align their programs with state systemic reform efforts but, at times, experienced some conflict between the instructional goals of the magnet programs and state or district standards and assessments.
- With respect to the adoption of *innovative practices*, we found that MSAP schools adopted a wide range of innovative themes and programs. According to our survey data, MSAP schools have somewhat more positive school climates and other attributes generally associated with effective schools than non-MSAP comparison schools.
- With respect to *desegregation outcomes*, we found that after adjusting for districtwide changes in minority enrollment, magnet programs for 57 percent of MSAP's desegregation-targeted schools made progress in preventing, eliminating, or reducing minority group isolation, while 43 percent did not make progress. Although just 5 percent of the targeted schools succeeded in preventing or eliminating MGI, 52 percent reduced MGI by lowering the percent minority enrollment at the school relative to the percent minority enrollment in their districts. The extent of reductions varied, with 17 percent of schools reducing MGI by more than five percentage points, 28 percent reducing MGI by one to five percentage points, and 7 percent reducing MGI by less than a percentage point. A more detailed analysis at the elementary level identified some features of schools and their programs associated with reductions in MGI, including a racially and ethnically mixed group of minority students, parents' involvement in school activities, and lower student-to-teacher ratios (i.e., smaller class sizes).
- With respect to *student achievement*, the results are mixed. Overall, relatively few MSAP schools met all of the achievement goals that had been set for them; however, many met a substantial proportion of them, and more made progress toward meeting them. We found that on average, MSAP elementary schools had about the same achievement trends over the period from spring 1998 through spring 2001 as a set of matched comparison schools, but the MSAP schools with more positive organizational and instructional features tended to show somewhat better achievement results than did other schools. Furthermore, schools with new magnet

[1] A complete summary of the evaluation results with respect to the four MSAP goals is presented in Chapter VII.

programs (initiated in 1998 or later) tended to show smaller gains in mathematics than schools whose programs had been in operation longer.

In this chapter, we attempt to put these results in context, drawing on data from the case studies conducted in eight MSAP districts. (The case studies are presented in detail in the Case Studies Appendix.) First, we draw on the case study data to offer some tentative explanations for the relatively weak evidence of improved achievement outcomes. Our explanations focus primarily on the challenges of implementing magnet schools. Most if not all of the MSAP schools funded in 1998 selected magnet themes and adopted some innovative instructional programs, and there is some evidence that magnet schools showed improvements in climate and professional community. Nonetheless, the programs the schools adopted may not have been sufficiently well implemented to show effects on reading and mathematics achievement. In addition, the innovative themes adopted by many magnet schools were not directly focused on boosting reading and mathematics achievement. If such themes diverted the school's focus from reading and mathematics instruction, the school's likelihood of showing gains in reading and mathematics achievement test scores would be reduced. We consider these issues in the first part of the chapter.

Next, we offer some tentative explanations for the modest progress in reducing minority student isolation. Our explanations center on the changing demographic composition of the MSAP districts, and on difficulties in disseminating information about magnet programs and providing support to parents in choosing to apply to and stay with a magnet school.

We then turn to the broader impact of the MSAP program on the districts that received MSAP grants in 1998. We begin this discussion by describing the status of the MSAP schools in the first year after the end of the MSAP grant period. We conclude by considering some possible benefits districts derived from the MSAP grants, apart from those captured in the four main program goals.

Implementation and Achievement Outcomes

One explanation for the modest improvement in achievement in MSAP schools may be that magnet programs in many schools were not fully implemented or not implemented early enough for achievement effects to be manifest during the grant period. Several factors may have influenced the progress schools made in implementing MSAP programs: turnover in district and school leadership, tension between MSAP projects and other reform efforts, the absence of sufficient time to implement new programs, and the need to revise themes to attract students; and teacher resistance to changes being implemented.

The in-depth case study data, as well as comments made by the MSAP project directors in telephone interviews, suggest that one explanation for the modest improvement in achievement in MSAP schools may be that magnet programs in many schools were not fully implemented during the grant period. Regardless of an innovative program's potential for

fostering students' achievement, program effects will not be manifest if the program itself has not been sufficiently implemented.[2]

One challenge we confront in discussing the implementation of magnet programs is that MSAP schools varied widely in the programs they attempted to implement. A uniform measure of implementation is thus difficult to apply across schools. In Chapter III, we described various organizational and instructional features that the literature indicates are associated with achievement—for example, professional community among teachers, positive school climate, parent involvement, and the use of specific approaches to instruction and assessment. We hypothesized that well-implemented magnet programs would have these features, which would, in turn, promote student achievement. Our survey data indicated considerable variation across schools in the extent to which these features were present in MSAP schools, which in turn suggests wide variation in implementation.

The more nuanced information in our case study data provides further evidence that the quality and depth of implementation varied widely across schools. For instance, a program with deep implementation may be found in District G's Character First High School. The program is infused throughout the curriculum and shapes the school schedule, which features weekly schoolwide meetings, as well as a class period devoted to character-building activities such as team sports and elementary school tutoring. Similarly, in a Montessori school in District E, students spend most of the day working individually and in small groups in multiage classrooms with distinctive curriculum and materials. By contrast, shallow implementation is exemplified by a middle school in District F, where a MicroSociety program operated much like an elective rather than as a theme running throughout the school day; the school continues to strive to connect the program with other school activities. In District C, we interviewed students in a school for accelerated studies in science, mathematics, and technology who were unaware that their school had a magnet theme.

Several factors may have played an especially important role in influencing the progress schools made in implementing MSAP programs: turnover in district and school leadership; tension between MSAP projects and other reform efforts; the absence of sufficient time to implement new programs—especially programs that were locally developed or required

[2] It must be stressed that in the following discussion, incomplete program implementation and insufficient time after implementation for desired results to become manifest are offered as tentative explanations of the modest improvement in achievement reported in previous chapters, and not necessarily the only ones (e.g., some programs may have greater potential to boost academic achievement than others). While we have substantial evidence that in many schools implementation took time to unfold, with the data we have available we can only speculate that the achievement patterns we observed were related to the degree of program implementation. As reported in Chapter V, we found that several features of MSAP schools, including strength of professional community and problems with student disengagement were associated with achievement. As shown in Exhibit III-1, we view these variables as mediating the effect of implementation on achievement, not as direct measures of implementation. The finding that some of these features improved between the second and third year of implementation (see Chapter III) lends support to the notion that these features are related to implementation. Finally, as reported in Chapter V, we found that mathematics achievement improved more for schools that had been magnets prior to the MSAP award than those that were new magnets. This, too, suggests, but does not demonstrate, that the time available for implementation may have been a factor affecting achievement outcomes. It clearly would be worthwhile to develop direct measures of the implementation of magnet programs, so that the relationship between implementation and achievement could be tested more rigorously.

extensive new staff, new equipment, new materials, or new modes of instruction; the need to revise themes to attract students; and teacher resistance to changes being implemented.

Turnover in District and School Leadership

Turnover in district and school leadership often made initial MSAP plans difficult to implement once the grant was received. As described in Chapter I, we surveyed principals in the full population of MSAP schools in 1999–2000 and 2000–2001, the second and third years of program funding in the 57 MSAP projects. Data from the surveys indicate that one in six of the MSAP school principals changed during this one-year period. Our case study data illustrate some of the difficulties that turnover in key leaders may generate. In District F, for instance, the project was directed by a different person each year of the three-year grant, and the district's superintendent changed once as well. Consequences of this turnover included delays in the opening of two new magnet schools and in the implementation of magnet themes and technological infrastructure. In another district, the MSAP project director commented that one magnet school's advanced technology program had taken at least a year and a half of the three-year grant period to implement. One difficulty the school had faced was the loss of its original principal and the hiring of a new principal who "had no idea of what was going on."[3] Our case study data on the effects of turnover are consistent with the results of several other recent studies of the implementation of comprehensive school reform. For example, Berends, Bodilly, and Kirby (in press) found that turnover of the principal had a negative effect and continuity of leadership had a positive effect on implementation of the New American Schools design, a national initiative to develop replicable schoolwide reform programs.

Tension between MSAP Projects and Other Reform Efforts

Tensions between MSAP projects and other reform efforts also created challenges for some projects and schools. To some extent, our data on the role of MSAP projects in supporting systemic reform efforts, reported in Chapter III, cast some light on these tensions. But our telephone interviews with project directors and case study data indicate that tensions may have occurred even in situations in which MSAP project directors, principals, and teachers viewed their programs as aligned with state standards and assessments.

As one way of exploring the frequency of tensions at the project level, we asked MSAP project directors if they experienced tensions between what the magnet project was trying to accomplish and what the state and district were asking schools to do in terms of standards and reform. Their responses provide a crude indicator of the frequency of tension, but the results, shown in Exhibit VI-1 indicate that some projects experienced tensions with various types of reforms.

[3] It should be noted, however, that not all staff changes caused delays. Some were attempts to remediate other problems that were held responsible for implementation delays.

Exhibit VI-1.
Tensions between magnet programs and reform efforts

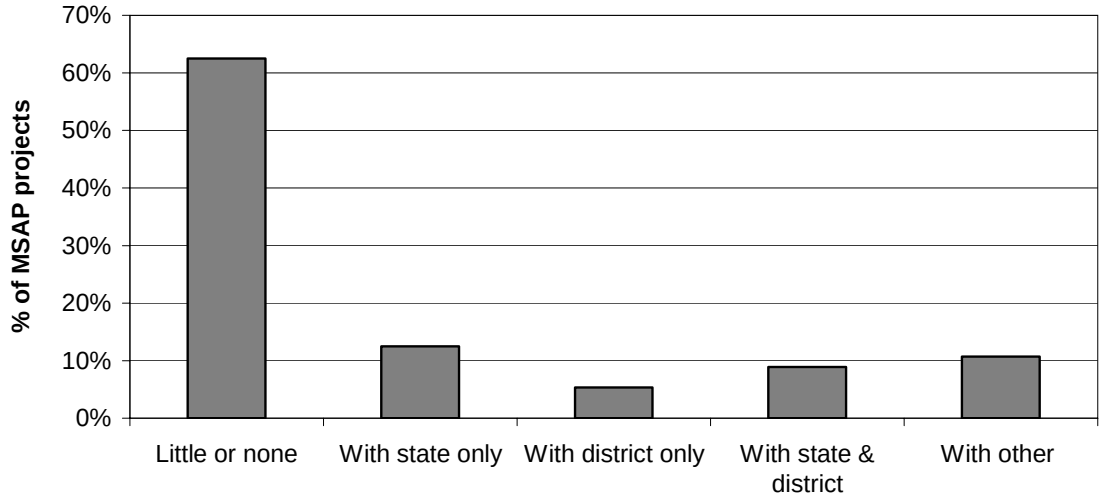

Exhibit reads: About 63 percent of project directors reported little or no tension with other reforms, while about 12 percent reported tensions with state reforms.
N = 56 projects
Source: MSAP Project Director Interview, 2000-2001, Item 6

As the graph indicates, 63 percent of the project directors (representing 35 projects) reported little or no tension. These directors often commented that as their districts had developed their applications for MSAP funding, they had aligned their programs with state and district standards. Throughout the course of the grant period, for example, the MSAP project in District F worked to align the curriculum in magnet schools with state and district frameworks in math, language arts, science and social studies, and to use the state and district content and performance standards in the magnet programs.

Of the 12 percent (7 project directors) reporting tension with state reforms, the most common source was the emphasis on state test scores. In a typical response, a project director noted, "There is an overemphasis on test preparation during the school day, instead of an emphasis on good education." Another said that "The state is emphasizing testing facts and magnet programs are more about testing facts *and* conceptual understanding." This feeling was also noted among the 11 percent (6 project directors) reporting tension from both state and district reforms. For example, in District D the state's emphasis on test scores and the implementation of districtwide reforms in literacy and mathematics curriculum impeded the project's plan to have the faculty in all of the MSAP-funded magnet schools produce comprehensive curriculum maps representing all of the content areas.

Of the 5 percent (3 project directors) citing tensions caused by district reforms, one project director said that his district administration viewed the magnet schools as "fun-to-be places" and did not see the connection between the state standards and the magnet objectives. Like several other project directors who felt that the magnet programs were not understood by the district, he addressed the problem by making School Board presentations to show the links

between the magnet program and state and district standards. The remaining 11 percent (6 project directors) reported tensions from a variety of other sources (for example, between magnet and non-magnet schools).

Our case study and project director interview data suggest that in at least some schools, the tension between the content emphasized in state standards and assessments and the content emphasized in some magnet programs may have slowed implementation or caused changes in key program elements. In addition, this tension may also have had a more direct effect on achievement, at least as reflected in the statewide assessment scores that were the main outcome measures that MSAP programs used to report achievement outcomes, as well as the measures used in our analyses of achievement trends in MSAP schools and non-magnet comparison schools (see Chapter V). To the extent that magnet programs emphasized content other than that emphasized in statewide assessments, the chance of showing improved outcomes on these tests was probably reduced. For instance, a school in District D developed a science theme that was dismantled halfway through the grant period when the district required schools with low reading scores to devote several hours a day to an intensive literacy program. In another district, a school that began as a language immersion magnet was required to add mathematics and science elements in order to prepare students to take the state's standardized tests.

Time Required for Implementation

In many ways, magnet programs resemble comprehensive school reform efforts, in that they are designed to affect multiple features of the school, including school organization, curriculum, and instruction. The literature on comprehensive school reform indicates that the implementation of whole school reform can take considerable time—frequently from 5 to 10 years. (For a review of the literature on implementing comprehensive school reform, see Desimone, 2002.) In their quasi-experimental study of a comprehensive school reform model, Bloom and his colleagues discuss the time required to detect achievement effects in the schools they followed:

> [T]he pattern of test score changes tracked the pattern of program implementation. During the first two years of implementation, when schools focused on changing their organizational cultures and decision-making processes, there was no systematic change in scores. In the third year, as the schools struggled to implement instructional changes with the limited guidance afforded by the early Accelerated Schools model, test scores dropped somewhat. In the final two years of the follow-up period, test scores gradually surpassed the baseline level. (Bloom, et al., 2001, p. 75)

Our case study evidence suggests that three years of MSAP funding may not provide sufficient time for a new magnet theme to take hold and become deeply integrated into the life of a school. This is especially true if delays in notification and funding reduce the implementation time even further. Several project directors alluded to delays in implementing programs—for instance, in acquiring equipment and hiring staff—because grants were awarded in late summer and early fall. One director commented that her project had not been fully operational during 1998–1999 because MSAP funding was received so late (six weeks into the school year) that the first year had been dedicated to acquiring technology and hiring new staff. New principals,

recruited through a national search, were not in place until January, and additional staff were subsequently hired. Another source of delays was the need for lead time to train staff and design curriculum at the beginning of the grant period. Schools implementing some specialized themes (e.g., whole-school Montessori, International Baccalaureate) required extensive staff training during the first year of the grant. Our survey data indicate that some projects anticipated the need for planning time by designating 1998–1999 as a planning year. In 1998–1999, about 15 percent of the magnet schools either were not yet open or viewed their programs as still in the planning stages.

Time appears to have been especially critical for schools that chose themes requiring new curriculum materials, new types of staff, and new equipment and supplies. For example, magnet schools were required to locate the needed materials and equipment, decide among alternatives, and put them in place. At times, decisions on materials had to wait for the hiring of appropriate staff. For example, the technology specialist in a District B magnet school explained that although the school had purchased additional technological resources during the initial years of the grant, there had been no technology specialist on staff to help coordinate the installation and maintain the equipment. Once she was hired during the second grant year, her first responsibility was to get all the computers and other technology hooked up and running. The MSAP project director in another district recounted the experience of a first-time magnet school that adopted a complicated mathematics and science theme. It took a long time to get the staff on board and trained, she said. "They had success eventually in meeting their achievement goals, but they did not see the effects until the fourth year" (the year after the grant ended). Project directors in several other districts commented on the unexpectedly long time required to install and learn to use new technology (e.g., computer animation, fiber optic networks, and computer labs).

In addition, for many, if not most, magnet schools, the theme and program were worked out in fairly broad strokes in the MSAP application; much was left to be worked out during implementation. Many MSAP project plans described in grant applications included extensive curriculum development efforts during the initial years of the grant and included project objectives such as "By the end of the first year of the grant, at least 85 percent of the staff will have implemented at least one innovative practice in their classrooms." While themes like the International Baccalaureate, Montessori, and Paideia offer relatively detailed designs, many magnet themes are less completely specified in advance. For example, a new magnet school in District F has a MicroSociety theme that addresses real life experiences in an academic setting and incorporates a job-shadowing program with local businesses. At the time of the site visits in the second and third year of the MSAP grants, observers found that the school was still trying to integrate the program with other school activities, and to develop a more systematic way of recruiting businesses whose jobs were aligned with the magnet theme. Much recent work suggests that reforms that are well specified in advance are more easily and quickly implemented than less specific reforms. (For a summary of the literature on reform specificity, see Desimone, 2002.)

Finally, the pool of organizational supports for schools adopting some kinds of new themes is relatively limited. While Magnet Schools of America and other organizations offer some support to magnet schools, schools adopting themes in the arts, the environment, and other areas may have difficulty locating the required supports. Some MSAP-supported districts that had contracted with the same professional evaluator were linked into an informal mutual support

network that allowed less experienced projects to benefit from the expertise developed by more mature ones.

Tension between Creating a High-Quality School Program and Identifying Themes that Will Attract Students

The time required for implementation may have been magnified by the fact that some schools cycled through themes before settling on one or more that "worked." Our case study data suggest that themes sometimes lose their appeal after a few years, and new themes are needed to regenerate families' interest in a school. For example, one of District B's MSAP elementary schools added a new theme of academic excellence and changed the magnet program focus when it was not drawing enough students. The school administrator reported that the frequent change in themes created a perception in the community that the school lacked stability even though the staff viewed the changes as simply an enhancement of previous themes. At the MSAP middle school in this district, the new principal added a career exploration program. His intention was not to change the themes that had been in place previously but to enhance the existing programs and prepare students for high school and college. If this is true, it suggests that magnet schools may need continuing external support to sustain attractive programs.

Teacher Resistance to Change

Another explanation for implementation difficulties is teacher resistance. Many project directors commented on the importance of faculty "buy-in" to the success of a magnet program. Although MSAP grants provide additional resources and excitement to schools, implementing new programs requires much of a school's staff—a willingness to invest extra time in planning and reflection, to abandon established practices and try unfamiliar ones, and to collaborate with colleagues. Our survey data suggest that most magnet schools are staffed primarily by the same individuals who worked in them in previous years, not all of whom are necessarily committed to becoming part of a magnet school. Under these conditions, it is not surprising that resistance sometimes occurs. At a District C magnet school, for example, the amount of professional development required for the teachers to learn the program's philosophy generated resistance among the teaching staff and delayed the implementation of the program. Teachers refused to attend the professional development activities and did not implement the themes in their classrooms until the following year, after school administrators received assistance from the district office and the district's magnet resource center. In District G, integrated arts programs in two secondary schools called for teachers to work in cross-disciplinary teams to develop curriculum units that combined arts content and activities with standards-aligned content in other academic subjects. A relatively small proportion of the teachers participated in these collaborative efforts, although other aspects of the school's arts and academics program appeared successful.

District Context and Desegregation Outcomes

Some of the challenges facing the MSAP projects that may explain the modest impact that MSAP magnet programs have had on MGI. These factors include decreasing number of nonminority students in many districts, a need for more effective recruitment, the need to support parents and retain students, limitations on factors that are used in the selection of students, and delays in recruitment efforts related to the timing of grant awards. Our case study data suggest that districts are experimenting with strategies to address some of these

A fundamental premise underlying magnet schools, from a managed choice perspective, is that if schools implement well designed, distinctive, and effective programs, students from across the district, and even other districts in some cases, will be attracted to apply, and that prevention, reduction, or elimination of minority group isolation will result. The success of most of MSAP's desegregation-targeted schools in reducing MGI depends on the extent to which the magnet program assists the school in attracting and retaining nonminority students.[4] Some of the challenges to achieving these objectives are the pressures of demographic change, the development of adequate recruitment and parental support strategies, the retention of students once they enter the program, and features of the federal program itself. The case studies and project interviews provide insight into these challenges and ways in which the MSAP projects have attempted to address some of them.

Coping with Demographic Change

As reported in Chapter IV, most of the desegregation-targeted schools are in districts in which the proportion of minority students enrolled increased between 1997–1998 and 2000–2001 by at least 1 percentage point. While the Department of Education takes account of such demographic changes in evaluating the success of MSAP programs, these changes reflect the shrinking pool of nonminority students in many of the districts supported by MSAP. Most of the schools targeted for desegregation are in districts in which the number of nonminority students decreased over the years of the MSAP grant.

One strategy used by a district to increase the pool of candidates is to actively recruit from outside the district. District G, for example, created interdistrict magnets that drew nonminority students into high-minority inner city schools from surrounding suburban schools where nonminority students predominate. For one of the interdistrict magnets, the district succeeded in gaining a substantial number of nonminority applicants and reduced the school's minority isolation. However, this strategy also poses new challenges for districts that use it. In the recruitment effort, for example, District G did not have the mailing addresses to send information to homes of potential students in other districts. Project recruiters had to arrange with administrators of suburban schools to publicize their programs at student assemblies, and the suburban districts were not always eager to have their students transfer to another district. Importantly, District G also had support from the state in providing transportation for students. It is important to note that not all of the magnet programs in District G were interdistrict magnets.

[4] In the case of the small proportion of targeted feeder schools, reducing MGI may depend on attracting minority students from MGI feeder schools into schools with a lower percentage of minority students.

The district officials noted that magnet programs need to be sufficiently developed in order to attract suburban students, suggesting that interdistrict recruitment may not be practical for newly developed magnet programs. The use of interdistrict magnets may be increasingly necessary for districts with high proportions of minority students. Nineteen of the 57 MSAP districts have a minority enrollment of 75 percent or higher in the grades served by their programs.

A second strategy used by a district for coping with the demographic challenge is to recruit students from private schools. In their survey responses, project directors from one-quarter of the MSAP districts report that private schools (religious and non-sectarian) represent "a lot" of competition for public schools in their district. While all of the eight case study project directors indicated that private schools represented "some" or "a lot" of competition for magnet schools in their district, *none* indicated that they were successful in recruiting students from private schools. In fact, District E, which showed some progress toward desegregation in all seven of its targeted magnet schools despite a districtwide decline in minority enrollment students, specifically reported, "During the three-year project period, no students attending private schools applied to attend any magnet programs included in the grant." The recruitment specialist in District F maintained that recruiting from private schools is becoming more successful in that district because parents are becoming increasingly concerned about the high costs for private schooling and many see magnet schools as having more resources than private schools. However, there was no direct evidence of the number of students in the MSAP magnets who had been recruited from private schools. Successfully recruiting students from private schools may involve some of the same challenges that District G faced with interdistrict recruiting. Informational mailings, for example, may be more difficult if the projects do not have lists of students' addresses, and administrators of private schools are unlikely to be receptive to having magnet program representatives visit their schools for purposes of recruiting their students to attend a public school.

Recruitment

The recruitment efforts of MSAP projects are often characterized by "broadcast" methods that may reach out to both minority and nonminority students, rather than targeting one group. Nearly one-third of all project directors reported that none of their outreach efforts were focused on a targeted group of students. Less than one-fifth of all project directors reported that their projects focused all of their outreach on a targeted group of students.

There is some evidence from the case studies and project director interviews that project officials have recognized the need for more targeted recruitment over the course of the project and have sought creative methods in attempting to overcome these challenges. Alternate strategies for improving recruitment have been offered in some of the case studies and project director interviews:

- In District F, the project director reported that in order to increase the nonminority applicant pool, the focus of the recruitment effort had shifted in the second year of the project to the east side of town where there is a larger nonminority population.
- In commenting on the struggle to attract enough nonminority applicants, one project director indicated that the project was "reaching out to the desired population in

places that they would be, regardless of how far or close." That project had focused on visiting day care centers throughout the city to find nonminority parents.

- Targeting recruitment does not always require going great distances. One project director reported that to recruit more nonminority candidates the project was shifting its advertising to papers with primarily nonminority readership.
- The project director in another district reported that, based on advice from a consultant from an Equity Assistance Center, the program decided to target predominantly white churches to recruit more nonminority students.

Stable and strong school leadership is another important factor in developing a successful recruitment strategy. As one project director noted, the principals who are most active in recruiting are the ones who are committed to the program and to decreasing minority isolation. The principal can also be instrumental in shaping the identity of a school and its program. In this regard, several project directors noted problems in some of their schools with principal turnover.

Developing a positive and distinctive identity for a school is another important element in successful recruitment. Building a strong program, producing positive student outcomes, and communicating those successes to a wide public are challenging processes that require effort, strategic planning, and time. A reputation capable of attracting students from across town may take more time to build than the three years of one MSAP funding cycle.

Supporting Parents

The analysis in Chapter IV indicated that parental involvement in school events and activities is associated with a school's progress in meeting its desegregation objective. Securing parental involvement may begin by supporting parents throughout the application process and is likely to continue after students have been selected to attend the magnet school. District B maintains a Web site with information on what each magnet school offers and how students can apply for admission. In District A, the Director of Student Assignment, who is in charge of magnet schools, informs parents about their options, tries to direct them to schools that have programs that best match their children's interests and needs, and provides them with the name of a contact person for the school they choose. Her office then facilitates the final steps of the enrollment process by alerting the school contact person to expect the arrival of the parent at the school, where the application is completed. In District G, the MSAP project staff help parents negotiate the application process and continue to help families adjust to the magnet schools to which their children have transferred. In District E, the MSAP project employs monitors at each of the elementary magnet schools to provide parents with a sense of security. The monitors check each day on children from outside the neighborhood and make themselves available to parents by cell phone.

Retaining Students

The success of a program depends not only on recruiting students but also on retaining them. The fact that MSAP funds cannot be used to support student transportation can be a serious issue for the success of a program. In District E, the inability of the district to provide student transportation was a major barrier to students and their parents. Due to transportation

difficulties, some students arrived late for school or did not arrive home on time. As a result, according to the project director, many parents withdrew their children from the program to attend their neighborhood school. The parents praised the program but found the transportation problem too much of an impediment to continue. While all the magnet schools in District E showed progress in reducing MGI, the comment by the project director indicates that the extent of the progress might have been greater if transportation had not become a problem for the district.

Features of the Federal Program

Some of the features of the federal MSAP program itself may limit the level of success of the desegregation efforts of the local MSAP programs. One feature is related to the duration of time available to MSAP projects to implement their programs and recruit students. The 1998 MSAP grants operated on a three-year period of funding from the 1998–1999 school year to the 2000–2001 school year. Recruitment and selection of students into a magnet program for a given year typically occurs during the fall and spring of the preceding year. This means that recruitment of students for the first year of the 1998 MSAP projects needed to occur during the preceding school year. However, the project awards for districts were not announced until late June 1998 and in many instances not until September 1998.

The timing of the grant awards did not offer a realistic opportunity for schools to conduct recruitment activities until the second year of the project. Consequently we examined the proportion of targeted schools making progress in reducing, preventing, or eliminating MGI between 1998–1999 and 2000–2001. The analysis showed that 55 percent of targeted schools were successful in reducing, preventing, or eliminating MGI over the two-year period. While this is close to the 57 percent obtained when using 1997–1998 as the baseline year, two years is a short timeframe in which to expect school districts to successfully implement programs and recruit the mix of minority and nonminority applicants that will reduce MGI. The percentage of schools making progress on their desegregation objectives and the extent of that progress might be greater if progress were measured for three school years following the date that MSAP supported-schools received their funds.

A second feature of the federal program concerns the selection process used by local MSAP programs. For districts with required desegregation plans, selection factors are determined by the court or agency that requires the plan over the MSAP grant period. For districts with voluntary plans, beginning with the MSAP grants awarded in 1998, selection factors are reviewed by the U.S. Department of Education (ED) periodically, and any use of race must be narrowly tailored and approved by the Office for Civil Rights (OCR). OCR requires voluntary plan districts to try or seriously consider race-neutral alternatives before resorting to race-conscious action. Because the use of race or other factors in student selection is specific to each school district's unique situation and is permitted only on a case-by-case basis, ED determined that we should not gather or report data on the ways such criteria are applied in MSAP districts as a part of the study.

District officials in some of our case studies suggested that limitations on the factors that districts use in selecting students may have played a part in the proportion of schools that did not succeed in reducing minority group isolation. In District C, for example, the project director

contended that it is difficult to meet the desegregation objective when school officials are prohibited from taking race into account in making school assignments, even though administrators did consider eligibility for free or reduced-price lunches and reading scores instead.

Status of MSAP Projects and Schools after the Grant Period Ended

In more than half of the 57 MSAP projects that received funding from 1998 to 2001, project directors report that all MSAP schools were still operating in 2001-2002, the year after funding ended. In another third of the projects, the schools were still operating in 2001-2002, but with reduced staff.

One way to assess the impact of the MSAP program is to ask whether the magnet schools supported with MSAP funds continue their magnet programs after the end of the grant period. As we explained in Chapter I, the 57 projects included in this evaluation received initial funding in the 1998–1999 school year, and funding continued through the 2000–2001 school year.

We contacted the project directors of all 57 projects after the end of the 2000–2001 school year to obtain information on the status of the projects and schools subsequent to their initial grant. In more than half of the 57 projects (31, or 53 percent), project directors reported that all of the MSAP schools are still operating, with no important changes in their programs. In about one-third (18, or 32 percent) of the projects, the schools are operating but with reductions in staff. These reductions generally involve school-level resource teachers or specialists (e.g., science specialists in a math-science magnet).

Exhibit VI-2.
2001–2002 Status of magnet schools in 57 MSAP projects funded in 1998

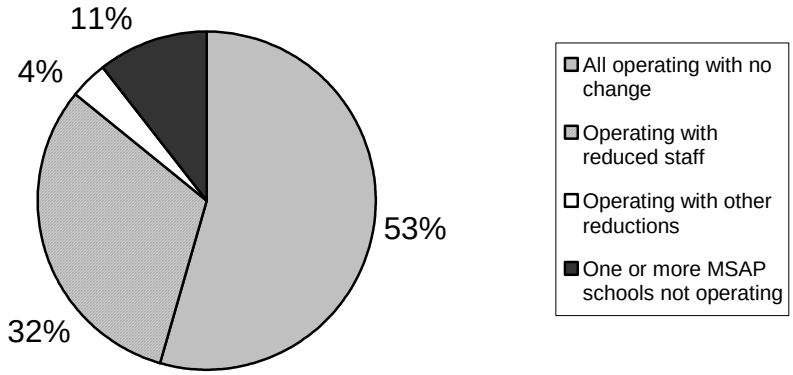

Exhibit reads: In 53 percent of the MSAP projects funded in 1998, all MSAP-supported magnet schools were still operating their magnet programs with full staffing after the grant year, while in 32 percent of the projects, all schools were still operating, but with reduced staff.
N = 57 projects
Source: MSAP Project Director Interview, 2000-2001, Item 1

Two projects (4 percent of those funded in 1998) are reportedly operating with other reductions (fewer after-school programs and less professional development), and six projects (11 percent) have one or more schools that no longer offer magnet programs. Among these six projects is one in which only one of nine MSAP schools is still a magnet; one project with five of eight MSAP schools that are still magnets; and four projects with one or two schools that have ceased to be magnets because of declining enrollment, loss of critical staff, or underperformance.

For the most part, the surviving magnet schools are being supported by district and state funds; many of them also receive Title I funds. About one-fourth of the projects (12, or 21 percent) reported that they had obtained funds from other sources such as the National Science Foundation and the Comprehensive School Reform Demonstration Program. One project director, whose MSAP schools have been successful in obtaining numerous grants, attributed the success to the fact that his schools have well-thought-out programs in place that address student academic success.

One issue complicates the interpretation of our data on the continuation of MSAP schools during the first year following MSAP funding: The federal MSAP program funded a new set of projects beginning in the 2000–2001 school year. Of the 57 districts funded in 1998, 24 (42 percent) were awarded MSAP grants again in 2001. Districts receiving another round of MSAP funds may have been better able to support existing schools. It appears that 34 schools in 10 school districts received support in both the 1998 and 2001 grant cycles.

To examine the possible role of winning a new MSAP award in the continuation of existing MSAP schools, we compared results for districts that won subsequent awards and those that did not. The evidence suggests that winning a subsequent grant did not make much difference to the immediate survival of magnet programs in MSAP schools. In particular, the 31 projects in which all MSAP schools continued with no change are about evenly divided between those that received 2001 grants (15 projects, or 48 percent) and those that did not (16 projects, or 52 percent).

The survival of MSAP schools may also be influenced by one other factor, at least in the short run. We learned in our interviews that some MSAP projects had funds remaining at the end of the 1998–2001 grant period, and they were provided the opportunity to use these funds in subsequent years. These no-cost extensions may have softened the impact of the end of MSAP funding. It clearly would be desirable to obtain data on the success of the 1998 cohort of MSAP schools in retaining their magnet programs over a longer period of time.

Other Outcomes of MSAP Projects

Data from the case studies suggest that MSAP projects provided a number of benefits for participating districts, including positive publicity for schools, a setting in which to conduct district "R and D," improved administration of the district choice system, an improved technology infrastructure, and the capacity to hire specialized staff.

Clearly, one important benefit of the program to districts that received MSAP funds was the opportunity to initiate magnet schools, and, as shown above, the magnet programs in these schools appear to have continued through at least the first year after project funding. Our case study data suggest that the MSAP program also brought other benefits to the participating districts.

Positive Publicity for Schools

Magnet programs can create public interest and support for schools, through positive discussions in the newspapers and on TV and radio about new programs and student projects. This is particularly helpful for schools whose public identities have historically been based on problems and failings reported in local media. For example, successful publicity strategies in District B included a flyer to wrap around the weekly grocery ads in the local newspaper, an infomercial describing the magnet schools that ran for six weeks on two local TV stations, and commercials on four local radio stations. In another district, magnet schools held "grand opening" events that brought parents and newspaper reporters into classrooms. As a result, the newspapers published some positive articles about the schools whereas in the past they had published negative ones.

District R and D

Magnet schools can serve as mechanisms for district "R and D"—trying out new curricula or methods that are then refined and implemented in other district schools. For

example, District B's standards initiative began with magnet schools and led to the development of district curriculum that has been linked with state and national standards. In addition, a professional development program to help the MSAP teachers understand the effects of poverty on education was subsequently extended to all the other schools in the district. In District F, the concept of converting a junior high to a middle school was pilot tested by the MSAP project and due to its success, the district planned to convert all of its junior high schools to middle schools. Similarly, District G's elementary MSAP schools were enlisted by the district to pilot a complex curriculum mapping and alignment project that the district office planned to institute later in other schools throughout the city.

Improved Administration of District Choice Systems

MSAP resources can help support a district school choice system. In many MSAP districts, the MSAP schools are part of a larger system of choice, and MSAP helps to sustain the system. For example, in District G, MSAP funds have supported the development of management structures for coordinating the recruitment and placement of students in its complex school choice system. This has simplified the choice process for families, reduced the demands on school personnel for managing applications and selections, and allowed final placement decisions to be made sooner than was the case when the process was decentralized. Yu, et al. (1997), in their analysis of magnet schools in Cincinnati, St. Louis, and Nashville, report that a well-administered choice process (including information on dissemination, advising, and recruitment) is an especially important ingredient in securing the participation of the disadvantaged families in the choice process. (See also Henig, 1996, who makes the same point in a study of the Montgomery County, Maryland, magnet schools.)

Improved Technology Infrastructure

MSAP resources, in coordination with other federal, state, and local funds, can help build a school or district's infrastructure (e.g., technology). As reported in Chapter III, MSAP schools have more technology than non-MSAP schools—for example, the latest generation of computers, software, and theme-related equipment such as a digital photography lab and aeronautics equipment. Technology is incorporated into daily instruction rather than being treated as a stand-alone activity. Furthermore, the arrival of the technology has usually been accompanied by staff development to encourage teachers to learn not only how to use the computers, but also how to capitalize on their potential as instructional tools—e.g., through the development of Internet research projects, simulation programs in mathematics and science, and the use of software that is also commonly used in the workplace.

Capacity to Hire Specialized Staff

MSAP resources can also help schools hire specialized staff, who may have lasting effects on schools. For example, MSAP provides funds for resource teachers and technology specialists who have technical expertise to assist magnet schools. In some MSAP schools, resource teachers are specialists in the theme and they act as "extra hands" and facilitate curriculum alignment activities and the development of interdisciplinary projects. At one school, a publishing resource teacher helped students publish a school newspaper and learn to operate broadcasting equipment. Technology specialists helped to coordinate installation and

maintenance of the school's new computers and other equipment, acted as system or network administrators, taught computer classes, and provided staff development technology sessions.

Summary

The case study data collected in eight MSAP projects suggest that, at least in part, the modest achievement outcomes we observed may have been due to the fact that, in many schools, the intended programs were not fully implemented during the three-year period of MSAP funding. Several factors may have influenced the progress schools made in implementing MSAP programs: turnover in district and school leadership, tension between MSAP projects and other reform efforts, the absence of sufficient time to implement new programs, the need to revise themes to attract students, and teacher resistance to changes being implemented.

Some of the challenges facing the MSAP projects that may explain the modest impact that MSAP magnet programs have had on MGI include the decreasing number of nonminority students in many districts, a need for more effective recruitment, the need to support parents and retain students, limitations on factors that are used in the selection of students, and delays in recruitment efforts related to the timing of grant awards. Our case study data suggest that districts are experimenting with strategies to address some of these challenges. Additional research into these and other challenges is needed to better understand the processes that influence the success of programs in meeting their desegregation objectives.

The case study data indicate that most schools that received MSAP funds during the period from 1998 to 2001 continued to operate in the year after the grants ended. In particular, in more than half of the 57 MSAP projects that received funding, project directors report that all MSAP schools were still operating in 2001–2002, the year after funding ended. In another third of the projects, the schools were still operating, but with reduced staff.

Data from the case studies suggest that MSAP projects provided a number of benefits for participating districts, in addition to the opportunity to initiate or strengthen magnet schools. These "side benefits" include positive publicity for schools, a setting in which to conduct district "R and D," improved administration of the district choice system, an improved technology infrastructure, and the capacity to hire specialized staff.

VII. Conclusions

In this chapter, we summarize our findings concerning the four main questions addressed by the evaluation:[1]

- To what extent do federally funded magnet projects feature innovative educational methods and practices that meet identified student needs and interests?
- To what extent are federally funded magnet projects promoting systemic, standards-based reform?
- To what extent are federally funded magnet projects reducing the incidence or degree of minority isolation in their programs?
- To what extent do federally funded magnet projects strengthen students' knowledge of academic subjects and skills needed for successful careers in the future?

We consider each of these questions in turn. Following the summary of results, we consider the strengths and limitations of our data and analyses, and then turn to implications for the operation of magnet programs, as well as for research on magnet schools.

Innovative Educational Methods and Practices

Magnet schools are expected to adopt distinctive themes and innovative programs, designed to promote a positive school climate and professional community among teachers. These conditions, in turn, are expected to lead to effective instructional practices and ultimately to improved student achievement. (For a more complete discussion of our conceptualization of the features of magnet programs and their potential relationship to achievement, see Exhibit III-1.)

To examine features of magnet schools that we hypothesized might be related to achievement outcomes, we drew on data from a survey of principals in all MSAP schools, as well as survey and observation data in both MSAP and comparison schools in the eight case study sites. As reported in Chapter III, our data suggest that MSAP-supported schools differ from non-MSAP schools serving comparable student populations in some key aspects of school organization and instruction.

[1] As indicated in Chapter I, we also considered three other questions. The first question concerns descriptive characteristics of the schools and programs that make up MSAP projects. That question is addressed in the first interim report (2001), and was summarized in Chapter II of this report. The second question concerns the basic descriptive characteristics and was addressed in the first interim report (2001). The final question, which concerns the role of MSAP in contributing to the development and implementation of magnet programs, was also addressed in the first interim report (2001). Survey and interview responses revealed that the MSAP funding had enabled schools to invest in a variety of professional development opportunities, technology, and other specialized materials that they would not otherwise have been able to afford. Many of the districts used the grants to fund the initial expensive stages of setting up new programs, but expected to be able to maintain the programs from other funds once they were up and running.

- **Magnet themes.** According to data from the principal survey, MSAP schools have adopted a wide variety of themes. More than one-third of MSAP schools included technology among their themes, and more than a quarter of MSAP schools included a science theme. Arts, communication, and mathematics were also common themes.
- **Adoption of comprehensive school reform models.** More than half of the MSAP schools have adopted comprehensive school reform models, such as Success for All. This is a substantially higher proportion than is observed among the full national population of schools. It is also higher than among comparable schools in the MSAP districts.
- **School climate and community**. Principal data indicate that MSAP schools differ from comparable schools in the same district in some organizational and instructional features. For example, MSAP schools on average have a somewhat more positive sense of professional community than comparable schools. Magnet schools also have a somewhat more positive student climate, although there is considerable variation.
- **Instructional practices.** Teacher survey data indicate that MSAP schools make somewhat more use of technology in instruction than do comparable schools, and place more emphasis on instructional methods designed to elicit higher-order thinking skills, such as open-ended projects and presentations.

We surveyed MSAP principals in both 1999–2000 (the second year of program implementation) and 2000–2001 (the third year of implementation), making it possible to examine the extent to which changes in school climate and instructional practice occurred as the magnet schools had more time to implement their programs. We found some evidence of improvement. In particular, principals' responses indicated improvement in professional community and parent involvement between the second and third years of implementation. Other elements, including the level of challenge as reflected in the number of academic requirements for students, showed little improvement over the second and third year of project implementation.

Magnet Schools and Systemic, Standards-Based Reform

While MSAP schools were intended to adopt innovative themes and practices, they were also intended to ensure that these programs were aligned with state and district standards and assessments. We hypothesized that magnet schools would be more likely to flourish if their themes and programs were aligned with state and district standards and assessments, but we also anticipated that innovative magnet themes might at times conflict with the emphases in many state and district assessments.

To examine the role of MSAP projects and schools in supporting systemic, standards-based reform, we drew on data from surveys administered to the full population of MSAP principals, as well as data collected from the eight in-depth case study sites.

As reported in Chapter III, we found a multifaceted relationship between magnet school programs and state and district standards. In their responses to the MSAP surveys, principals reported a high degree of familiarity with standards and assessments, and they indicated that the

content of state standards and assessments matched the goals of their magnet programs. Our case study data provide a somewhat more complex picture. In particular, while the case study data support the conclusion that magnet themes are generally consistent with the content emphasized in state standards, staff in some MSAP schools indicated that they feel pressured to learn how to teach a new theme or curriculum while simultaneously being mindful of the state content standards and assessments. There is some evidence that some MSAP schools altered their initial plans to bring the curriculum more in line with standards and assessments, or reduced their emphasis on novel programs to increase the time for work more directly related to state standards and assessments.

Minority Group Isolation

One of the major objectives of the MSAP program is to prevent, eliminate, or reduce minority student isolation in MSAP schools. Minority group isolation (MGI) refers to schools in which minority group children constitute more than 50 percent of school enrollment. As reported in Chapter IV, we found that most of the 294 MSAP schools targeted for desegregation sought to reduce minority group isolation:

- Less than one-tenth (8 percent) of targeted schools aimed to ***prevent*** MGI by keeping the school's minority enrollment from exceeding 50 percent.
- Less than one-sixth (16 percent) aimed to ***eliminate*** MGI by reducing their minority enrollment to 50 percent or less.
- More than three-quarters (77 percent) of targeted schools aimed to ***reduce,*** rather than eliminate, MGI.

The small proportion of schools seeking to prevent or eliminate MGI is understandable in that three-quarters of the targeted schools are in districts in which minority students constitute more than 50 percent of public school enrollment, and two-thirds of the targeted schools are in districts with over 60 percent minority student enrollment in public schools.

To evaluate the success of MSAP schools in making progress toward their desegregation objective, we examined minority student enrollments from 1997–1998 (the year prior to the initiation of the three-year MSAP programs in the 57 MSAP districts), through 2000–2001 (the final year of implementation) for all schools targeted for desegregation by MSAP programs. The analysis indicated a modest impact of the MSAP-supported schools on preventing, eliminating, or reducing MGI at desegregation-targeted schools, with some variation by project, program, and school features:

- Adjusting for districtwide demographic trends, 57 percent of the desegregation-targeted schools succeeded in preventing, eliminating, or reducing minority group isolation, while 43 percent did not succeed.
- The proportion of targeted schools in districts with voluntary desegregation plans that prevented, eliminated, or reduced MGI was slightly higher than among districts with desegregation plans required by a court or other agency (60 percent vs. 53 percent).

- A larger proportion of elementary schools prevented, eliminated, or reduced MGI compared with middle schools or high schools (60 percent vs. 54 percent and 48 percent, respectively).
- A larger proportion of whole school programs (offered to all students in the school) prevented, eliminated, or reduced MGI compared to programs-within-schools (offered to only some of the students attending a school) (59 percent vs. 49 percent).

Our analysis also examined the amount of progress desegregation-targeted schools made toward reducing MGI. A small proportion of targeted schools prevented or eliminated minority group isolation, while most of the successful schools reduced minority group isolation.

- One in twenty (5 percent) of the targeted schools prevented or eliminated MGI.
- About one in six (17 percent) of the targeted schools experienced a reduction of 5 or more percentage points in MGI relative to the district. About one-quarter (28 percent) experienced a reduction of 1 to 5 percentage points, and one in fourteen (7 percent) experienced a reduction that was less than 1 percentage point.
- In the remaining 43 percent of schools that did not make progress, MGI increased or remained constant during this period.

The preceding analysis addresses the question of what progress MSAP-targeted schools made in meeting their desegregation objectives. Hierarchical linear modeling was used to analyze factors that influenced the ability of targeted elementary schools to reduce minority isolation. The model identified several school features that influenced changes in minority isolation, but explained only a modest part of the variation across districts and schools in reducing MGI. Nevertheless, some of the results of this analysis indicate:

- Schools are more likely to experience decreasing minority isolation when the school has a racially and ethnically mixed group of minority students.
- Schools are more likely to experience decreasing minority isolation when parents are involved in school events and activities.
- Schools with larger numbers of students per teacher are more likely than those with lower student-to-teacher ratios to experience increases in minority group isolation.

Some of the challenges facing the MSAP projects that may explain the modest impact that MSAP magnet programs have had on MGI include such factors as the decreasing number of nonminority students in many districts, a need for more effective recruitment, the need to support parents and retain students, limitations on factors that are used in the selection of students, and delays in recruitment efforts related to the timing of grant awards. Our case study data suggest that districts are experimenting with strategies to address some of these challenges. Additional research into these and other challenges is needed to better understand the processes that influence the success of programs in meeting their desegregation objectives.

Student Achievement Objectives and Outcomes

MSAP schools are expected to strengthen student knowledge and skills. As reported in Chapter V, we examined student achievement in MSAP schools in two ways. First, we analyzed the progress schools made toward meeting the achievement goals set for them in their district's MSAP application. Then we examined differences in achievement trends between MSAP schools and a set of matched comparison schools, using achievement data from statewide testing programs.

Progress toward Achievement Objectives Set by MSAP Projects

MSAP projects were required to establish objectives for student achievement, which translated into a large number of school-level achievement goals. MSAP projects set a wide variety of achievement objectives, but most of them related to student performance on standardized tests in English language arts and mathematics. For each grant year, usable school-level data were available for about one-third of these objectives. The most common reason given for the lack of outcome data was that the state had revised or discontinued the assessments upon which the projects had based their objectives.

Overall, about half of the schools for which outcome data were available met a substantial proportion (half or more) of their English language arts and mathematics achievement goals. Schools were more successful in meeting goals set for the first year of their MSAP grants than they were in meeting second- and third-year goals. Elementary schools showed smaller declines in goal attainment than middle and high schools.

When the standard of success is making progress toward meeting achievement goals rather than meeting them outright, the success rates increases. Overall, about 70 percent of the schools made progress toward meeting at least half of their first year goals in both English language arts and mathematics, and 50 percent and 60 percent, respectively, made progress toward meeting at least half of their third year goals.

Although the MSAP funded almost 300 magnet schools, between one-half and one-third of the schools lacked data to determine their success in meeting their achievement goals in particular years. Principal reasons for missing data included late implementation of magnet school programs, changes in state tests that made it impossible to track goals over the entire grant period, and outcome data reported by grantees that did not align with the objectives as originally stated. This finding has implications for the utility of requiring federal grantees to set and track achievement objectives locally, a topic we consider further in the final section of this chapter.

Achievement Trends Using Statewide Achievement Data

In addition to tracking MSAP schools' success in meeting locally imposed achievement goals and locally analyzed outcome data, AIR conducted a multilevel regression study of trends in student performance on state standardized reading and mathematics tests between 1997–1998

and 2000–2001. The gains in 135 MSAP-supported elementary schools were compared with those in 1,350 similar schools without MSAP funding.

As reported in Chapter V, the results indicate that when changes in demographic composition were taken into account, MSAP schools' gains were not significantly different on average from those of their comparison schools.

Although MSAP schools did not outperform their matched comparison schools overall, we found considerable variation in gains among MSAP schools. A companion study explored the association between achievement gains and magnet school program characteristics reported by the principals of the MSAP-supported schools. As we hypothesized in our conceptual framework (Exhibit III-1), we found that a number of school characteristics are associated with achievement gains:

- Greater achievement gains in both reading and mathematics ARE associated with reports of ***strong professional community among teachers*** (e.g., staff sharing a common vision, coordinating instruction, and seeking new ideas).
- Greater gains in reading ARE also associated ***with professional development related to standards-based reform***.
- Greater gains in mathematics ARE associated with ***greater influence of state curriculum frameworks and assessments*** on curriculum and instruction decisions made in the school, the perception that state frameworks and assessments ARE ***aligned*** with the goals of the school's program, a ***positive school climate,*** and ***magnet programs that were already operating*** prior to the beginning of the 1998 MSAP funding period.

Although the overall achievement results seem modest, it is important to understand the conditions under which one might expect to see dramatic changes in MSAP achievement relative to that of other students. First, the improved instructional program would need to be adequately implemented and to have functioned long enough for teachers in a school to change their methods and for students to respond to the changes with increased performance scores. Second, the innovative program would actually have to work. There is, of course, no guarantee that the range of innovative programs adopted by MSAP schools will work in all situations. Third, the degree of improvement fostered by the magnet school's program would have to be greater than improvements fostered by programs operating in non-MSAP schools. However, in this era of high accountability, it is likely that non-magnet schools will also be implementing promising programs as well, using non-MSAP funding sources. The first condition alone is problematic for new MSAP-supported schools that are given a maximum of three years to design programs, acquire materials, train teachers, and have teachers use new methods well and consistently enough to affect student performance on an annually administered achievement test. Due to late notification or funding, the use of a planning year, or the opening of a school during the second or third year of the grant, some schools had substantially less than three years in which to produce measurable changes in achievement. Thus, it may not be surprising that the achievement gains experienced by the MSAP-supported schools did not differ from those of comparison schools.

Strengths and Limitations of the Study

The results we have obtained must be understood in terms of the strengths and weaknesses of the evaluation design.

One strength of the evaluation design is the availability of data on the full population of projects and schools. As outlined in Chapter I, we conducted telephone interviews with MSAP project directors during the second and third years of implementation, and in the first year following implementation, achieving a 100 percent response rate each year. We conducted MSAP principal surveys during the second and third years of implementation, achieving more than a 90 percent response rate each year. These survey data for the full population are accompanied by data on school-level demographics and achievement, drawn from national databases and MSAP annual project reports.

Another strength of the evaluation is that we also collected detailed case study and teacher survey data in a sample of MSAP and matched comparison schools in eight in-depth case study districts. This information allowed us to contextualize the survey findings from the full population of projects and schools.

The evaluation data have two main limitations, however. First, our results on school practices in the full population of magnet schools are based entirely on principal self-reported data. We conducted analyses to compare principal and teacher reports for schools in the case study districts, and these data indicate that conclusions based on principal and teacher reports are reasonably similar for those questions that we asked of both sets of respondents. Nonetheless, it would be preferable to have data from teachers for a larger sample of MSAP schools.

Second, our data on achievement are restricted to aggregate school data. A more powerful study design for gauging the impact of magnet schools on student achievement would use linked-longitudinal student-level data, which would allow analyses of student growth in magnet and comparison schools that took account of prior achievement and other student background characteristics. We had initially intended to conduct such analyses, and selected the in-depth case study districts to make such analyses possible. But during the period of the study, the Department of Education placed a moratorium on the collection of individual student-level data until issues pertaining to the Family Educational Records and Privacy Act (FERPA) could be resolved. Consequently, we used the next-best alternative: school-level average scores from many schools in the states in which MSAP schools were located. Given the increasing emphasis on providing evidence of the achievement effects of school interventions—outcomes that can be best measured with individual level data—it would be useful to examine potential ways in which individual-level data might be made available for evaluations without compromising important privacy concerns.

Implications

Overall, our results indicate that MSAP projects and schools achieved mixed results over the three years that are the focus of our evaluation. In particular, most MSAP schools appear to have adopted innovative themes, and there is some evidence, based on both survey and case study data, that MSAP schools on average were able to establish a more positive school climate

and level of professional community than other schools serving similar students in the same districts. In addition, our survey and case study data indicate that MSAP schools made efforts to align their programs with state and district standards and assessments.

At the same time, MSAP schools made only modest progress in preventing, reducing, or eliminating minority student isolation and improving student achievement. There is some indication, however, that MSAP schools with more positive program features (e.g., school climate) outperformed comparison schools in student achievement.

These results suggest a number of approaches that might be taken to enhance the prospects that MSAP schools will produce positive desegregation and achievement outcomes.

- **Narrowing the focus.** It may be useful to permit districts to prioritize the goals or purposes of MSAP projects to achieve one or two focused outcomes rather than attempting to pursue multiple, sometimes competing, goals with limited resources. Case study data suggest that projects sometimes had difficulty balancing the four goals required of them under MSAP's authorization under IASA. As reauthorized under NCLB, MSAP projects are now expected to focus on six goals, potentially making it even more difficult to achieve these goals. Narrowing the focus—and evaluating the grantees on this narrower focus—might improve the chances for positive results.
- **Reexamining the definition of minority group isolation.** Federal regulations currently define minority group isolated schools as those in which more than 50 percent of the students are minority group members. In light of the high proportion of minority students in urban school districts, federal policymakers might wish to re-examine the meaning and utility of equating minority group isolation with a single fixed percentage. Given the high percentages of minorities in the large urban districts that MSAP typically serves, it was not surprising to find that the desegregation objective of targeted schools was overwhelmingly to reduce, rather than eliminate or prevent, MGI. As the proportion of minorities in schools generally continues to rise, there would seem to be a diminishing opportunity for schools to prevent or eliminate MGI as it is currently defined without adversely impacting other schools in the district. Policymakers might wish to examine more broadly the meaning of minority group isolation in an increasingly diverse population.
- **Awarding MSAP grants in a more timely manner.** The timing of a grant award is critical to the first year implementation of recruitment efforts and magnet programs. Inability of districts to begin recruitment efforts and delays in first year programming are particularly likely when funds are not received until June or later of the year the program is expected to begin operation. If funds were awarded by March, or even earlier, of the calendar year the project is to begin, districts may be able to implement more effective recruitment efforts for the first year of magnet programs and schools would have more time to secure materials, training, and personnel for the first year of the program.
- **Extending the period of funding.** The MSAP program might provide more than three years of funding. Three years may not be sufficient to plan, develop, implement curriculum and expect to see change in enrollment and student performance around a

new theme. It may take several years for magnet school programs to build a strong reputation before they can attract students from outside the immediate neighborhood. Whether or not the period of funding is extended, it would be helpful to continue to examine school outcomes for a period longer than three years.

- **Improving the use of annual performance benchmarks.** Districts receiving MSAP funds are required to set annual performance benchmarks for improvements in minority student isolation and student achievement, and to report on their success in meeting these benchmarks. The benchmarks districts set for their schools varied considerably in ambition and plausibility. If districts are required to set benchmarks, additional technical assistance may be required to ensure that the benchmarks are meaningful and that outcomes are monitored consistently.

As we have indicated, the data collection for this evaluation was conducted prior to the enactment of No Child Left Behind (NCLB). Our results do, however, suggest that the provisions of NCLB may have special implications for magnet schools.

- **Providing assistance in the use of disaggregated achievement data.** By 2005–2006, all states must conduct annual testing in grades 3–8, and at least one grade from 10–12. In addition, achievement scores must be reported disaggregated by ethnicity and other subgroups. The availability of these data will enhance the capacity to examine achievement outcomes, and, in particular, to determine whether magnet schools are effective in closing the achievement gap between minority and nonminority students. As such data are increasingly available, it may be useful to provide technical assistance to MSAP grantees to encourage appropriate uses of disaggregated achievement data in evaluating magnet schools.
- **Supporting district choice systems.** Under the provisions of NCLB, districts are expected to offer a choice of schools to students enrolled in schools that fail to meet adequate yearly progress standards for two consecutive years. Magnet schools may be particularly attractive options for families with students in failing schools, and thus MSAP projects may have particular strengths in assisting districts to build coordinated district choice systems.
- **Providing support for magnet schools that fail to meet adequate yearly progress requirements.** Under NCLB, schools that fail to make adequate yearly progress for two consecutive years are expected to revise their plan for the use of Title I funds and engage in other interventions. Magnet schools, confronting a failure to meet adequate yearly progress standards may face an additional challenge of maintaining the continuity and integrity of the school's distinctive mission or theme while incorporating changes in curriculum and instruction to improve test scores.

Glossary

Achievement objective—a stated goal for students to attain a specified level of performance in a particular domain of content knowledge, skill, or behavior within a designated time frame. MSAP projects must include such objectives among their performance indicators. Example: By the end of the school year, all students in grade 4 will score in the 70th percentile or higher on the state reading assessment.

Combined-level school—a school serving a grade range that crosses the common designations of elementary, middle, or high school. In this study, the category includes schools with grades K–12 and grades 4–12.

Core content areas—the four principal academic subjects: language arts, mathematics, science, and social studies (including history and geography)

Desegregation objectives—the statute-defined purposes of reducing, eliminating, or preventing minority group isolation in schools that underlie MSAP-funded programs

Desegregation plan—a document that establishes a method for reassigning children or faculty in order to remedy the illegal separation of minority group children or faculty in the schools of an LEA, or a plan for the reduction, elimination, or prevention of minority group isolation in one or more of the schools of an LEA

Elementary school—a school that most commonly serves grades kindergarten through grade 5. In this study, the category includes schools serving grades as high as 8 if they also serve grades lower than 4

Eliminate minority isolation—a desegregation objective for minority-isolated schools that aims to reduce minority enrollments to below 50 percent of total enrollment (that is, for the school to cease being minority isolated)

Feeder school—for this evaluation, a school from which students are drawn to attend a magnet school; that is, a school that "loses" students to a magnet school that serves the same grade level. (Note that this differs from the more common definition of *feeder school*—a school from which students are drawn for the next level of schooling; for example, the K–5 elementary school which students attend before moving on to grade 6 in a middle school.)

Grantee (district)—a school district (or consortium of districts) that received MSAP funding in FY 1998

High school—a school that most commonly serves grades 9–12. In this study, all high schools in this category either have grades 9–12 or are adding those grades incrementally

Innovative practices—instructional and organizational approaches that have been examined in the scholarly literature on high-performing schools, and for which some evidence has

accumulated on the relationship between the approaches and student achievement; the specific practices that MSAP projects consider to be innovative

Local Education Agency (LEA)—a public school district or education center serving students in some or all of grades K–12. MSAP grantees include both individual LEAs and consortia of LEAs.

Magnet program—the curriculum, instructional strategies, and activities that support the theme or focus of the magnet school and set it apart from other schools. A magnet school can have one or more magnet programs.

Magnet project—a district-sponsored effort that promotes desegregation by offering one or more individual magnet schools or programs within the district.

Magnet school—a public elementary or secondary school or public elementary or secondary education center that offers a special curriculum capable of attracting substantial numbers of students of different racial backgrounds.

Magnet Schools Assistance Program (MSAP)—a federal program that provides financial assistance for school districts or local education agencies to develop or expand magnet school programs designed to promote the reduction, elimination, or prevention of minority group isolation and quality instruction. During the evaluation study, MSAP was authorized by Title V of the Improving America's Schools Act. MSAP has supported magnet programs with grants to 171 school districts since FY 1985.

Middle school—a school that most commonly serves grades 6 through 8. In this study, the category includes schools with grades no lower than 4 and no higher than 9.

Minority group isolation (MGI)—a condition in which minority group children constitute more than 50 percent of the enrollment of the school, as defined in 34 CFR 280.4(b).

Minority group students—includes students who are black, Hispanic, Asian or Pacific Islander, or American Indian or Alaskan Native, as defined in the MSAP regulations, 34 CFR 280.4(b).

MSAP grant—federal financial assistance for magnet schools awarded through a competitive process under the Magnet Schools Assistance Program. Currently grants are awarded for three-year periods, with second- and third-year funding contingent on a review of progress. This evaluation is based on grants awarded for the period 1998–2001.

MSAP-supported school—a magnet school that receives MSAP funds for special staff, equipment, materials, professional development, and other assistance to facilitate the implementation of one or more magnet programs.

Nonminority group—includes students who are white (not Hispanic).

Performance indicator—a measure of how well a program is meeting its goals or objectives. Used in the Government Performance and Results Act (GPRA) to establish a system for all federal programs (including the MSAP) to set goals, measure performance, and report results.

Performance standard—a description of what students must demonstrate, and how well, to be considered advanced, proficient, or partially proficient in academic areas

Prevent minority isolation—a desegregation objective for schools that are in danger of becoming minority-isolated that aims to keep minority enrollments from rising to above 50 percent of enrollment during the three-year project period. These schools' minority enrollment is expected to remain below 50 percent with the magnet program.

Professional development—special training for teachers and other educators that aims to extend their skills and knowledge, improve classroom instruction, and foster increased student achievement

Program-within-a-school (PWS)—a magnet program that is offered to some but not all of the students in a school (e.g., an aeronautics program for 200 students in a 1,000-student high school)

Reduce minority isolation—a desegregation objective for minority-isolated schools that aims to reduce the percentage of minority students in the school

Required desegregation plan—a plan specifying procedures for meeting the legal requirements of a court, state government, or other government agency that a district desegregate

School climate—the environment in a school that reflects the attitudes and behaviors of both its staff and students

Special curriculum—a course of study embracing subject matters and teaching methods that are not generally available to all students of the same age or grade level in the same local education agency (LEA) or consortium of LEAs, as the students to whom the special curriculum is offered in the magnet schools. This term does *not* include a course of study or a part of a course of study (1) that is designed solely to provide basic educational services to students with disabilities or to students of limited English-speaking ability; (2) in which any student is unable to participate because of his or her limited English-speaking ability; (3) in which any student is unable to participate because of his or her limited financial resources; or (4) that fails to allow for a participating student to meet the requirements of elementary or secondary education in the same period as other students enrolled in the LEA's schools.

Standards—content standards are statements of what should be included in the curriculum in particular subjects at each grade level; performance standards are statements of what students should know and be able to do.

Statutory goals [of MSAP]—the desegregation goals specified in the MSAP statute: to reduce, eliminate, or prevent minority group isolation in schools

Systemic reform—efforts to create a coherent, coordinated set of state and district policies to guide schools and teachers in improving student achievement

Targeted school—the school (magnet or feeder) in which minority group isolation is to be reduced, eliminated, or prevented *as a result* of the funded magnet program

Targets—specific minority enrollment goals for schools, usually stated in terms of achieving a specific level of minority enrollment (e.g., 40 percent) or one falling within a range of values (e.g., 35–45 percent)

Technical assistance—consultation, training, or other help provided to individuals involved in program implementation. For MSAP projects, this assistance generally comes from the U.S. Department of Education, state agencies, or national and state organizations such as Magnet Schools of America.

Theme—the focus of a school's magnet program that is integrated into some or all of the curriculum. Examples include science and technology, mass communications, language immersion, and global studies.

Voluntary desegregation plan—a documented strategy that a district is voluntarily implementing to reduce, eliminate, or prevent isolation of minority students in its schools. For districts operating under voluntary desegregation plans to receive MSAP funds, the Secretary of Education must approve the plans as adequate under Title VI, Civil Rights Act of 1964.

Whole school magnet—a magnet program that is offered to every student in a school

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Appendix I— Introduction and Overview of the Magnet Schools Assistance Program (MSAP) and Evaluation

Methodology

This section presents information about the data collection, interpretation, and analyses that contributed to this evaluation. The first section outlines the four studies that are discussed in the final report and the main data collections associated with each of them. Later sections provide additional information about the data we used to address evaluation questions about desegregation objectives, enrollment trends, staffing characteristics, and student achievement outcomes. These sections are intended as updates to the extensive discussions that appeared in our first report.

Overview of the Four Evaluation Studies in this Report

This report features four interrelated strands of inquiry that are described briefly below and summarized in Exhibit A-I-1.

Exhibit A-I-1.
Overview of the MSAP evaluation studies, data sources, and schedule

Study and Activities	1999–2000	2000–2001	2001–2002
Study 1: Profile of Districts			
Develop database on 57 MSAP projects with information from grant applications and performance reports	√	√	√
Interview 57 MSAP Project Directors	√	√	√
Disseminate District Data Request—57 Projects	√	√	
Administer Project Survey—57 Projects	√	√	
Study 2: Profile of Schools			
Develop database on 292 schools with information from grant applications and performance reports	√	√	√
Administer Principal Survey—292 MSAP Schools	√	√	
Obtain and analyze school-level standardized test data for the national sample of schools, as available			√
Study 3: In-Depth Case Studies of 8 MSAP Projects	√	√	
Interview District Staff—8 Projects			
Obtain and analyze districtwide standardized test scores and other student achievement data as available (dropped in response to federal research policy changes)			

Exhibit A-I-1. (continued)
Overview of the MSAP evaluation studies, data sources, and schedule

Study and Activities	1999–2000	2000–2001	2001–2002
Study 4: In-Depth Case Studies of MSAP Schools			
Interview Principal, Other School Staff	√	√	
Observe Classrooms—32 MSAP Schools, 15 Comparison Schools	√	√	
Administer Teacher Surveys—32 MSAP Schools, 15 Comparison Schools		√	
Administer Principal Surveys—21 Comparison Schools	√	√	
Conduct Student Focus Groups—Selected Schools		√	

Study 1. Profile of all 57 projects

We developed a profile of the full population of 57 MSAP-supported districts with descriptive analyses of program context, program characteristics, and enrollment and achievement outcomes. The profile is based on data extracted from existing MSAP program documents—grant applications and the annual performance reports that grantees submit to ED—as well as through three data collections conducted by the evaluation that are described below.

We conducted telephone interviews of approximately one hour with all of the MSAP Project Directors during fall 1999 and winter 2000. The open-ended questions in the first interview protocol were designed primarily to identify ways in which existing programs differed from plans described in the project's application and to obtain verification of data (e.g., MSAP-supported magnet schools, feeder schools, desegregation goals, and achievement objectives). Shorter interviews were conducted in fall 2000 to obtain status reports and identify any program changes, and in fall 2001 to determine the status of MSAP projects after federal funding had ended.

We sent self-administered Project Surveys, consisting mostly of close-ended questions, to MSAP project directors in late fall 1999 and 2000. These surveys focused on student recruitment and outreach, program planning and implementation, accountability, coordination of funding, systemic reform, the role of ED in the MSAP project, and the project director's background and role.

Finally, in fall 1999 we sent each grantee a District Data Request (DDR) that asked for information about student, teacher, and administrator characteristics for each school in the district that served the same grade level (or levels) as those served by the MSAP-supported schools during the 1999–2000 school year. Although most districts tried to respond to this

request, the comprehensiveness of the data provided varied widely. We subsequently supplemented this information with data obtained from several state departments of education.

Study 2. Profile of all MSAP-supported schools

For this study, we focus on the nearly 300 schools[1] that received program funds in MSAP-funded districts: the school context, program characteristics, and enrollment and achievement outcomes. This profile is based on data extracted from MSAP grant applications and performance indicator data provided in the annual performance reports for all schools that received MSAP support. In addition, it uses responses to Principal Surveys that were administered to the principals of the schools that were operating MSAP-supported programs during the 1999–2000 and 2000–2001 school years.

The Principal Surveys were self-administered instruments that were sent to the principals in the late fall. (In accordance with the wishes of each MSAP project director, the surveys were either sent directly to the principals or were sent to the project director for distribution.) Questions in the 1999–2000 survey focused on features of the school's MSAP program, systemic reforms, accountability, professional development, use and coordination of program funds, the working environment, parent involvement, and the principal's background and role. The somewhat shorter survey administered in 2000 featured items on systemic reform and classroom instruction not covered in the first survey, and repeated some items that had appeared in the first survey in order to measure changes in the school's magnet program.

Exhibit A-I-2 summarizes the number of schools funded by the MSAP that were operating during each year of the grant. (These figures represent the maximum number of schools that could contribute data to analyses for a given year; the actual number included in analyses is generally somewhat smaller due to survey nonresponse or missing data on the particular topics analyzed.) During 1998–1999, some magnet school facilities were still under construction, and others devoted their first grant year to planning. Although these "planning schools" may have enrolled students, their special instructional programs were incompletely developed, and recruiting for the magnet program and consequent changes in the proportions of minority and nonminority students enrolled were not expected to occur until 1999–2000. By the third grant year, nearly all of the programs had begun operating, but four had been dropped from their district's MSAP project and two had been added. The number of cases included in descriptions of magnet schools' enrollment characteristics depended not only on which schools were operating in a given year but also on the number of these schools for which enrollment data were available from grantees' performance reports and from the National Center for Education Statistics (NCES) Common Core of Data (CCD) electronic files. Finally, analyses based on responses to the Principal Survey were limited to schools whose principals completed the survey (267 in 1999–2000 and 266 in 2000–2001).

[1] The 57 MSAP projects comprise 293 programs located in 292 schools. One school contains two small programs-within-a-school (PWSs). All the other schools are either whole school programs or contain only one MSAP-supported PWS.

Exhibit A-I-2.
MSAP schools in 1998–1999 through 2000–2001

Category	N
Schools Funded	**292**
Schools Operating 1998–1999	262
Schools Operating 1999–2000	284
Schools Operating 2000–2001	285
Schools Operating in 1998–1999 and 2000–2001	257
Schools Never Fully Operational During the Grant Period	2
Schools Returning the 1999–2000 Survey	267
Schools Returning the 2000–2001 Survey	266

Study 3. In-depth case studies of eight selected MSAP projects

We have developed Case Studies to illuminate the aggregate results obtained from the national data collection (Studies 1 and 2). Although the case study districts and schools were not sampled at random from the full population, the Case Studies provide examples for the national profiles and permit comparisons of student achievement outcomes in MSAP schools and non-magnet schools enrolling similar students, within each case study district. During our initial Case Study visits in spring 2000, we interviewed the MSAP project director, recruitment specialist, district curriculum specialist, and any project-level staff funded by MSAP (e.g., resource teachers). During our spring 2001 visits, we conducted an interview with the MSAP Project director and other staff as needed to obtain updates on the status of their programs. We had originally intended to collect student-level data on achievement outcomes in MSAP-supported and comparison schools directly from some of the Case Study districts. However, changes in federal policy regarding the collection of individually identifiable student data by federal contractors led us to revise this aspect of the study. Rather than conducting detailed analyses of student assessment data from a few Case Study sites, we obtained and analyzed school-level achievement data from 135 MSAP-supported elementary schools and 1,350 comparison schools in 14 states. Further details are presented in a later section of this appendix.

As shown in Exhibit A-I-3, the eight case study projects were selected to reflect the characteristics of the 57 projects considered most salient to this evaluation; all eight projects agreed to participate. At the request of these project directors, the names of the Case Study projects will be identified in this study only as Districts A to H.

The Case Study projects cannot be considered to represent all 57 projects, but as Exhibit A-I-3 indicates, the eight projects include both required and voluntary programs and provide variety in student populations, location, and size. To permit in-depth exploration of student-level achievement outcomes that were being planned at the time the Case Study sites were selected, we intentionally over-sampled states in which such data were likely to be available.

Exhibit A-I-3.
Characteristics of eight case study sites in comparison to all 57 MSAP projects

Characteristic	8 Case Study Projects		All 57 MSAP Projects	
	N	%	N	%
Desegregation Plan				
Voluntary	5	62.5%	31	54.4%
Required	3	37.5	26	45.6
Average Minority Percentage in District*	8	63.0	57	61.1
Range of Minority Percentages in Districts*		32–88%		25–93%
Predominant Minority Group(s):				
Predominantly African American	6	75.0	38	66.7
Predominantly Hispanic	2	25.0	17	29.8
Predominantly Asian	0	0.0	2	3.5
Geographic Region**				
Northeast	2	25.0	17	29.8%
Southeast	3	37.5	19	33.3
Central (Middle)	0	0.0	6	10.5
West	3	37.5	15	26.3
No. of States Represented	8		25	
State Categories***				
A States	4	50.0	18	31.6%
B States	1	12.5	8	14.0
C States	1	12.5	6	10.5
D States	1	12.5	6	10.5
E States	1	12.5	15	26.3
F States	0	0.0	0	0.0
G States	0	0.0	4	7.0

* Based on Common Core of Data Non-Fiscal Survey (CCD) for 1997–1998, National Center for Education Statistics

** Based on definitions used by NAEP, NEA, and the Bureau of Economic Analysis of the U.S. Department of Commerce

*** Based on data categories presented at a meeting on student achievement sponsored by the U.S. Department of Education. These categories are based on the availability of longitudinal student-level achievement data on a state assessment, with "A" states compiling such data and "B" through "G" states compiling progressively less detailed achievement data.

Study 4. In-depth case studies of MSAP schools

Our Case Study selection process was designed to obtain a sample of schools that together would represent all three of the grade levels and a variety of themes. Within each Case Study district, we selected four MSAP-supported schools for study. To help motivate participation and ensure fairness, we invited each MSAP project director to choose one school for inclusion in the study. To the extent possible, we then selected three other MSAP-supported schools at the same level as the project director's choice.

We matched the MSAP-supported schools with two comparison schools on the basis of enrollment data from the Common Core of Data Non-Fiscal Survey (CCD) maintained by the National Center for Education Statistics. The comparison schools identified were schools in the district that served students with racial-ethnic backgrounds similar to those in the MSAP schools, but which did not operate magnet programs. In most cases, close matches were found, but in districts that were small or in which there were numerous magnet schools, the comparison schools tended to have fewer minority students than their magnet counterparts. Exhibit A-I-4 compares the MSAP-supported schools in the Case Studies and the MSAP-schools in the entire group of 57 MSAP districts. As the exhibit shows, high schools were slightly overrepresented and middle schools slightly underrepresented in the sample.

Exhibit A-I-4.
Levels of 32 MSAP-supported schools in case studies and the 292 schools in all 57 MSAP projects

	32 Case Study Schools		292 MSAP Project Schools	
Grade Level	**n**	**%**	**n**	**%**
Elementary	18	56.2%	175	59.9%
Middle	6	18.8	71	24.3
High School	7	21.9	40	13.7
Combined Levels	1	3.1	6	2.1

Site visits were made to the eight Case Study districts in April–May 2000 and April–May 2001. Two site visitors went to each site. They spent one day together in interviewing project-level staff, and then each visited two MSAP-supported schools and one comparison school. During two-day visits in each school, they interviewed principals, talked with teachers, and conducted classroom observations. In comparison schools, principals were asked to complete Principal Surveys that paralleled those that MSAP principals had already completed. In four of the districts, where schools were not all at the same level, additional comparison schools were identified and their principals were asked to complete surveys, to provide additional information about the sites. During the second site visit, student focus group discussions were conducted in four Case Study districts. Summary information about the first round of visits in spring 2000 was presented in our first report. Exhibit A-I-5 summarizes the same information for the spring 2001 visits. Descriptive information collected during these visits is contained in the Case Study reports included in the Case Studies Appendix, and is also integrated into the chapters of the main report.

Exhibit A-I-5.
Number of schools visited or surveyed in case study districts

Case	MSAP-supported Schools Visited (Principal Surveyed)				Comparisons—Visited (Principal Surveyed)			Comparisons—No Visit (Principal Surveyed)		
Site	Elem.	Middle	High	Other	Elem.	Middle	High	Elem.	Middle	High
A	3	0	1	0	1	0	1	1	0	0
B	3	1	0	0	1	1	0	1	0	0
C	2	2	0	1	1	1	0	1	1	0
D	0	0	3	0	0	0	1	0	0	0
E	4	0	0	0	2	0	0	0	0	0
F	2	2	0	0	1	1	0	1	1	0
G	0	1	3	0	0	1	1	0	0	0
H	4	0	0	0	2	0	0	0	0	0
Total	18	6	7	1	8	4	3	4	2	0

Finally, in spring 2001 we surveyed a sample of teachers in the Case Study and comparison schools. The surveys contained closed-ended questions about the teachers' perceptions of the professional communities of their schools, the impact of state curriculum frameworks and student assessments on instruction, the degree of emphasis on specific teaching practices and strategies, the professional development in which the teachers had recently participated, and the teachers' professional backgrounds. Five subject-specific versions of the survey were administered to teachers in MSAP schools: elementary school language arts and mathematics; and middle or high school language arts, mathematics, and special classes related to the magnet theme. Similar language arts and mathematics surveys (minus the questions pertaining to magnet program features) were administered to teachers in comparison schools.

Coding of District and School Characteristics

Determination of districts' desegregation plan type

To be eligible to receive MSAP funds, districts must be implementing a formal desegregation plan—either a plan that they are undertaking voluntarily or one that has been required by an external authority. We identified each district's plan type using information provided in MSAP applications. One of the documents districts usually submitted in Part V of their MSAP application was the Desegregation Plan Information form (Reference §280.20), on which the district indicates the nature of its plan. In addition, most application narratives included historical and descriptive information about their plans. We verified our classifications of the 57 grantees with staff of MSAP and the Department of Education.

Assignment of grade level categories to schools

The content and structure of magnet programs differ somewhat by grade level. For example, high school programs are more likely to focus on vocational preparation than are programs for lower grades, and are more likely to be organized as programs within a school (PWSs) rather than whole school programs. Consequently, most analyses in this study disaggregate results by school grade level. Although most schools in the 57 MSAP districts serve

conventional grade ranges (kindergarten through grade 5 elementary schools, grade 6 through 8 middle schools, and grade 9 through 12 high schools), there are many variations on the basic pattern. Some schools open with just a grade or two and phase in additional grades over time. Others serve wide grade ranges such as K–8 or 6–12. In order to group similar schools together for comparative analyses and to minimize the number of schools in the "other" category, we used the following rules for assigning schools to grade level categories:

- Elementary school: low grade is 3 or below; high grade does not exceed 8.
- Middle school: no grade is lower than 4; high grade does not exceed 9. One school that contains a kindergarten as well as grades 6–8 is counted as a middle school.
- High school: low grade is no lower than 9; high grade is up to 12.
- Combined levels school: lowest grade is in the elementary or middle school range; high grade in the high school range (e.g., 4–12, 6–12, 7–12).

Identification of desegregation objectives

A major legislative purpose of the MSAP program is to assist school districts in reducing, eliminating, or preventing minority group isolation in their schools through the development of attractive instructional programs. Within the context of the MSAP, "minority" includes students from the following race-ethnic backgrounds: American Indian or Alaskan Native, Asian or Pacific Islander, Hispanic, and black (not of Hispanic origin).[2] A schools is defined as minority group isolated if minority group students comprise 50 percent or more of the school's enrollment. When they apply for MSAP grants, districts identify one or more schools that will be targeted for desegregation impact by their proposed magnet program and specify a particular desegregation objective for each one.

Several of the questions addressed by this evaluation concern the desegregation objectives that are set by grantees and the schools' success in meeting them. During this investigation, we collected the data needed to identify the schools that will be included in the analysis, as well as the objectives of the schools targeted for desegregation impact by the MSAP-supported project. We then collected and analyzed data on the trends in each school's enrollment composition to determine the extent to which grantees were able to meet—or make progress toward meeting—the desegregation objectives of reducing, preventing, or eliminating minority group isolation as those are defined under MSAP regulations.

Districts with voluntary plans must set objectives for their targeted schools that conform with the federally defined desegregation goals of reducing, eliminating, or preventing minority group isolation. Districts with required desegregation plans may have requirements established by a court or other agency that vary from those defined for voluntary districts.[3] The specific objectives set by required plans do not always conform to the MSAP definitions used. All applicants must explain how their programs support the legislated purposes of the MSAP. In general, however, the grantees in districts with required desegregation plans have also identified goals consistent with the desegregation objectives defined above. Based on discussions with the

[2] 34 CFR §280.4
[3] 34 CFR §280.2(a)(1)

Department of Education, this evaluation does not attempt to analyze the extent to which the schools in districts operating under plans required by an external authority have met the requirements set out by the external authority.

MSAP grant applications were one source of baseline data for this investigation. As stated earlier, applicants for MSAP support are required to submit detailed explanations of their desegregation plans that contain most of the information we need to establish the framework for our analyses. In their narratives, applicants were to identify the schools in which the federally supported magnet programs will operate (magnet schools) and the schools from which magnet students will be drawn (feeder schools), and indicate which of these schools are targeted for desegregation impact.[4] In addition, they were to supply specific information about the desegregation objectives of each targeted school, including enrollment statistics for the year prior to the initiation of the magnet program and projected or benchmark enrollment statistics to be met each year of the grant.

Although most schools and desegregation objectives were clearly identified in the applications, we did encounter ambiguities in these documents. Some applications contained varying statements of their schools' desegregation objectives. Because the questions to be addressed by this evaluation are predicated on federal definitions, we devoted considerable effort to resolving ambiguities in a manner that is both uniform and faithful to the intent of the MSAP statute and regulations. We considered both the wording of the objective and the nature of the change indicated by the baseline and projected enrollment statistics provided in the application. To resolve ambiguities encountered during our initial coding, as well as to ascertain that the desegregation plan described in the application did not change before the MSAP project commenced, we also reviewed grantees' first year performance reports and asked each project director to verify the information about their schools and desegregation objectives coded in our database. Finally, we consulted with the Department to resolve the most intractable cases.

Documentation of trends in school enrollment

The evaluation uses school- and district-level enrollment statistics to describe the context within which the magnet projects operate, to compare characteristics of the MSAP-supported magnets and other public schools, and to document the degree to which each magnet school meets its desegregation objectives. In order to support rigorous comparative analyses, these data must be:

- Collected at the same time each year.
- Available for all schools in the district that serve students in the grade level or levels that are served by the district's MSAP magnets.
- Disaggregated by minority status as defined by the regulations governing the MSAP, or by the five major racial-ethnic categories used by federal data-collecting agencies.

[4] Most of the schools targeted for desegregation impact are the schools in which the magnet programs are located. Sometimes, however, a magnet program targets a feeder school. That is, the magnet is intended to draw minority students away from a feeder school and thereby reduce, eliminate, or prevent minority group isolation in the feeder school.

We have obtained school and district enrollment data from four primary sources, each of which involves strengths and limitations.

Data that grantees provide to the MSAP in *applications and performance reports* document the minority or nonminority composition of the students in magnet and targeted feeder schools as well as districtwide. These data are disaggregated for grade and minority status and are reported separately for programs within a school (PWSs) where they exist. Some of the limitations in the quality of the data that grantees provide in their applications and annual reports included enrollment counts that are not from the same time of year in all districts, counts that are from an unspecified time of the year, inconsistent or conflicting counts in the same report, and use of rounded percentages rather than precise counts.

A few items on the *1999–2000 Principal Survey* and the *2000–2001 Principal Survey* also elicited information about student and program characteristics. By virtue of their positions in the magnet schools, principals are the best source of information about some aspects of their magnet programs. However, their information on other topics (e.g., the funding sources for special programs in their schools, whether their school operates a Title I Schoolwide Program) may be limited and at variance with information derived from other sources.

CCD school-level files contain data on the racial-ethnic composition of virtually all public schools in the United States between 1987 and the present. Thus they are the only source of data available to support analyses of historical trends in district and school enrollment composition. These data are collected at the same time each year and are reported in the five federal ethnic-racial categories. For some grantees, the CCD is also the only source of comparable enrollment data for the magnet and non-magnet schools in the district. The primary disadvantages of the CCD data are the time lag between collection and dissemination (certified data collected in October 1998 became publicly available in September 2000) and the fact that they do not allow analyses of enrollment trends for within-school programs, or for schools that have not been identified by the National Center for Education Statistics (i.e., several magnet schools in New York City), nor do they permit analysis of enrollment trends for single grades (e.g., kindergarten, first grade, second grade,…twelfth grade) for the period of this evaluation.[5] We have acquired the CCD school-level files for the 1997–1998, 1998–1999, 1999–2000, and 2000–2001 school years, as well as a number of prior years.

In view of the strengths and limitations described above, our study uses different data sources for different analyses. For analyses of desegregation outcomes over the course of the grant period, we are relying primarily on data from the CCD because it reduces the variability in reporting standards and provides an independent source of data on which to base evaluation of the MSAP programs. When data for a targeted school are not available in the CCD, the information provided by the grantees is used to make the evaluation.

[5] NCES introduced reporting of race-ethnicity by single grades (e.g., kindergarten, first grade, second grade, …twelfth grade) in the 1998–1999 CCD. Prior to that year race-ethnic counts were provided for each school, but not for single grades within schools. While the number of states providing the more detailed enrollment data is increasing, the data are not adequate for a more detailed analyses of minority enrollment trends for single grades for the period covered by the 1998 grant cycle.

School-Level Data Used in the Analysis of Achievement Trends in MSAP Schools

This evaluation addresses the issue of student achievement in MSAP-supported schools through two major lines of inquiry. The first focuses on the diverse objectives that local MSAP projects set for their magnet schools and the outcome data they used to document the schools' progress toward meeting those objectives. A detailed discussion of data collection and interpretation issues arising from the study of achievement objectives was provided in our first report.

The second line of inquiry uses a somewhat narrower range of measures—English language arts and mathematics scores on state standardized tests—to conduct better controlled studies, with more generalizable findings, of achievement trends in MSAP magnet schools and matched comparison schools without federally funded magnet programs. We planned to conduct two studies of this type: (1) an analysis of comprehensive, longitudinal student-level data (demographic background, program participation, and achievement measures for students in MSAP and non-MSAP schools) obtained from a subset of the eight Case Study districts and (2) an analysis of school-level achievement data for a larger number of districts if the necessary data became available during the course of the evaluation. By spring 2002, federal research policy dictated that student-level data should not be collected from Case Study districts, and at the same time the National School-Level State Assessment Score Database (developed by Don McLaughlin and his team at AIR) was sufficiently complete to go forward with a study of school-level achievement outcomes. This section discusses the data assembled for the state assessment analysis.

Characteristics of the national school-level state assessment score database

As its name suggests, the National School-Level State Assessment Score Database contains school-level test scores obtained directly from the testing agencies of most of the 50 states. Data for most subjects and grades tested are available back to 1997–1998 for many states and back to 1998–1999 for most. Scores for spring 2001 became available in summer 2002. Reflecting the diversity of states' reporting practices, the achievement measures included in the database vary from state to state and even from year to year for particular states. Common reporting metrics are mean scaled scores, mean national percentile ranks and normal score equivalents (NCEs), and percentages of students performing at criterion levels set by their states. The database also includes the NCES code for each school, which permits the student achievement data to be associated with demographic data from the Common Core of Data Non-Fiscal Survey (CCD). (A small fraction of schools with achievement data but no identifiable NCES code are excluded from the database.)

Availability of data for MSAP achievement analyses

The database contains at least some data for each of the 25 states in which MSAP-funded schools were located during the 1998 funding cycle. However, not all of the states and MSAP schools met the criteria necessary for inclusion in our analysis of trends in achievement. For inclusion in the analysis, a school required the following data:

- Mean test scores in mathematics, reading (or both) for at least one grade in the baseline year[6] and the final MSAP grant year, 2000–2001 (the same grade in each year).
- Ethnic composition of the enrollment in the baseline year and 2000–2001.
- Percentage of students eligible for free or reduced price lunch in 1999–2000.

In addition, in order to determine the amount of variation between MSAP schools in each state, it was necessary that any state included in the analysis would have data for at least two MSAP schools. We initially determined that the greatest number of MSAP schools with complete data were elementary schools; consequently, we restricted our analyses to trends in student achievement in grades three through five.

A total of 11 states were excluded from the analysis because they lacked test data for the baseline year or for 2000–2001, tested students at grade levels other than those served by MSAP programs, contained only one MSAP school with data, or lacked demographic data. Individual MSAP schools in the remaining 14 states were excluded from the analysis because data for one or both years were unavailable in the National School-Level State Assessment Score Database. The most common reasons for missing data were that the school was not open during the baseline year or did not have an identifiable NCES code that would allow the necessary linkage to demographic data in the CCD. A total of 135 MSAP elementary schools located in 14 states met all of the criteria for inclusion in the study. (See the Appendix-Chapter V for technical details about the analysis of these data.)

[6] The preferred baseline year was 1997–1998, the year prior to the beginning of the MSAP grants. For a few states that did not have test data for 1997–1998, we treated 1998–1999 as the baseline year.

Appendix II—Characteristics of MSAP-Supported Schools and Programs

Exhibit A-II-1.
Percentage and frequency of MSAP-funded schools by grade level: 2000–2001

	Percent	Frequency
Elementary	60.4%	172
Middle School	23.2%	66
High School	14.0%	40
Combined Levels	2.5%	7
Total	100.0%	285

Source: MSAP applications and 2000–2001 performance reports

Exhibit A-II-2.
Percentage distribution of magnet schools nationwide by grade level: 1999–2000

	Percent	Std. error
Elementary	63.7%	2.68
Middle School	15.0%	2.01
High School	19.6%	1.81
Combined Levels	1.6%	0.26
Total	100.0%	

Source: 1999–2000 NCES: Schools and Staffing Survey: Public School Questionnaire, item 15a and c

Exhibit A-II-3.
Percentage and frequency of MSAP schools by type of program within grade level: 2000–2001

	Grade Level				All Grades	
Type of Program	**Elementary (N = 172)**	**Middle School (N = 66)**	**High School (N = 40)**	**Combined Levels (N = 7)**	**% (N = 285)**	**Frequency**
Program within a School	6.4%	15.2%	30.0%	0.0%	11.6%	33
Whole School	93.6%	84.8%	70.0%	100.0%	88.4%	252
Total	100.0%	100.0%	100.0%	100.0%	100.0%	285

Source: MSAP applications and 2000–2001 performance reports

Exhibit A-II-4.
Percentage of whole school and PWS magnets nationwide by grade level: 1999–2000

	School Wide	PWS	Total
Elementary	78.2%	21.8%	100.0%
Middle School	52.5%	47.5%	100.0%
High School	44.0%	56.0%	100.0%
All Grade Levels	67.6%	32.4%	100.0%

Source: 1999–2000 NCES: Schools and Staffing Survey: Public School Questionnaire, item 15a, b, and c

Exhibit A-II-5
Budget means and percentages for 233 MSAP-supported schools, by budget category and year, based on total direct funds

Year	Staff and Fringe	Travel	Equip-ment	Supplies	Contract-ual	Construct-ion	Other Direct	Training Stipends	Indirect Costs	Total
1998–1999	$124,227	$2,162	$79,422	$63,611	$21,511	$603	$12,460	$6,483	$3,431	$313,910
1999–2000	139,552	1,760	67,795	65,346	18,413	359	8,114	4,769	3,392	309,500
2000–2001	143,687	1,505	61,698	59,534	16,494	344	7,437	3,105	3,236	297,040

N = 233 schools in 50 projects
Source: U.S. Department of Education

Exhibit A-II-6
Average full time equivalent of MSAP-funded staff and district-funded recruitment specialist devoted to recruitment activities

	Type of Desegregation Plan		
	Voluntary (N = 26)	Required (N = 21)	All Districts (N = 46)
MSAP-Funded Staff	1.41	1.96	1.65
District-Funded Recruitment Specialist	0.45	0.47	0.45
Total FTE Devoted to Recruitment	1.86	2.43	2.11

Source: Project Survey, 1999–2000, Items 4 and 5

Exhibit A-II-7
Percentage of districts with specific types of participation of school staff, students, and parents in recruitment effort by type of desegregation plan

	Type of Desegregation Plan		
	Voluntary (N = 30)	Required (N = 26)	All Districts (N =56)
Principals/Assistant Principals Organize School Tours	97%	96%	96%
Magnet School Teachers Make Presentations to Visitors	93%	88%	91%
Magnet School Teachers Visit Other Schools to Recruit Students	70%	69%	70%
Students Help Conduct School Tours	80%	88%	84%
Students Visit Other District Schools to Recruit	23%	46%	34%
Parents Make Presentations to Other Parents	53%	46%	50%
Parents Make Telephone Calls to Provide Information	23%	50%	36%
Other	43%	27%	36%

Source: Project Survey, 1999–2000, Item 6

Exhibit A-II-8
Percentage of districts using specific types of outreach used to recruit students by type of desegregation plan

	Type of Desegregation Plan		
	Voluntary (N = 30)	**Required (N = 26)**	**All Districts (N = 56)**
Brochures	100%	96%	98%
Information Distributed to Students	100%	92%	96%
Information Mailed to Parents who Request It	93%	85%	89%
Information Mailed to All Parents	67%	73%	70%
Presentations at Other Schools	77%	85%	80%
Presentations at Churches or Community Organizations	77%	92%	84%
Tours of School without Transportation Provided	90%	92%	91%
Tours of School with Transportation Provided	20%	35%	27%
Babysitters Provided for School Events	20%	46%	32%
Telephoning Parents to Explain Program	70%	58%	64%
Home Visits to Parents/Students	13%	23%	18%
Media Advertisements	87%	88%	88%
Advertising at Fairs or Other Forums	87%	88%	88%
Information on an Internet Site	63%	73%	68%
Other	30%	15%	23%

Source: Project Survey, 1999–2000, Item 6

Exhibit A-II-9
Extent to which district's outreach activities focus on targeted groups of students by type of desegregation plan

	Type of Desegregation Plan		
	Voluntary (N = 30)	**Required (N = 26)**	**All Districts (N = 56)**
None-Focus Outreach on All Students	20%	50%	34%
Less Than Half of the Outreach Effort	20%	15%	18%
Three-Quarters of the Outreach Effort	43%	19%	32%
All Outreach Efforts Focused on Targeted Groups of Students	17%	15%	16%
Total	100%	100%	100%

Source: Project Survey, 1999–2000, Item 3

Exhibit A-II-10
Percentage of MSAP districts in which waiting lists are maintained for one or more programs

Type of Desegregation Plan	**Percent**
Voluntary	52%
Required	77
All Districts	63

Source: Project Director Interview, 1999–2000, Item 7

Exhibit A-II-11.
Percentage and frequency of students in MSAP-funded programs by grade level: 2000–2001

	Percent	Frequency
Elementary	51.9%	95,493
Middle School	24.6%	44,126
High School	19.6%	36,141
Combined Levels	3.9%	8,191
Total	100.0%	183,951

Source: MSAP 2000–2001 performance reports, Principal Surveys 2000–2001 Items 24b and 24c, and NCES 2000–2001 Common Core of Data

Exhibit A-II-12.
Percentage and number of students in MSAP programs by type of program within grade level: 2000–2001

	Grade Level				All Grades	
Type of Program	Elementary (N = 172)	Middle School (N = 66)	High School (N = 40)	Combined Levels (N = 7)	% (N = 285)	Frequency
Program within a School	2.1%	9.1%	11.6%	0.0%	5.6%	10,325
Whole school	97.9%	90.9%	88.4%	100.0%	94.4%	173,626
Total	100.0%	100.0%	100.0%	100.0%	100.0%	183,951

Source: MSAP 2000–2001 performance reports, MSAP Principal Survey 2000–2001, Item 24, and NCES 2000–2001 Common Core of Data

Exhibit A-II-13.
Percentage of minority students in MSAP-funded programs at each grade level and overall: 2000–2001

	% Minority	of N students
Elementary	74.8%	95,493
Middle School	72.1%	45,184
High School	77.5%	36,141
Combined Levels	70.0%	7,133
Overall	74.5%	183,951

Source: MSAP 2000–2001 performance reports, MSAP Principal Survey 2000–2001, Items 24b and 24c, and NCES 2000–2001 Common Core of Data

Exhibit A-II-14.
Percentage minority enrollment in each type of MSAP-funded program within grade level: 2000–2001

	Grade Level					
Type of Program	**Elementary**	**Middle School**	**High School**	**Combined Levels**	**All Grades**	**N students**
Program within a School	65.7%	65.2%	60.6%	–	63.4%	10,325
Whole school	75.0%	72.8%	79.7%	70.0%	75.2%	173,626
N students	95,493	45,184	36,141	8,191	183,951	

Source: 2000–2001 performance reports, Principal Survey 2000–2001 - Items 24b and 24c, and NCES Common Core of Data 2000–2001

Exhibit A-II-15
Mean percentage of minority student enrollment within districts for MSAP and non-MSAP schools by race-ethnic group: 1999–2000

	Grade Level				
MSAP v. Non-MSAP schools	**Black**	**Hispanic**	**Asian/Pacific Islander**	**Am. Indian/ Alaskan Native**	**All Minorities***
Schools with MSAP-Funded Program	42.1%	24.3%	5.7%	0.5%	72.6%
Schools without MSAP-Funded Program	34.4%	22.6%	5.5%	0.6%	63.1%

N = 55 districts
Includes only schools in district that are at same grade levels as MSAP programs in district
Source: NCES 1999–2000 Common Core of Data

Exhibit A-II-16.
Mean and median percentage of MSAP and non-MSAP students who are eligible for free or reduced price lunch: 1999–2000

	MSAP Schools	**Non-MSAP Schools**
Mean Percent	60.3%	57.6%
Median Percent	65.0%	60.3%

N =55 Districts
Source: NCES 1999–2000 Common Core of Data

Exhibit A-II-17.
Mean and median percentage of MSAP and non-MSAP students who are limited English proficient (LEP): 1999–2000

	MSAP Schools	Non-MSAP Schools
Mean Percent	14.4%	11.9%
Median Percent	8.9	7.1

N =24 Districts
Source: various districts and state agencies supplemented with enrollment data from NCES 1999–2000 Common Core of Data

Exhibit A-II-18.
Mean and median percentage of MSAP and non-MSAP students who have an individualized education plan (IEP): 1999–2000

	MSAP Schools	Non-MSAP Schools
Mean Percent	13.2%	12.1%
Median Percent	12.9	12.5

N =19 Districts
Source: various districts and state agencies supplemented with enrollment data from NCES 1999–2000 Common Core of Data

Exhibit A-II-19.
Percentage of MSAP-supported schools with targeted and schoolwide Title I programs compared with non-MSAP schools in districts and schools nationally: 1999–2000

Type of Title I Program	MSAP Schools	Non-MSAP Schools	Nationwide
Schoolwide	59.9%	43.1%	26.6%
Targeted	11.2	7.1	32.4%
Total Percent with Title I Program	71.1%	50.2%	59.0%
(N of Schools)	(152)	(1,431)	(1,186)

N = 32 out of 57 MSAP districts
Source: Data for schools in MSAP districts are from NCES 1999–2000 Common Core of Data. National data are for the 1997-1998 school year as reported from the Follow-up Public School Survey on Education Reform by Heid and Webber (1999).

Exhibit A-II-20.
Pupil-teacher ratios in MSAP and non-MSAP schools by grade level: 1999–2000

	MSAP Schools	Non-MSAP
Elementary	15.9	17.0
Middle School	17.8	17.0
High School	16.2	18.2

N = 51 districts
Source NCES 1999–2000 Common Core of Data

Appendix III—Innovative Educational Practice and Support for Systemic Reform in MSAP Schools

Exhibit A-III-1.
Principals' familiarity with state's mathematics curriculum framework, 2000–2001

	Overall (%) (N = 257)	Elementary (%) (N = 162)	Middle (%) (N = 59)	High (%) (N = 36)
Not at All Familiar	0	0	0	0
Somewhat Familiar	3	1	3	11
Familiar	25	22	29	31
Very Familiar	72	77	68	58

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 1

Exhibit A-III-2.
Principals' familiarity with school's scores on state's statewide mathematics assessment, 2000–2001

	Overall (%) (N = 254)	Elementary (%) (N = 158)	Middle (%) (N = 59)	High (%) (N = 37)
Not at All Familiar	0	0	0	0
Somewhat Familiar	0	0	2	0
Familiar	8	5	5	24
Very Familiar	92	95	93	76

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 3

Exhibit A-III-3.
Principals' familiarity with state's language arts curriculum framework, 2000–2001

	Overall (%) (N = 254)	Elementary (%) (N = 161)	Middle (%) (N = 57)	High (%) (N = 36)
Not at All Familiar	0	0	0	0
Somewhat Familiar	3	1	4	11
Familiar	19	16	23	25
Very Familiar	78	83	74	64

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 1

Exhibit A-III-4.
Principals' familiarity with school's scores on state's statewide language arts assessment, 2000–2001

	Overall (%) (N = 254)	Elementary (%) (N = 158)	Middle (%) (N = 59)	High (%) (N = 37)
Not at All Familiar	0	0	0	0
Somewhat Familiar	0	0	2	0
Familiar	8	5	5	24
Very Familiar	92	95	93	76

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 3

Exhibit A-III-5.
Extent to which principals report that state's mathematics curriculum framework was used to guide curriculum and instruction decisions at school, 2000–2001

	Overall (%) (N = 255)	Elementary (%) (N = 160)	Middle (%) (N = 59)	High (%) (N = 36)
Not at All	0	0	0	0
To Some Extent	11	9	14	14
To a Great Extent	89	81	86	86

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 2

Exhibit A-III-6.
Extent to which principals report that state's mathematics statewide assessments was used to guide curriculum and instruction decisions at school, 2000–2001

	Overall (%) (N = 252)	Elementary (%) (N = 159)	Middle (%) (N = 59)	High (%) (N = 35)
Not at All	0	0	0	0
To Some Extent	12	10	10	20
To a Great Extent	88	90	90	80

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 4

Exhibit A-III-7.
Extent to which principals report that state's language arts curriculum framework was used to guide curriculum and instruction decisions at school, 2000–2001

	Overall (%) (N = 253)	Elementary (%) (N = 160)	Middle (%) (N = 57)	High (%) (N = 36)
Not at All	0	0	0	0
To Some Extent	9	7	14	14
To a Great Extent	91	93	86	86

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 2

Exhibit A-III-8.
Extent to which principals report that state's language arts statewide assessments was used to guide curriculum and instruction decisions at school, 2000–2001

	Overall (%) (N = 252)	Elementary (%) (N = 158)	Middle (%) (N = 59)	High (%) (N = 35)
Not at All	0	0	0	0
To Some Extent	12	10	10	20
To a Great Extent	88	90	90	80

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 4

Exhibit A-III-9.
Extent to which project directors report that state's curriculum frameworks, assessments and performance standards match MSAP schools' instructional goals, 1999–2000

	Mathematics (%)	Language Arts (%)	Science (%)	Social Studies (%)
Not at All	2	2	7	9
Only Slightly	0	0	0	2
To Some Extent	9	9	16	22
To a Great Extent	89	89	76	67

N varies between 55 and 56 projects.
Source: MSAP Project Survey, 1999–2000, Item 21

Exhibit A-III-10.
Extent to which principals report that state's mathematics statewide assessments reflect the goals of the schools' magnet program, 2000–2001

	Overall (%) (N = 249)	Elementary (%) (N = 155)	Middle (%) (N = 59)	High (%) (N = 35)
Not at All	0	0	2	0
To Some Extent	30	28	36	31
To a Great Extent	69	72	63	69

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 5

Exhibit A-III-11.
Extent to which principals report that state's language arts statewide assessments reflect the goals of the schools' magnet program, 2000–2001

	Overall (%) (N = 249)	Elementary (%) (N = 157)	Middle (%) (N = 56)	High (%) (N = 36)
Not at All	1	1	2	0
To Some Extent	28	24	34	36
To a Great Extent	71	75	64	64

Note: N excludes 6 combined-level schools.
Source: MSAP Principal Survey, 2000–2001, Item 5

Exhibit A-III-12.
Type and frequency of technical assistance provided in 1998–1999 to 2000–2001 by MSAP project directors and other district-level MSAP staff

	1998–1999			2000–2001		
	Once a month (%)	Every two weeks (%)	Once a week (%)	Once a month (%)	Every two weeks (%)	Once a week (%)
Curriculum and Instruction						
Designing Curriculum	34	30	35	40	30	30
Planning Professional Development	43	24	33	57	27	16
Developing Theme	40	27	33	55	22	24
Designing Assessments	72	22	6	84	10	6
Keeping Teachers Motivated	26	27	47	49	16	35
Leadership						
Budgeting	16	16	69	31	18	51
Helping Principals Lead	37	20	43	45	24	31
Working with Parents	51	18	31	47	20	33

N varies between 49 and 51 projects.
Source: MSAP Project Survey, 1999–2000, Item 13; MSAP Project Survey, 2000–2001, Item 4

Exhibit A-III-13.
Provision of technical assistance focused on curriculum and instruction by MSAP project directors and other district-level MSAP staff

		1998–1999		2000–2001	
Scale score	**Frequency of provision**	**Percent**	**Frequency**	**Percent**	**Frequency**
1.0–1.25	Never	2	1	0	0
1.26–1.75		0	0	0	0
1.76–2.25	Less Than Once a Month	6	3	8	4
2.26–2.75		10	5	6	3
2.76–3.25	About Once a Month	16	8	42	21
3.26–3.75		22	11	10	5
3.76–4.25	About Once Every 2 Weeks	16	8	20	10
4.26–4.75		12	6	12	6
4.76–5.0	Once a Week or More	16	8	2	1
Mean and Standard Deviation		3.64	0.89	3.37	0.84

N = 51 projects
Note: The technical assistance scale was created by averaging five technical assistance variables: 1998–1999=Q12e, Q12f, Q12g, Q12h, and Q12k; 2000–2001=Q4d, Q4e, Q4f, Q4g, and Q4j.
Source: MSAP Project Survey, 1999–2000, Item 13; MSAP Project Survey, 2000–2001

Exhibit A-III-14.
Provision of technical assistance focused on leadership by MSAP project directors and other district-level MSAP staff

		1998–1999		2000–2001	
Scale score	**Frequency of provision**	**Percent**	**Frequency**	**Percent**	**Frequency**
1.0–1.25	Never	0	0	0	0
1.26–1.75		0	0	0	0
1.76–2.25	Less Than Once a Month	2	1	0	0
2.26–2.75		4	2	10	5
2.76–3.25	About Once a Month	10	5	8	4
3.26–3.75		24	12	30	15
3.76–4.25	About Once Every 2 Weeks	12	6	12	6
4.26–4.75		30	15	34	17
4.76–5.0	Once a Week or More	18	9	6	3
Mean and Standard Deviation		4.00	0.75	3.83	0.75

N = 51 projects
Note: The technical assistance scale was created by averaging three technical assistance variables: 1998–1999=Q12c, Q12j, and Q12l; 2000–2001=Q4b, Q4l, and Q4k.
Source: MSAP Project Survey, 1999–2000, Item 12; MSAP Project Survey, 2000–2001, Item 4

Exhibit A-III-15.
Principal reports of depth of magnet programs, 1999–2000 and 2000–2001

	1999–2000		2000–2001	
	Middle (%)	**High (%)**	**Middle (%)**	**High (%)**
Special or Elective Courses Offered as Part of Magnet Program	70	81	74	91
Students Can Pick a Theme or Area of Specialization	44	55	39	70
(Of These) Students are Required to Select a Theme or Area of Specialization	71	67	79	67
Students Required to Complete Courses in Addition to Those Required by Other Schools in the District	49	65	45	68

N varies between 51 to 54 middle schools and between 32 and 34 high schools.
Source: MSAP Principal Survey, 1999–2000, Items 48–50; MSAP Principal Survey, 2000–2001, Items 31–33

Exhibit A-III-16.
Teacher reports of the magnet programs' influence on instruction, 2000–2001

	Not at all (%)	~ Greater extent ~ (%)	~ Greater extent ~ (%)	~ Greater extent ~ (%)	To a great extent (%)	Mean (standard deviation)
Added New Topics						
Elementary Teachers	0	8	20	40	32	3.95 (0.93)
Secondary Teachers	14	12	23	42	9	3.21 (1.15)
Reading/Language Arts Teachers	4	9	24	38	24	3.73 (1.04)
Mathematics Teachers	2	14	16	46	23	3.69 (1.08)
Overall	6	10	21	41	22	3.71 (1.06)
Added More Advanced Work						
Elementary Teachers	2	5	27	35	32	3.90 (0.97)
Secondary Teachers	5	9	23	42	21	3.62 (1.15)
Reading/Language Arts Teachers	0	7	27	40	27	3.75 (1.16)
Mathematics Teachers	7	7	20	36	30	3.87 (0.89)
Overall	3	7	25	38	27	3.81 (1.03)
Changed Teaching Methods						
Elementary Teachers	0	8	17	42	33	4.00 (0.92)
Secondary Teachers	12	7	21	40	21	3.50 (1.26)
Reading/Language Arts Teachers	4	9	20	40	27	3.93 (1.03)
Mathematics Teachers	2	9	14	42	33	3.76 (1.09)
Overall	5	8	18	41	28	3.84 (1.06)
Changed Assessment Methods						
Elementary Teachers	5	15	27	30	23	3.52 (1.16)
Secondary Teachers	14	11	30	32	14	3.21 (1.29)
Reading/Language Arts Teachers	11	9	29	33	18	3.45 (1.21)
Mathematics Teachers	7	16	24	30	23	3.38 (1.21)
Overall	9	13	28	31	19	3.42 (1.20)
Increased the Use of Technology						
Elementary Teachers	0	5	15	17	63	4.38 (0.92)
Secondary Teachers	5	9	20	30	36	3.69 (1.14)
Reading/Language Arts Teachers	0	4	27	18	51	4.16 (1.12)
Mathematics Teachers	2	9	14	20	55	4.16 (0.98)
Overall	2	7	17	22	52	4.16 (1.04)
Increased Material that Connects (Reading/ Language Arts or Mathematics) with Other Subjects						
Elementary teachers	0	3	15	40	42	4.20 (0.82)
Secondary teachers	7	7	32	32	23	3.38 (1.18)
Reading/language arts teachers	2	2	24	40	31	3.91 (1.12)
Mathematics teachers	5	7	18	34	36	3.96 (0.93)
Overall	3	5	22	37	34	3.93 (1.02)

N = 60 elementary teachers, 29 secondary teachers, 44 reading/language arts teachers, and 45 mathematics teachers
Note: Response scale was from 1 to 5.
Source: Elementary Mathematics Teacher Survey, 2000–2001, Item 33; Elementary Reading Teacher Survey, 2000–2001, Item 38; Middle and High School Mathematics Teacher Survey, 2000–2001, Item 33; Middle and High School Language Arts Teacher Survey, 2000–2001, Item 32

Exhibit A-III-17.
Aspects of professional community in MSAP elementary schools

	1999–2000				2000–2001			
	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)
Rules for Student Behavior Consistently Enforced by Teachers	2	5	54	39	0	3	44	53
Teachers Support Rule Enforcement by Principal	1	1	41	56	0	1	30	70
Teachers Coordinate across Grades	1	13	62	24	0	7	54	39
School Seems Like Big Family	1	6	49	43	1	5	44	51
Staff Members Support Each Other	1	2	46	52	0	3	40	58
Most Teachers Willing to Put in Extra Hours	1	5	35	58	0	4	30	66
Most Teachers Share Beliefs about Mission	1	2	46	51	1	1	39	59
Most Teachers Seek New Ideas	1	5	39	54	0	4	33	63
Most Teachers Care about Students	1	1	24	73	0	0	0	77
Administrators and Teachers Collaborate	2	1	41	56	1	1	32	66
Ethnic Differences Among Staff Create Tensions	74	19	6	1	77	20	3	0
Principal Has Confidence in Expertise of Teachers	1	2	52	45	0	2	32	66
Principal Usually Looks Forward to Working Each Day	1	2	28	69	0	2	20	78
Sometimes Principal Feels It's a Waste of Time To Do Best	80	16	2	2	84	12	1	3

N varies between 147 and 152 schools.
Source: MSAP Principal Survey, 1999–2000, Item 11; MSAP Principal Survey, 2000–2001, Item 27

Exhibit A-III-18.
Aspects of professional community in MSAP middle schools

	1999–2000				2000–2001			
	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)
Rules for Student Behavior Consistently Enforced by Teachers	0	11	64	25	0	9	62	29
Teachers Support Rule Enforcement by Principal	0	2	45	53	0	4	53	44
Teachers Coordinate across Grades	2	9	62	27	2	4	65	29
School Seems Like Big Family	0	15	57	28	2	6	55	38
Staff Members Support Each Other	0	0	1	44	2	4	51	44
Most Teachers Willing to Put in Extra Hours	2	4	53	42	2	11	40	47
Most Teachers Share Beliefs about Mission	0	4	60	36	0	5	51	42
Most Teachers Seek New Ideas	2	7	58	33	0	7	62	31
Most Teachers Care about Students	2	0	45	53	2	4	42	53
Administrators and Teachers Collaborate	0	2	51	47	0	4	49	47
Ethnic Differences Among Staff Create Tensions	60	29	9	2	64	33	2	2
Principal Has Confidence in Expertise of Teachers	0	2	58	40	2	2	45	51
Principal Usually Looks Forward to Working Each Day	0	2	33	65	0	0	33	67
Sometimes Principal Feels It's a Waste of Time To Do Best	84	15	2	0	76	18	4	2

N varies between 53 and 55 schools.
Source: MSAP Principal Survey, 1999–2000, Item 11; MSAP Principal Survey, 2000–2001, Item 27

Exhibit A-III-19.
Aspects of professional community in MSAP high schools, 1999–2000 and 2000–2001

	1999–2000				2000–2001			
	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)
Rules for Student Behavior Consistently Enforced by Teachers	0	11	74	14	0	17	54	29
Teachers Support Rule Enforcement by Principal	0	0	69	31	0	9	60	31
Teachers Coordinate across Grades	0	20	69	11	0	23	63	14
School Seems Like Big Family	0	14	63	23	0	26	43	31
Staff Members Support Each Other	0	11	37	51	0	9	49	43
Most Teachers Willing to Put in Extra Hours	0	9	37	54	0	9	43	49
Most Teachers Share Beliefs about Mission	0	9	66	26	0	6	54	40
Most Teachers Seek New Ideas	0	9	69	23	0	9	60	31
Most Teachers Care about Students	0	6	29	66	0	3	49	49
Administrators and Teachers Collaborate	0	6	49	46	0	6	57	37
Ethnic Differences Among Staff Create Tensions	7	17	6	6	63	31	0	6
Principal Has Confidence in Expertise of Teachers	0	3	40	57	0	3	43	54
Principal Usually Looks Forward to Working Each Day	0	3	31	66	0	0	29	71
Sometimes Principal Feels It's a Waste of Time To Do Best	76	21	3	0	71	26	0	3

N varies between 34 and 35 schools.
Source: MSAP Principal Survey, 1999–2000, Item 11; MSAP Principal Survey, 2000–2001, Item 27

Exhibit A-III-20.
Extent of professional community in MSAP elementary, middle, and high schools, 1999–2000 and 2000–2001

Scale score range	Professional community scale	1999–2000			2000–2001		
		Elementary (%)	Middle (%)	High (%)	Elementary (%)	Middle (%)	High (%)
1.00–1.24	Strongly Disagree	1	0	0	0	0	0
1.25–1.74		0	0	0	0	0	0
1.75–2.24	Disagree	1	0	0	0	2	3
2.25–2.74		2	5	8	3	7	9
2.75–3.24	Agree	23	33	24	16	35	30
3.25–3.74		50	53	54	47	42	41
3.75–4.00	Strongly Agree	23	8	14	34	15	19
Mean and Standard Deviation		3.44 (0.42)	3.33 (0.35)	3.32 (0.37)	3.55 (0.35)	3.33 (0.43)	3.31 (0.43)

N = 161 elementary school, 60 middle school, and 37 high school
Note: N excludes 6 principals from combined-level schools.
Note: The professional community scale was created by averaging fourteen technical assistance variables: 1999–2000=Q11_1 – Q11_3 and Q11_5 – Q11_15; 2000–2001=Q27a – Q27c and Q27e – Q27o.
Source: MSAP Principal Survey, 1999–2000, Item 11; MSAP Principal Survey, 2000–2001, Item 27

Exhibit A-III-21.
Extent of professional community in case study MSAP and matched comparison schools, 1999–2000 and 2000–2001

Scale score range	Professional community scale	1999–2000		2000–2001	
		MSAP (%)	Comparison (%)	MSAP (%)	Comparison (%)
1.00–1.24	Strongly Disagree	0	0	0	0
1.25–1.74		0	0	0	0
1.75–2.24	Disagree	0	0	0	0
2.25–2.74		0	0	0	6
2.75–3.24	Agree	14	44	24	63
3.25–3.74		66	50	41	25
3.75–4.00	Strongly Agree	21	6	35	6
Mean and Standard Deviation		3.50 (0.27)	3.32 (0.27)	3.53 (0.35)	3.18 (0.35)

N = 29 MSAP schools and 16 matched comparison schools
Note: N excludes 6 principals from combined-level schools.
Note: The professional community scale was created by averaging fourteen technical assistance variables: MSAP, 1999–2000=Q11_1 – Q11_3 and Q11_5 – Q11_15; Non-MSAP, 1999–2000=Q8_1 – Q8_3 and Q8_5 – Q8_15; MSAP, 2000–2001=Q27a – Q27c and Q27e – Q27o; Non-MSAP, 2000–2001=Q22a – Q22c and Q22e – Q22o.
Source: MSAP Principal Survey, 1999–2000, Item 11; Principal Survey—Non-MSAP School, 1999–2000, Item 8; MSAP Principal Survey, 2000–2001, Item 27; Principal Survey—Non-MSAP School, 2000–2001, Item 22

Exhibit A-III-22.
Student behavior problems in MSAP elementary, middle, and high schools, 1999–2000 and 2000-2001

	1999–2000				2000–2001			
	None (%)	Minor (%)	Moderate (%)	Serious (%)	None (%)	Minor (%)	Moderate (%)	Serious (%)
Physical Conflicts among Students								
Elementary Schools	46	44	13	1	46	44	6	3
Middle Schools	22	56	20	2	24	55	20	2
High Schools	37	57	6	0	26	54	17	3
Robbery or Theft								
Elementary Schools	63	34	2	1	72	26	1	1
Middle Schools	43	46	7	4	48	50	2	0
High Schools	37	63	0	0	34	54	11	0
Vandalism								
Elementary Schools	59	36	5	1	68	30	2	0
Middle Schools	46	45	9	0	50	46	4	0
High Schools	43	49	6	3	31	57	11	0
Verbal Abuse of Teachers								
Elementary Schools	65	33	2	0	72	26	2	0
Middle Schools	39	39	14	7	41	41	16	2
High Schools	43	40	17	0	40	43	11	6
Physical Abuse of Teachers								
Elementary Schools	91	7	1	0	92	7	1	0
Middle Schools	85	9	6	0	82	18	0	0
High Schools	86	14	0	0	89	9	0	0
Disrespect for Teachers								
Elementary Schools	41	51	7	1	46	47	7	1
Middle Schools	25	42	25	7	25	45	24	5
High Schools	35	47	12	6	38	35	24	3

N varies between 144 and 152 for elementary schools, between 55 and 56 for middle schools and between 34 and 35 for high schools.
Source: MSAP Principal Survey, 1999–2000, Item 12; MSAP Principal Survey, 2000–2001, Item 28

Exhibit A-III-23.
Extent of student behavior problems in MSAP elementary, middle, and high schools, 1999–2000 and 2000–2001

Scale Score Range	School Climate Scale	1999–2000			2000–2001		
		Elementary (%)	Middle (%)	High (%)	Elementary (%)	Middle (%)	High (%)
1.00–1.24	Not a Problem	36	25	30	45	23	24
1.25–1.74		38	25	22	38	33	27
1.75–2.24	Minor Problem	22	28	43	15	30	35
2.25–2.74		2	16	5	1	11	8
2.75–3.24	Moderate Problem	1	7	0	1	3	5
3.25–3.74		0	0	0	0	0	0
3.75–4.00	Serious Problem	0	0	0	0	0	0
Mean and Standard Deviation		1.47 (0.41)	1.78 (0.59)	1.64 (0.44)	1.41 (0.40)	1.70 (0.51)	1.74 (0.55)

N = 161 elementary schools, 61 middle schools, 37 high schools
Note: N excludes 6 principals from combined-level schools.
Note: The school climate scale was created by averaging six school climate variables: 1999–2000=Q12_6, Q12_7, Q12_8, Q12_13, Q12_14, Q12_15; 2000–2001= Q28e, Q28f, Q28g, Q28m, Q28n, Q28o.
Source: MSAP Principal Survey, 1999–2000, Item 12; MSAP Principal Survey, 2000–2001, Item 28

Exhibit A-III-24.
Extent of student behavior problems in case study MSAP and matched comparison schools, 1999–2000 and 2000–2001

Scale Score Range	School Climate Scale	1999–2000		2000–2001	
		MSAP (%)	Comparison (%)	MSAP (%)	Comparison (%)
1.00–1.24	Not a Problem	28	25	41	19
1.25–1.74		38	19	34	31
1.75–2.24	Minor Problem	24	38	24	31
2.25–2.74		7	6	0	13
2.75–3.24	Moderate Problem	3	13	0	6
3.25–3.74		0	0	0	0
3.75–4.00	Serious Problem	0	0	0	0
Mean and Standard Deviation		1.61 (0.52)	1.81 (0.60)	1.44 (0.35)	1.84 (0.57)

N = 29 elementary schools and 16 matched comparison schools
Note: The school climate scale was created by averaging six school climate variables: MSAP, 1999–2000=Q12_6, Q12_7, Q12_8, Q12_13, Q12_14, Q12_15; Non-MSAP, 1999–2000=Q9_6, Q9_7, Q9_8, Q9_13, Q9_14, Q9_15; MSAP, 2000–2001= Q28e, Q28f, Q28g, Q28m, Q28n, Q28o; Non-MSAP, 2000–2001= Q23e, Q23f, Q23g, Q23m, Q23n, Q23o.
Source: MSAP Principal Survey, 1999–2000, Item 12; MSAP Principal Survey, 2000–2001, Item 28; Principal Survey—Non-MSAP School, 1999–2000, Item 9; Principal Survey—Non-MSAP School, 2000–2001, Item 23

Exhibit A-III-25.
Extent of student disengagement problems in case study MSAP and matched comparison schools, 1999–2000 and 2000–2001

Scale Score Range	School Climate Scale	1999–2000		2000–2001	
		MSAP (%)	Comparison (%)	MSAP (%)	Comparison (%)
1.00–1.24	Not a Problem	3	0	10	0
1.25–1.74		21	6	10	6
1.75–2.24	Minor Problem	17	13	24	13
2.25–2.74		31	31	38	25
2.75–3.24	Moderate Problem	14	38	7	31
3.25–3.74		14	13	10	25
3.75–4.00	Serious Problem	0	0	0	0
Mean and Standard Deviation		2.30 (0.71)	2.66 (0.50)	2.23 (0.69)	2.73 (0.66)

N = 29 MSAP schools and 16 matched comparison schools
Note: The school climate scale was created by averaging eight school climate variables: MSAP, 1999–2000=Q12_1, Q12_2, Q12_3, Q12_17, Q12_18, Q12_19, Q12_20, Q12_21; Non-MSAP, 1999–2000=Q9_1, Q9_2, Q9_3, Q9_17, Q9_18, Q9_19, Q9_20, Q9_21; MSAP, 2000–2001= Q28a, Q28b, Q28c, Q28q, Q28r, Q28s, Q28t, Q28u; Non-MSAP, 2000–2001= Q23a, Q23b, Q23c, Q23q, Q23r, Q23s, Q23t, Q23u.
Source: MSAP Principal Survey, 1999–2000, Item 12; MSAP Principal Survey, 2000–2001, Item 28; Principal Survey—Non-MSAP School, 1999–2000, Item 9; Principal Survey—Non-MSAP School, 2000–2001, Item 23

Exhibit A-III-26.
Professional development areas emphasized in MSAP elementary schools, 1999–2000 and 2000–2001

	1999–2000				2000–2001			
	No emphasis (%)	Little Emphasis (%)	Moderate Emphasis (%)	Major Emphasis (%)	No emphasis (%)	Little Emphasis (%)	Moderate Emphasis (%)	Major Emphasis (%)
State or District Curriculum and Performance Standards	0	2	26	72	0	1	19	81
Student Performance Assessments	0	9	40	51	1	5	28	66
Addressing the Needs of Students with Limited English Proficiency or from Diverse Cultural Backgrounds	13	26	35	26	9	18	42	32
Addressing the Needs of Students with Disabilities	3	23	42	32	3	15	44	38

N = 151 schools
Source: MSAP Principal Survey, 1999–2000, Item 29; MSAP Principal Survey, 2000–2001, Item 17

Exhibit A-III-27.
Professional development areas emphasized in MSAP middle schools, 1999–2000 and 2000–2001

	1999–2000				2000–2001			
	No emphasis (%)	**Little Emphasis (%)**	**Moderate Emphasis (%)**	**Major Emphasis (%)**	**No emphasis (%)**	**Little Emphasis (%)**	**Moderate Emphasis (%)**	**Major Emphasis (%)**
State or District Curriculum and Performance Standards	0	0	21	79	0	0	33	67
Student Performance Assessments	0	9	44	47	0	4	47	49
Addressing the Needs of Students with Limited English Proficiency or from Diverse Cultural Backgrounds	16	27	30	27	7	27	34	32
Addressing the Needs of Students with Disabilities	0	14	49	37	2	14	47	37

N = 57 schools
Source: MSAP Principal Survey, 1999–2000, Item 29; MSAP Principal Survey, 2000–2001, Item 17

Exhibit A-III-28.
Professional development areas emphasized in MSAP high schools, 1999–2000 and 2000–2001

	1999–2000				2000–2001			
	No emphasis (%)	**Little Emphasis (%)**	**Moderate Emphasis (%)**	**Major Emphasis (%)**	**No emphasis (%)**	**Little Emphasis (%)**	**Moderate Emphasis (%)**	**Major Emphasis (%)**
State or District Curriculum and Performance Standards	0	9	26	66	0	3	26	71
Student Performance Assessments	6	3	54	37	0	14	29	57
Addressing the Needs of Students with Limited English Proficiency or from Diverse Cultural Backgrounds	9	29	40	23	6	23	31	40
Addressing the Needs of Students with Disabilities	0	9	54	37	0	11	26	63

N = 35 schools
Source: MSAP Principal Survey, 1999–2000, Item 29; MSAP Principal Survey, 2000–2001, Item 17

Exhibit A-III-29.
Extent of emphasis on professional development focused on high standards for all students in MSAP elementary, middle, and high schools, 1999–2000 and 2000–2001

Scale score range	Professional development scale	1999–2000			2000–2001		
		Elementary (%)	Middle (%)	High (%)	Elementary (%)	Middle (%)	High (%)
1.00–1.24	No Emphasis	0	0	0	0	0	0
1.25–1.74		0	0	0	0	0	0
1.75–2.24	Little Emphasis	4	0	3	2	2	0
2.25–2.74		11	13	8	6	10	5
2.75–3.24	Moderate Emphasis	24	27	27	20	23	27
3.25–3.74		49	47	59	56	55	32
3.75–4.00	Great Deal of Emphasis	13	13	3	16	11	35
Mean and Standard Deviation		3.23 (0.54)	3.24 (0.48)	3.23 (0.48)	3.39 (0.48)	3.29 (0.51)	3.45 (0.51)

N = 160 elementary school, 62 middle school, and 37 high school
Note: N excludes 6 principals from combined-level schools.
Note: The professional development scale was created by averaging four professional development variables: 1999–2000=Q29_3, Q29_5, Q29_7, and Q29_9; 2000–2001=Q17c, Q17e, Q17g, and Q17h.
Source: MSAP Principal Survey, 1999–2000, Item 29; MSAP Principal Survey, 2000–2001, Item 17

Exhibit A-III-30.
Parental involvement in school activities at MSAP elementary schools, 1999–2000 and 2000–2001

	1999–2000				2000–2001			
	Few (%)	Less Than Half (%)	More Than Half (%)	Most (%)	Few (%)	Less Than Half (%)	More Than Half (%)	Most (%)
Special Events								
Open House or Back-to-School Night	4	19	40	35	1	15	45	38
Regularly Scheduled Schoolwide Parent-Teacher Conferences	3	15	31	45	1	10	28	56
Special Subject-Area Events	7	39	34	15	7	30	41	16
Parent Education Workshops or Courses	37	44	3	1	38	40	7	2
Parent-Child Learning Activities at School	32	26	12	5	25	36	20	3
At-Home Learning Activities to Support School Objectives	29	30	18	13	21	32	23	15
School Governance								
Instructional Issues	65	17	4	1	62	23	6	1
Governance	63	12	2	1	68	17	5	1
Budget Decisions	62	9	1	3	68	13	3	0

N varies between 34 and 35 schools.
Note: where the row does not add up to 100, the difference is the percent of schools that reported not sponsoring that activity.
Source: MSAP Principal Survey, 1999–2000, Item 34; MSAP Principal Survey, 2000–2001, Item 18

Exhibit A-III-31.
Parental involvement in school activities at MSAP middle schools, 1999–2000 and 2000–2001

	1999–2000				2000–2001			
	Few (%)	Less Than Half (%)	More Than Half (%)	Most (%)	Few (%)	Less Than Half (%)	More Than Half (%)	Most (%)
Special Events								
Open House or Back-to-School Night	5	22	49	24	4	31	44	22
Regularly Scheduled Schoolwide Parent-Teacher Conferences	8	38	34	19	6	28	38	23
Special Subject-Area Events	13	38	25	15	10	37	27	21
Parent Education Workshops or Courses	36	30	4	0	43	25	6	2
Parent-Child Learning Activities at School	20	22	2	2	35	25	6	4
At-Home Learning Activities to Support School Objectives	11	28	13	6	21	26	15	6
School Governance								
Instructional Issues	60	11	2	4	57	19	8	4
Governance	74	13	0	0	66	19	6	2
Budget Decisions	67	9	0	0	57	11	4	2

N varies between 34 and 35 schools.
Note: where the row does not add up to 100, the difference is the percent of schools that reported not sponsoring that activity.
Source: MSAP Principal Survey, 1999–2000, Item 34; MSAP Principal Survey, 2000–2001, Item 18

Exhibit A-III-32.
Parental involvement in school activities at MSAP high schools, 1999–2000 and 2000–2001

	1999–2000				2000–2001			
	Few (%)	Less Than Half (%)	More Than Half (%)	Most (%)	Few (%)	Less Than Half (%)	More Than Half (%)	Most (%)
Special Events								
Open House or Back-to-School Night	6	42	33	15	3	52	30	15
Regularly Scheduled Schoolwide Parent-Teacher Conferences	6	21	21	15	6	30	15	12
Special Subject-Area Events	9	56	25	3	16	44	22	9
Parent Education Workshops or Courses	32	35	2	0	35	21	12	0
Parent-Child Learning Activities at School	9	19	6	0	16	13	9	0
At-Home Learning Activities to Support School Objectives	28	16	3	6	25	22	3	3
School Governance								
Instructional Issues	52	27	3	0	67	15	0	0
Governance	62	15	6	0	50	15	6	0
Budget Decisions	50	6	3	0	47	9	3	0

N varies between 34 and 35 schools.
Note: where the row does not add up to 100, the difference is the percent of schools that reported not sponsoring that activity.
Source: MSAP Principal Survey, 1999–2000, Item 34; MSAP Principal Survey, 2000–2001, Item 18

Exhibit A-III-33.
Extent of parental involvement in special events at MSAP elementary, middle, and high schools, 1999–2000 and 2000–2001

Scale Score Range	Parental Involvement Scale	1999–2000			2000–2001		
		Elementary (%)	Middle (%)	High (%)	Elementary (%)	Middle (%)	High (%)
0.00–0.24	None	1	0	0	0	2	0
0.25–0.75		1	0	17	0	2	19
0.75–1.24	Few	6	20	19	6	13	25
1.25–1.74		15	21	25	11	28	25
1.75–2.24	Less than Half	32	34	28	27	26	14
2.25–2.74		25	15	8	27	15	6
2.75–3.24	More than Half	16	5	3	23	8	8
3.25–3.74		3	5	0	4	7	3
3.75–4.00	Most	1	0	0	2	0	0
Mean and Standard Deviation		2.20 (0.67)	1.85 (0.65)	1.51 (0.69)	2.34 (0.63)	1.92 (0.76)	1.50 (0.79)

N = 161 elementary schools, 61 middle schools, 36 high schools
Note: N excludes 6 principals from combined-level schools.
Note: This parental involvement scale was created by averaging six parental involvement variables: 1999–2000=Q18a – Q18c, Q18f, Q18h, and Q18n; 2000–2001= Q28a – Q28c, Q28f, Q28h, and Q28n.
Source: MSAP Principal Survey, 1999–2000, Item 18; MSAP Principal Survey, 2000–2001, Item 28

Exhibit A-III-34.
Extent of parental involvement in special events at case study MSAP and matched comparison schools, 1999–2000 and 2000–2001

Scale Score Range	Parental Involvement Scale	1999–2000		2000–2001	
		MSAP (%)	Comparison (%)	MSAP (%)	Comparison (%)
0.00–0.24	None	0	0	4	0
0.25–0.75		0	6	4	0
0.75–1.24	Few	7	13	0	31
1.25–1.74		14	25	18	38
1.75–2.24	Less than Half	21	44	18	13
2.25–2.74		32	13	14	13
2.75–3.24	More than Half	21	0	36	6
3.25–3.74		0	0	7	0
3.75–4.00	Most	4	0	0	0
Mean and Standard Deviation		2.28 (0.68)	1.68 (0.55)	2.33 (0.82)	1.64 (0.62)

N = 28 MSAP schools and 16 matched comparison schools
Note: This parental involvement scale was created by averaging six parental involvement variables: MSAP, 1999–2000=Q18a – Q18c, Q18f, Q18h, and Q18n; Non-MSAP, 1999–2000=Q28a – Q28c, Q28f, Q28h, and Q28n; MSAP, 2000–2001= Q28a – Q28c, Q28f, Q28h, and Q28n; Non-MSAP, 2000–2001= Q18a – Q18c, Q18f, Q18h, and Q18n.
Source: MSAP Principal Survey, 1999–2000, Item 18; Principal Survey—Non-MSAP School, 1999–2000, Item 28; MSAP Principal Survey, 2000–2001, Item 28; Principal Survey—Non-MSAP School, 2000–2001, Item 18

Exhibit A-III-35.
Extent of parental involvement in school governance at MSAP elementary, middle, and high schools, 1999–2000 and 2000–2001

Scale Score Range	Parental Involvement Scale	1999–2000			2000–2001		
		Elementary (%)	Middle (%)	High (%)	Elementary (%)	Middle (%)	High (%)
0.00–0.24	None	8	7	3	4	5	8
0.25–0.75		26	31	39	18	25	33
0.75–1.24	Few	46	44	33	46	42	36
1.25–1.74		9	10	17	18	11	11
1.75–2.24	Less than Half	8	7	3	8	5	6
2.25–2.74		3	2	3	4	7	6
2.75–3.24	More than Half	1	0	3	1	2	0
3.25–3.74		1	0	0	0	0	0
3.75–4.00	Most	1	0	0	0	2	0
Mean and Standard Deviation		1.01 (0.63)	0.93 (0.49)	1.01 (0.64)	1.15 (0.57)	1.12 (0.74)	0.92 (0.62)

N = 160 elementary schools, 59 middle schools, 36 high schools
Note: N excludes 6 principals from combined-level schools.
Note: This parental involvement scale was created by averaging three parental involvement variables: 1999–2000=Q18k, Q18l, and Q18m; 2000–2001= Q28k, Q28l, and Q28m.
Source: MSAP Principal Survey, 1999–2000, Item 18; MSAP Principal Survey, 2000–2001, Item 28

Exhibit A-III-36.
Mathematics teachers' usage of higher order thinking skills instructional methods: case study MSAP and matched comparison schools, 2000–2001

	Case Study MSAP schools				Matched Comparison Schools			
	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)
Write a Few Sentences about Their Mathematics Work								
Elementary Teachers	19	23	46	12	28	28	29	15
Secondary Teachers	17	44	28	11	26	52	19	4
Talk to the Class about Their Mathematics Projects								
Elementary Teachers	11	15	23	51	10	10	28	51
Secondary Teachers	17	15	26	43	15	22	37	26
Write Reports or Do Math Projects								
Elementary Teachers	44	46	7	2	70	24	6	0
Secondary Teachers	33	57	9	0	67	26	4	4
Work and Discuss Math Problems that Reflect Real-Life Situations								
Elementary Teachers	2	17	38	43	6	7	34	52
Secondary Teachers	2	19	41	39	7	19	67	7
Use a Computer								
Elementary Teachers	5	8	36	51	16	6	37	41
Secondary Teachers	37	33	20	9	48	33	11	7
Work on Problems for which There is No Immediately Obvious Method or Solution								
Elementary Teachers	26	33	29	12	35	32	29	3
Secondary Teachers	22	41	26	11	41	44	11	4
Work on Interdisciplinary Lessons								
Elementary Teachers	14	24	27	35	15	16	22	47
Secondary Teachers	39	43	11	7	70	19	11	0

N varies between 81 and 83 for MSAP elementary teachers and between 67 and 68 for non-MSAP elementary teachers.
N = 54 MSAP secondary teachers and 27 non-MSAP secondary teachers
Source: Elementary Mathematics Teacher Survey, 2000–2001, Item 23; Elementary Mathematics Teacher Survey (non-MSAP), 2000–2001, Item 17; Middle and High School Mathematics Teacher Survey, 2000–2001, Item 23; Middle and High School Mathematics Teacher Survey (non-MSAP) Survey, 2000–2001, Item 17

Exhibit A-III-37.
Elementary reading/language arts teachers' usage of higher order thinking skills instructional methods: case study MSAP and matched comparison schools, 2000–2001

	Case Study MSAP schools				Matched Comparison Schools			
	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)
Ask Students to Talk with Each Other about What They Have Read	0	7	38	55	5	7	52	36
Ask Students to Write about Something They Have Read	3	7	48	43	5	9	46	40
Ask Students to Discuss Different Interpretations of What They Have Read	11	19	38	32	14	23	42	21
Ask Students to Explain or Support Their Understanding of What They Have Read	4	3	31	63	5	12	30	53

N varies between 72 and 75 for MSAP teachers and between 56 and 57 for non-MSAP teachers.
Source: Elementary Reading Teacher Survey, 2000–2001, Item 25; Elementary Reading Teacher Survey (non-MSAP) Survey, 2000–2001, Item 19

Exhibit A-III-38.
Secondary reading/language arts teachers' usage of higher order thinking skills instructional methods: case study MSAP and matched comparison schools, 2000–2001

	Case Study MSAP schools				Matched Comparison Schools			
	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)
Ask Students to Discuss Different Interpretations of What They Have Read	7	11	33	49	3	16	52	29
Ask Students to Explain or Support Their Understanding of What They Have Read	4	2	33	60	0	6	35	58

N = 45 MSAP teachers and 31 non-MSAP teachers
Source: Middle and High School Language Arts Teacher Survey, 2000–2001, Item 23; Middle and High School Language Arts Teacher Survey (non-MSAP), 2000–2001, Item 17

Exhibit A-III-39.
Frequency with which mathematics teachers use computers for specific instructional purposes: case study MSAP and matched comparison schools, 2000–2001

	Case Study MSAP schools				Matched Comparison Schools			
	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)
Mastering Recently Learning Skills								
Elementary Teachers	7	33	39	21	12	33	41	14
Secondary Teachers	51	33	13	3	47	47	6	0
Remediating Skills not Learned Well								
Elementary Teachers	9	24	46	21	9	28	47	16
Secondary Teachers	59	26	15	0	35	59	6	0
Expressing Themselves in Writing								
Elementary Teachers	33	20	30	17	42	21	26	12
Secondary Teachers	51	38	5	5	82	6	12	0
Communicating Electronically with Other People								
Elementary Teachers	79	11	7	4	86	10	5	0
Secondary Teachers	64	26	5	5	82	6	12	0
Finding Out about Ideas or Information								
Elementary Teachers	18	34	33	15	33	41	24	2
Secondary Teachers	21	64	8	8	53	35	12	0
Engaging in Simulations or Explorations of Ideas								
Elementary Teachers	23	44	24	9	47	23	26	5
Secondary Teachers	55	23	18	5	59	35	6	0
Analyzing Information								
Elementary Teachers	36	38	18	8	44	19	33	5
Secondary Teachers	44	33	18	5	59	24	12	6
Presenting Information to an Audience								
Elementary Teachers	55	26	12	7	77	12	9	2
Secondary Teachers	51	38	5	5	76	24	0	0
Improving Computer skills								
Elementary Teachers	8	22	39	31	21	14	47	19
Secondary Teachers	38	40	20	2	53	41	6	0

N varies between 74 and 76 for elementary MSAP teachers, varies between 42 and 43 for elementary non-MSAP teachers, varies between 39 and 40 secondary MSAP teachers and equals 17 secondary non-MSAP teachers.
Source: Elementary Mathematics Teacher Survey, 2000–2001, Item 30; Elementary Mathematics Teacher Survey (non-MSAP), 2000–2001, Item 24; Middle and High School Mathematics Teacher Survey, 2000–2001, Item 30; Middle and High School Mathematics Teacher Survey (non-MSAP) Survey, 2000–2001, Item 24

Exhibit A-III-40.
Frequency with which reading or language arts teachers use computers for specific instructional purposes: case study MSAP and matched comparison schools, 2000–2001

	Case Study MSAP schools				Matched Comparison Schools			
	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)
Mastering Recently Learning Skills								
Elementary Teachers	16	22	45	16	26	25	38	21
Secondary Teachers	51	37	11	0	45	35	15	5
Remediating Skills not Learned Well								
Elementary Teachers	15	19	50	16	28	19	36	17
Secondary Teachers	66	26	6	3	67	24	5	5
Expressing Themselves in Writing								
Elementary Teachers	24	28	31	18	37	35	19	10
Secondary Teachers	14	54	29	3	33	48	19	0
Communicating Electronically with Other People								
Elementary Teachers	70	17	9	5	89	2	2	8
Secondary Teachers	78	17	6	0	76	19	5	0
Finding out About Ideas or Information								
Elementary Teachers	16	35	34	15	37	31	25	8
Secondary Teachers	11	56	28	6	29	62	5	5
Engaging in Simulations or Explorations of Ideas								
Elementary Teachers	24	37	31	8	46	25	25	4
Secondary Teachers	41	53	6	0	52	33	10	5
Analyzing Information								
Elementary Teachers	38	33	23	6	53	23	19	7
Secondary Teachers	42	36	17	6	57	29	5	10
Presenting Information to an Audience								
Elementary Teachers	53	25	19	3	71	17	10	2
Secondary Teachers	47	42	11	0	38	52	10	0
Improving Computer Skills								
Elementary Teachers	13	15	44	28	13	17	52	17
Secondary Teachers	47	33	19	0	43	38	19	0

N varies between 66 and 68 for elementary MSAP teachers, between 52 and 53 for elementary non-MSAP teachers, between 34 and 36 for secondary MSAP teachers, and between 20 and 21 for secondary non-MSAP teachers.
Source: Elementary Reading Teacher Survey, 2000–2001, Item 37; Elementary Reading Teacher Survey (non-MSAP), 2000–2001, Item 31; Middle and High School Language Arts Teacher Survey, 2000–2001, Item 31; Middle and High School Language Arts Teacher Survey (non-MSAP) Survey, 2000–2001, Item 25

Exhibit A-III-41.
Mathematics teachers' approaches to assessing student academic progress: case study MSAP and matched comparison schools, 2000–2001

	Case Study MSAP schools				Matched Comparison Schools			
	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)
Multiple-Choice Tests								
Elementary Teachers	39	8	36	17	32	40	41	16
Secondary Teachers	23	28	46	4	15	22	48	15
Problem Sets								
Elementary Teachers	16	5	36	43	18	3	33	46
Secondary Teachers	8	47	45	0	11	67	22	0
Short Written Responses								
Elementary Teachers	31	16	34	19	38	19	26	16
Secondary Teachers	17	27	38	17	48	15	37	0
Individual or Group Projects or Presentations								
Elementary Teachers	33	22	27	18	50	13	29	7
Secondary Teachers	9	43	40	8	56	22	22	0
Portfolio Collections of Each Student's Work								
Elementary Teachers	30	23	26	21	40	7	25	28
Secondary Teachers	40	21	23	17	67	19	7	7

N varies between 80 and 83 for elementary MSAP teachers, varies between 67 and 68 for elementary non-MSAP teachers, varies between 51 and 53 secondary MSAP teachers, and equals 27 for secondary non-MSAP teachers.
Source: Elementary Mathematics Teacher Survey, 2000–2001, Item 30; Elementary Mathematics Teacher Survey (non-MSAP), 2000–2001, Item 24; Middle and High School Mathematics Teacher Survey, 2000–2001, Item 30; Middle and High School Mathematics Teacher Survey (non-MSAP) Survey, 2000–2001, Item 24

Exhibit A-III-42.
Reading/language arts teachers' approaches to assessing student academic progress: case study MSAP and matched comparison schools, 2000–2001

	Case Study MSAP schools				Matched Comparison Schools			
	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)	Never or Hardly Ever (%)	Once or Twice a Month (%)	Once or Twice a Week (%)	Almost Every Day (%)
Multiple-Choice Tests								
Elementary Teachers	25	4	45	26	18	5	41	36
Secondary Teachers	16	11	52	20	16	6	47	31
Short-Answer Tests								
Elementary Teachers	15	4	28	53	21	7	37	35
Secondary Teachers	2	9	61	27	3	16	59	22
Paragraph-Level Written Responses about What Students Have Read								
Elementary Teachers	25	11	27	37	23	12	28	37
Long Essays								
Secondary Teachers	18	18	59	5	19	28	50	3
Individual or Group Projects or Presentations								
Elementary Teachers	16	17	60	7	21	21	45	13
Reading Portfolios								
Elementary Teachers	49	11	20	20	40	18	23	19
Individual or Group Projects, Presentations, or Portfolios								
Secondary Teachers	7	27	57	9	6	31	59	3

N varies between 71 and 75 elementary MSAP teachers, varies between 55 and 56 elementary non-MSAP teachers, equals 44 secondary MSAP teachers and equals 32 secondary non-MSAP teachers.
Source: Elementary Reading Teacher Survey, 2000–2001, Item 26; Elementary Reading Teacher Survey (non-MSAP), 2000–2001, Item 20; Middle and High School Language Arts Teacher Survey, 2000–2001, Item 28; Middle and High School Language Arts Teacher Survey (non-MSAP) Survey, 2000–2001, Item 22

Exhibit A-III-43.
Average percentage of MSAP elementary, middle, and high schools that have provided information to other schools or other audiences

	1999–2000			2000–2001		
	Elementary (%)	**Middle (%)**	**High (%)**	**Elementary (%)**	**Middle (%)**	**High (%)**
Provided information, hosted visits, or provided professional development opportunities to educators from other schools in my district, state, or out of state	66	71	80	72	79	80
Received requests for information or permission to visit from reporters, researchers, or any other individuals or groups besides educators or parents	72	80	79	82	78	79

N = 146 and 147 elementary schools, 56 and 55 middle schools, and 35 and 34 high schools
Note: N excludes 6 principals from combined-level schools.
Source: MSAP Principal Survey, 1999–2000, Items 37–38; MSAP Principal Survey, 2000–2001, Item 21–22

Exhibit A-III-44. List of survey items composing the scales measuring the components of the conceptual framework

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
External Supports for Change					
Alignment with standards and assessments					
Influence of state standards on MSAP themes and goals	To what extent have the state frameworks, assessments, and performance standards influenced the themes and goals of your MSAP schools? 1. Mathematics 2. Language Arts 3. Science 4. Social studies Response scale: 1=Not at all, 2=Only slightly, 3=Somewhat, 4=To a great extent	MSAP Projects	1999–2000 (0.89); 2000–2001 (0.95)	Yes More influence in 2000–2001	N/A
Coordination with other reforms					
Coordination between MSAP project director and other district administrative staff	For each of the following administrative roles or positions, please indicate whether your district has the position and whether or not you fill the position, in addition to your role as MSAP director. *Please check Yes or No for each position.* Also, please indicate the extent to which you interact with the person holding each position in planning and implementing the MSAP project. 1. Assistant Superintendent or Coordinator of Curriculum and Instruction 2. Assistant Superintendent or Coordinator of Professional Development 3. Assistant Superintendent or Coordinator of Assessment and Testing 4. Title I Coordinator 5. Federal Programs Coordinator 6. Coordinator of district choice or magnet programs (other than MSAP) Response scale: 1=Not at all, 2=To some extent, 3=To a great extent	MSAP Projects	1999–2000 (0.67)	N/A	N/A
Accountability for achievement					
Possible sanctions for poor student achievement	In this district, do schools receive any of the following rewards or sanctions for student achievement? 1. Have the principal reassigned or released 2. Be taken over by a higher level governing body 3. Have the teaching staff reconstituted Response scale: 0=No, 1=Yes	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.73)	N/A	No

[a] A repeated measures MANOVA was used to test for differences in measure between 1999–2000 and 2000–2001.
[b] Analysis of variance was used to test for difference in the measure between MSAP and matched comparison non-MSAP schools.

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
District MSAP support for schools					
Technical assistance provided by MSAP project officers on curriculum and instruction	On average, how frequently did you or other MSAP-supported district staff provide technical assistance or guidance in the following areas to each MSAP school? Include visits you or other MSAP district staff made to the school, as well as visits the principals or other school staff made to the district office. 1. Designing curriculum or selecting curriculum materials 2. Planning professional development 3. Developing theme-related activities 4. Designing assessments 5. Keeping teachers motivated to implement the magnet program Response scale: 1=Never, 2=Less than once a month, 3=About once a month, 4=About once every 2 weeks, 5=Once a week or more	MSAP Projects	1999–2000 (0.87); 2000–2001 (0.83)	Yes Less technical assistance in 2000–2001	N/A
Technical assistance provided by MSAP project officers on leadership	On average, how frequently did you or other MSAP-supported district staff provide technical assistance or guidance in the following areas to each MSAP school? Include visits you or other MSAP district staff made to the school, as well as visits the principals or other school staff made to the district office. 1. Budgeting and resource allocation 2. Helping principals provide leadership for magnet program 3. Working with parents Response scale: 1=Never, 2=Less than once a month, 3=About once a month, 4=About once every 2 weeks, 5=Once a week or more	MSAP Projects	1999–2000 (0.59); 2000–2001 (0.45)	Yes Less technical assistance in 2000–2001	N/A
Supports for Teaching and Learning					
Ongoing professional development for teachers					
Professional development opportunities related to standards-based reform	Over the past 12 months, how much emphasis has this school placed on providing professional development for teachers in the following areas? 1. State or district curriculum and performance standards 2. Student performance assessment (e.g., methods of testing, interpreting assessment data, applying results to modify instruction) 3. Addressing the needs of students with limited English proficiency or from diverse cultural backgrounds 4. Addressing the needs of students with disabilities Response scale: 1=No emphasis, 2=Little emphasis, 3=Moderate emphasis, 4=A great deal of emphasis	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.65); 2000–2001 (0.66)	Yes More opportunities in 2000–2001	No

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
Professional community among teachers					
Strength of professional community	To what extent do you agree or disagree with each of the following statements 1. I have confidence in the expertise of teachers on my staff. 2. Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes. 3. I have the support of teachers in enforcing school rules. 4. The level of student misbehavior interferes with teaching. (*reverse coded*) 5. Most teachers at this school make a conscious effort to coordinate their teaching with instruction at other grade levels. 6. This school seems like a big family. Everyone is close and cordial. 7. Most staff members support and encourage each other at this school. 8. Most teachers are willing to put in extra hours to help this school be successful. 9. Most teachers share my beliefs and values about what the central mission of this school should be. 10. Most teachers at this school are continually learning and seeking new ideas. 11. Most teachers at this school really care about their students. 12. I usually look forward to working each day at this school. 13. Sometimes I feel it is a waste of time to try to do my best. (*reverse coded*) 14. The administration and teaching staff collaborate to make school run effectively. 15. Racial and ethnic differences among staff members create tensions in the school. (*reverse coded*) Response scale: 1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.91); 2000–2001 (0.91)	Yes Stronger professional community in 2000–2001	Yes Stronger professional community in MSAP schools

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
Positive school climate					
Student disengagement problems	To what extent is each of the following matters a problem in this school? Indicate whether it is a SERIOUS problem, a MODERATE problem, a MINOR problem, or NOT a problem in this school. 1. Student tardiness 2. Student absenteeism 3. Student transience 4. Student apathy 5. Lack of parental involvement 6. Poverty 7. Students coming to school unprepared to learn 8. Poor student health Response scale: 1=Not a problem in this school, 2=Minor problem in this school, 3=Moderate problem in this school, 4=Serious problem in this	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.88); 2000–2001 (0.90)	Yes Fewer problems in 2000–2001	Yes Fewer problems in MSAP schools
Student behavior problems	To what extent is each of the following matters a problem in this school? Indicate whether it is a SERIOUS problem, a MODERATE problem, a MINOR problem, or NOT a problem in this school. 1. Physical conflicts among students 2. Robbery or theft 3. Vandalism of school property 4. Verbal abuse of teachers 5. Physical abuse of teachers 6. Student disrespect for teachers Response scale: 1=Not a problem in this school, 2=Minor problem in this school, 3=Moderate problem in this school, 4=Serious problem in this	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.82); 2000–2001 (0.85)	Yes Fewer problems in 2000–2001	No
Other severe student problems	To what extent is each of the following matters a problem in this school? Indicate whether it is a SERIOUS problem, a MODERATE problem, a MINOR problem, or NOT a problem in this school. 1. Students cutting classes 2. Student pregnancy 3. Student use of alcohol 4. Student drug abuse 5. Student possession of weapons 6. Students dropping out Response scale: 1=Not a problem in this school, 2=Minor problem in this school, 3=Moderate problem in this school, 4=Serious problem in this	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.90); 2000–2001 (0.91)	No	No

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
Mechanisms for parental involvement					
Parental involvement in special events	During the last school year, were the following means of facilitating parent participation in place at this school? ("Parents" includes parents and other family members.) If yes, what proportion of parents participated? 1. Open house or back-to-school night 2. Regularly scheduled schoolwide parent-teacher conferences 3. Special subject-area events (e.g., science fair, concert) 4. Parent education workshops or courses 5. Parent-child learning activities at school Response scale: 0=None, 1=Few, 2=Less than half, 3=More than half, 4=Most	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.74); 2000–2001 (0.76)	Yes More involvement in 2000–2001	Yes More involvement in MSAP schools
Parental involvement in school governance	During the last school year, were the following means of facilitating parent participation in place at this school? ("Parents" includes parents and other family members.) If yes, what proportion of parents participated? 1. Parents involved in instructional issues 2. Parents involved in governance 3. Parents involved in budget decisions Response scale: 0=None, 1=Few, 2=Less than half, 3=More than half, 4=Most	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.75); 2000–2001 (0.76)	Yes More involvement in 2000–2001	No
High standards for all students					
Required academic activities for students in grades K–5	Does the program require any of the following practices for ALL magnet students enrolled in any of grades K–5? 1. At least one hour of instructional time devoted to reading each day 2. At least one hour of instructional time devoted to math each day 3. At least three hours of instructional time devoted to science each week 4. A required number of books or pages to be read each week (in and out of class) 5. A required amount of writing to be completed each week (in and out of class) 6. A required oral presentation at regular intervals (i.e., weekly or monthly) 7. A required amount of homework to be completed each day	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.75); 2000–2001 (0.78)	No	No

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
	8. Completion of a portfolio of work in one or more academic subjects during the year Response scale: 0=No, 1=Yes				
Required academic activities for students in grade 8	Does the program require any of the following for ALL 8th grade magnet students? 1. A required year-long or semester-long project 2. A required number of books to be read each month or grading period (in and out of class) 3. A required amount of writing to be completed each week (in and out of class) 4. A required oral presentation at regular intervals (i.e., weekly or monthly) 5. A required minimum amount of homework to be completed each day 6. Completion of a portfolio of work in one or more academic subjects during the year 7. An individual or small group project to be completed during the year Response scale: 0=No, 1=Yes	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.78); 2000–2001 (0.78)	No	No
Required academic activities for students in grade 10	Does the program require any of the following for ALL 10th grade magnet students? 1. A required year-long or semester-long project 2. A required number of books to be read each month or grading period (in and out of class) 3. A required amount of writing to be completed each week (in and out of class) 4. A required oral presentation at regular intervals (i.e., weekly or monthly) 5. A required minimum amount of homework to be completed each day 6. Completion of a portfolio of work in one or more academic subjects during the year 7. An individual or small group project to be completed during the year Response scale: 0=No, 1=Yes	MSAP Principals; Non-MSAP Comparison Principals	1999–2000 (0.73); 2000–2001 (0.85)	No	No

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
Classroom Instructional Practices					
Appropriate instructional methods					
Elementary mathematics teachers' use of instructional methods emphasizing higher order thinking skills	How often do the students in this class do each of the following? 1. Write a few sentences about their mathematics work 2. Talk to the class about their mathematics work 3. Write reports or do mathematics projects 4. Work and discuss mathematics problems that reflect real-life situations 5. Use a computer 6. Work on problems for which there is no immediately obvious method or solution 7. Work on interdisciplinary lessons (e.g., writing journals in class) Response scale: 1=Never or hardly ever, 2=Once or twice a month, 3=Once or twice a week, 4=Almost every day	MSAP Mathematics Teachers; Non-MSAP Comparison Mathematics Teachers	2000–2001 (0.66)	N/A	*No*
Secondary mathematics teachers' use of instructional methods emphasizing higher order thinking skills[1]	How often do the students in this class do each of the following? 1. Write a few sentences about their mathematics work 2. Talk to the class about their mathematics work 3. Write reports or do mathematics projects 4. Work and discuss mathematics problems that reflect real-life situations 5. Use a computer 6. Work on problems for which there is no immediately obvious method or solution 7. Work on interdisciplinary lessons (e.g., writing journals in class) Response scale: 1=Never or hardly ever, 2=Once or twice a month, 3=Once or twice a week, 4=Almost every day	MSAP Mathematics Teachers; Non-MSAP Comparison Mathematics Teachers	2000–2001 (0.78)	N/A	Yes Greater usage in MSAP schools
Elementary reading/language arts teachers' use of instructional methods emphasizing higher order thinking skills	How often do the students in this class do each of the following? 1. Ask students to talk with each other about what they have read 2. Ask students to write about something they have read 3. Ask students to discuss different interpretations of what they have read 4. Ask students to explain or support their understanding of what they have read Response scale: 1=Never or hardly ever, 2=Once or twice a month, 3=Once or twice a week, 4=Almost every day	MSAP Reading/ Language Arts Teachers; Non-MSAP Comparison Reading/ Language Arts Teachers	2000–2001 (0.81)	N/A	Yes Greater use in MSAP schools

[1] Elementary

Measure Name	Survey Items Included in Measure	Survey Respondents	Years Asked (Scale Reliability)	Significant Change Between Years for MSAP schools [a]	Significant Difference Between MSAP and Comparison schools [b]
Secondary reading/language arts teachers' use of instructional methods emphasizing higher order thinking skills	How often do the students in this class do each of the following? 1. Ask students to discuss different interpretations of what they have read 2. Ask students to explain or support their understanding of what they have read Response scale: 1=Never or hardly ever, 2=Once or twice a month, 3=Once or twice a week, 4=Almost every day	MSAP Reading/ Language Arts Teachers; Non-MSAP Comparison Reading/ Language Arts Teachers	2000–2001 (0.79)	N/A	No

Appendix IV—MSAP-Defined Desegregation Objectives and Outcomes in Targeted Schools

Exhibit A-IV-1.
Desegregation objectives of targeted schools by type of desegregation plan within grade levels

Objectives	Desegregation Plan		
Elementary	**Voluntary**	**Required**	**Total**
N Schools	91	84	175
Prevent	5.5%	10.7%	8.0%
Eliminate	22.0%	17.9%	20.0%
Reduce	72.5%	71.4%	72.0%
Total	100.0%	100.0%	100.0%
Middle School			
N Schools	43	29	72
Prevent	4.7%	17.2%	9.7%
Eliminate	11.6%	0.0%	6.9%
Reduce	83.7%	82.8%	83.3%
Total	100.0%	100.0%	100.0%
High School			
N Schools	17	23	40
Prevent	0.0%	4.3%	2.5%
Eliminate	23.5%	8.7%	15.0%
Reduce	76.5%	87.0%	82.5%
Total	100.0%	100.0%	100.0%
Combined Levels			
N Schools	3	4	7
Prevent	0.0%	0.0%	0.0%
Eliminate	0.0%	0.0%	0.0%
Reduce	100.0%	100.0%	100.0%
Total	100.0%	100.0%	100.0%
Total (all grade levels)			
N Schools	154	140	294
Prevent	4.5%	10.7%	7.5%
Eliminate	18.8%	12.1%	15.6%
Reduce	76.6%	77.1%	76.9%
Total	100.0%	100.0%	100.0%

Sources: Grantee applications, performance reports, NCES 1997–1998 and 1998–1999 Common Core of Data, and U.S. Department of Education personnel

Exhibit A-IV-2.
Proportion of MSAP's desegregation targeted schools in districts with 50%+, 60%+, and 70%+ minority enrollment by grade level: 1997–1998

Grade Level of Targeted School:	Proportion of MSAP's targeted schools in district in which 1997–1998 minority enrollment is:			N of Targeted Schools
	50% or More	60% or More	70% or More	
Elementary	71%	63%	43%	175
Middle School	85%	69%	57%	72
High School	75%	73%	43%	40
Combined Levels	71%	71%	71%	7
Overall	75%	66%	47%	294

Source: Grantee applications, performance reports, NCES 1997–1998 and 1998–1999 Common Core of Data

Exhibit A-IV-3.
Extent of district change in percentage of minorities at grade level of targeted school by type of desegregation plan in district: 1997–1998 to 2000–2001

Percent Minority in District at Grade Level of Targeted School:	Type of Desegregation Plan		
	Voluntary (N = 154)	Required (N = 140)	All Districts (N = 294)
Increased by 5% or More	11.0%	8.6%	9.9%
Increased by 1% to <5%	61.7%	75.7%	68.4%
Increased by <1%	9.7%	11.4%	10.5%
No Change	1.3%	0.0%	0.7%
Decreased by < 1%	3.2%	0.0%	1.7%
Decreased by 1% to 5%	11.0%	3.6%	7.5%
Decreased by 5% or More	1.9%	0.7%	1.4%
Total	100.0%	100.0%	100%

Source: Grantee applications, performance reports, NCES 1997–1998 and 2000–2001 Common Core of Data, and U.S. Department of Education personnel

Exhibit A-IV-4.
Percentage of desegregation targeted schools making progress on desegregation objective by objective and type of desegregation plan, adjusting for district change in percent minority: 1997–1998 to 2000–2001

Type of Desegregation Objective	Type of Desegregation Plan					
	Voluntary		Required		All Schools	
	%	of N	%	of N	%	of N
Prevent	42.9	7	53.3	15	50.0	22
Eliminate	48.3	29	64.7	17	54.3	46
Reduce	64.4	118	50.9	108	58.4	226
Overall	60.4	154	52.9	140	56.8	294

Source: Grantee applications, performance reports, NCES 1997–1998 and 2000–2001 Common Core of Data, and U.S. Department of Education personnel

Exhibit A-IV-5.
Percentage of desegregation targeted schools making progress on desegregation objective by grade level and type of desegregation plan, adjusting for district change in percent minority: 1997–1998 to 2000–2001

Grade Level	Type of Desegregation Plan					
	Voluntary		Required		All Schools	
	%	of N	%	of N	%	of N
Elementary	62.6	91	57.1	84	60.0	175
Middle School	60.4	43	44.8	29	54.2	72
High School	47.1	17	47.8	23	47.5	40
Combined Levels	66.7	3	50.0	4	57.1	7
Overall	60.4	154	52.9	140	56.8	294

Source: Grantee applications, performance reports, NCES 1997–1998 and 2000–2001 Common Core of Data, and U.S. Department of Education personnel

Exhibit A-IV-6.
Percentage of desegregation targeted schools making progress in achieving goal by type of program and type of desegregation plan, adjusting for district change in percent minority: 1997–1998 to 2000–2001

Type of Program	Type of Desegregation Plan					
	Voluntary		Required		All Schools	
	%	of N	%	of N	%	of N
Program-within-School (PWS)	75.0	8	40.0	25	48.5	33
Whole School	61.0	136	56.8	95	59.3	231
Targeted Feeder	40.0	10	50.0	20	46.7	30
Overall	60.4	154	52.9	140	56.8	294

Source: Grantee applications, performance reports, NCES 1997–1998 and 2000–2001 Common Core of Data

Exhibit A-IV-7.
Summary of extent of progress in meeting desegregation objective by type of desegregation plan, adjusting for district change in percent minority: 1997–1998 to 2000–2001

Extent of Progress	Type of Desegregation Plan		
	Voluntary (N = 154)	Required (N = 140)	All Districts (N = 294)
Prevented or Eliminated MGI	2.6%	7.9%	5.1%
Reduced Proportion Minority by 5% or More	18.8%	15.7%	17.3%
Reduced Proportion Minority by 1% to < 5%	31.8%	23.6%	27.9%
Reduced Proportion Minority by < 1%	7.1%	5.7%	6.5%
Increase or No Change in Percent Minority	39.6%	47.1%	43.2%
Total	100.0%	100.0%	100%

Source: Grantee applications, performance reports, NCES 1997–1998 and 2000–2001 Common Core of Data

Technical Note: Hierarchical Linear Modeling of Trends in Percent Minority Enrollment

Factors influencing changes in minority enrollment are analyzed using a three-level hierarchical linear regression model estimated using the SAS PROC MIXED procedure. The three levels included in the model are the MSAP districts, schools in the district targeted for desegregation by an MSAP-funded program, and school years from 1997–1998 to 2000–2001. The baseline unconditional change model is represented by the equations below, where Y_{ijt} is the percent minority enrollment in school *j* of district *i* in year *t*.

Level-1: Year

$$Y_{ijt} = \pi_{0ij} + \pi_{1ij}(\text{Year})_{ij} + r_{ijt}$$

Level-2: School

$$\pi_{0ij} = \gamma_{00j} + r_{0ij}$$
$$\pi_{1ij} = \gamma_{1+j} + r_{1ij}$$

Level-3: District

$$\gamma_{00j} = \beta_{000} + e_{00j}$$
$$\gamma_{10j} = \beta_{100} + e_{10j}$$

The model includes two random effects:

r_{00kl} = random school-level effect that varies over time
e_{0jkl} = random district-level effect that varies over time

In the models developed for this analysis, the fixed effects appear as covariates in either the school-level equations or the district-level equations, depending on whether the measure is a school or district characteristic. The exhibits that follow present the results of separate analyses on elementary and secondary schools.

Exhibit A-IV-8.
Parameter estimates for unconditional and conditional models of change in percent minority enrollment of MSAP's desegregation targeted elementary schools between 1997–1998 and 2000–2001*

	Est.	SE	P-value	Est.	SE	P-value
Main Effect Parameters	**Baseline Unconditional Change Model**			**Conditional Change Model**		
Intercept	76.263	2.106	<.0001	75.585	7.529	<.0001
Year	0.342	0.280	0.223	-1.654	1.309	0.207
Effects on Intercept						
District Level						
- % Minority 1997				0.249	0.076	0.002
- Δ in % Minority				-0.922	0.707	0.199
School-Level						
- Attend Zone school				3.424	1.459	0.019
- Pupil Teacher Ratio				-0.298	0.315	0.344
- Mixed Minority				-4.989	2.702	0.065
- Parental Involvement in Special Events				-1.815	1.027	0.078
- PWS				13.597	2.872	<.0001
- Prevent MGI				-25.835	2.711	<.0001
- Eliminate MGI				-15.536	2.573	<.0001
Effects on Slope						
District Level						
- Δ in % Minority				0.414	0.120	0.001
School-Level						
- Attend Zone School				-1.169	0.354	0.001
- Pupil Teacher Ratio				0.187	0.072	0.009
- Mixed Minority				-1.979	0.723	0.006
- Parental Involvement in Special Events				-0.672	0.269	0.013
- PWS				-1.337	0.712	0.061
Unexplained Variance						
District Intercept	170.350	44.053	<.0001	63.183	16.994	0.000
District Slope	2.253	0.815	0.003	1.484	0.586	0.006
School Intercept	96.826	12.733	<.0001	44.016	6.024	<.0001
School Slope	3.291	0.533	<.0001	2.683	0.451	<.0001
Residual	3.822	0.296	<.0001	3.817	0.295	<.0001
Loglikelihood Ratio	4019.5			3819.6		
# Fixed Parameters	1			16		

* Sample consists of 172 elementary schools in 47 districts.

Appendix V—Student Achievement Outcomes in MSAP-Supported Schools

Technical Note on Determining Goal Attainment for Static and Cumulative Achievement Objectives

School-level goals fall into two major categories based on whether each year's benchmarks build on the previous year's benchmarks or are independent of them. "Static" goals set a benchmark for each year that does not depend on the previous year's benchmark or performance level. Examples of static goals are: "By the end of the first year of the grant, 75 percent of students will score at proficiency level on a test; by the end of the second year, 80 percent of the students will be proficient, and by the end of the third year, 85 percent will be proficient," or "the average score of magnet students will meet or exceed the district average each year." "Cumulative" goals, by contrast, call for incremental improvements of a specified amount over a baseline level, usually the school's performance level in the baseline year (generally the year prior to the awarding of the grant). For example, a goal may call for schools to improve their average mathematics scores by 2 percentile points each year. A school with a baseline year score of 65 would be expected to attain a score of 67 points by the end of the first grant year, but a school with a baseline score of 71 would be expected to reach 73 percentile points. It was generally unclear how districts intended to evaluate attainment of second year goals when schools failed to reach their first-year benchmark—for instance, if a school advanced by only one percentile point in the first year, was it expected to advance 2 percentile points in the second year or to "make up the difference" and advance 3 percentile points? We dealt with this ambiguity by tracking goals in two ways: one-year goals for each of the three grant years as well as end-of-project goals. For cumulative goals, we determined that the one-year benchmarks had been met if the school grew by the amount called for in a particular year, regardless of its performance in the previous year. (Thus, the school that increased by only one point in the first year would be counted as meeting the second year's goal if it increased its score by 2 percentile points in the second year.) However, for to meet end-of-project goals, the school's improvement had to equal or exceed the cumulative improvement called for in the objective (a full six points of improvement by the end of the third year.) For static goals, the benchmark for the end of the project was the same as for the third year's benchmark.

Most school magnet programs were in operation for the full three years of the MSAP grant. Their baseline year was the 1997–1998 school year. When programs got underway later, we treated the year prior to the first implementation year as the baseline year.

Appendix Exhibits for Student Achievement Chapter

Exhibit A-V-1.
Project-level objectives by subject domain

Subject	%	N
Math	19	106
Language Arts	30	169
Science	6	31
Social Studies	5	28
Computer / Vocational Skills	5	27
Career Awareness	2	14
Arts and Performances	2	10
Other	6	33
Not Subject-Specific	26	146
Total		564

Source: MSAP grant application and annual performance reports

Exhibit A-V-2.
Project-level objectives by type of measure

Measure	%	N
Standardized Test	74	418
Other Assessments	14	80
Course-Taking and Grades	6	34
Educational Trajectory Benchmark	2	11
Preparation for Postsecondary Education	2	9
Advanced Vocation-Related Outcomes	1	7
Other	1	5
Total		564

Source: MSAP grant application and annual performance reports

Exhibit A-V-3.
School-level goals by subject domain

Subject	% of Total Goals	# of Goals
Language Arts	46	1345
Math	36	1048
Science	6	185
Social Studies	2	51
Computer/ Vocational Skills	1	16
Not Subject-Specific	1	16
Arts and Performances	0.07	2
Career Awareness	0.03	1
Other	7	210
Missing	1	20
Total		2894

Source: MSAP grant application and annual performance reports

Exhibit A-V-4.
School-level goals by type of measure

Measurement	% of Total Goals	# of Goals
Standardized Test	88	2541
Course-Taking and Grades	3	93
Alternative Assessments	2	44
Prep. for Postsecondary Ed.	1	43
Ed. Trajectory Benchmark	0.4	11
Other	0.1	4
Missing	5	158
Total		2894

Source: MSAP grant application and annual performance reports

Exhibit A-V-5.
Number of English language arts goals per school

	1998–1999 goals		1999–2000 goals		2000–2001 goals		Final goals	
Number of goals	# of Schools	% of Schools	# of Schools	% of Schools	# of Schools	% of Schools	# of Schools	% of Schools
1	16	11%	43	23%	27	15%	29	16%
2	34	23%	35	19%	56	31%	54	29%
3	37	25%	18	10%	17	9%	17	9%
4	27	18%	29	16%	25	14%	27	15%
5	15	10%	14	8%	11	6%	11	6%
6–10	11	7%	23	12%	33	18%	33	18%
More than 10	7	5%	23	12%	13	7%	13	7%
Total Schools	147	100%	185	100%	182	100%	184	100%

Source: MSAP grant application and annual performance reports

Exhibit A-V-6.
Number of mathematics goals per school

	1998–1999 goals		1999–2000 goals		2000–2001 goals		Final goals	
Number of goals per school	# of Schools	% of Schools	# of Schools	% of Schools	# of Schools	% of Schools	# of Schools	% of Schools
1	33	25%	56	31%	67	35%	68	36%
2	32	24%	36	20%	30	16%	28	15%
3	32	24%	28	15%	24	13%	26	14%
4	12	9%	17	9%	24	13%	24	13%
5	4	3%	5	3%	8	4%	8	4%
6–10	5	4%	24	13%	20	11%	20	10%
More than 10	16	12%	17	9%	17	9%	17	9%
Total Schools	134	100%	183	100%	190	100%	191	100%

Source: MSAP grant application and annual performance reports

Exhibit A-V-7.
Number of all schools that met goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	42	28.6	65	35.1	74	40.7	67	36.4
Less than half	21	14.3	28	15.1	31	17.0	24	13.0
Half or more	43	29.2	52	28.1	46	25.3	54	29.4
All	41	27.9	40	21.6	31	17.0	39	21.2
Total	147	100.0	185	100.0	182	100.0	184	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-8.
Number of all schools that met goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	48	35.8	83	45.4	87	45.8	89	46.6
Less than half	10	7.5	21	11.5	40	21.0	34	17.8
Half or more	37	27.6	39	21.3	29	15.3	32	16.8
All	39	29.1	40	21.9	34	17.9	36	18.8
Total	134	100.0	183	100.0	190	100.0	191	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-9.
Number of elementary schools that met goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	24	26.4	36	31.9	37	33.3	35	31.5
Less than half	14	15.4	16	14.2	19	17.1	14	12.6
Half or more	26	28.6	36	31.9	31	27.9	34	30.6
All	27	29.7	25	22.1	24	21.6	28	25.2
Total	91	100.0	113	100.0	111	100.0	111	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-10.
Number of elementary schools that met goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	23	28.0	43	38.7	45	38.8	46	39.7
Less than half	8	9.8	9	8.1	24	20.7	20	17.2
Half or more	25	30.5	29	26.1	22	19.0	23	19.8
All	26	31.7	30	27.0	25	21.6	27	23.3
Total	82	100.0	111	100.0	116	100.0	116	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-11.
Number of middle schools that met goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	15	42.9	18	40.9	24	55.8	23	52.3
Less than half	4	11.4	10	22.7	7	16.3	6	13.6
Half or more	10	28.6	7	15.9	10	23.36	11	25.0
All	6	17.1	9	20.4	2	4.6	4	9.1
Total	35	100.0	44	100.0	43	100.0	44	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-12.
Number of middle schools that met goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	19	59.4	27	61.4	23	48.9	26	54.2
Less than half	1	3.1	8	18.2	13	27.7	11	22.9
Half or more	7	21.9	4	9.1	5	10.6	5	10.4
All	5	15.6	5	11.4	6	12.8	6	12.5
Total	32	100.0	44	100.0	47	100.0	48	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-13.
Number of high schools that met goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	3	17.6	10	45.4	11	52.4	7	31.8
Less than half	2	11.8	0	0.0	3	14.3	3	13.6
Half or more	5	29.4	7	31.8	4	19.0	8	36.4
All	7	41.2	5	22.7	3	14.3	4	18.2
Total	17	100.0	22	100.0	21	100.0	22	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-14.
Number of high schools that met goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	5	29.4	11	50.0	16	76.2	14	66.7
Less than half	0	0.0	2	9.1	3	14.3	3	14.3
Half or more	5	29.4	5	22.7	0	0.0	2	9.5
All	7	41.2	4	18.2	2	9.5	2	9.5
Total	17	100.0	22	100.0	21	100.0	21	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-15.
Number of all schools that made progress toward goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	28	19.0	43	23.2	52	28.6	39	21.2
Less than half	16	10.9	24	13.0	24	13.2	22	12.0
Half or more	49	33.3	56	30.3	58	31.9	52	28.3
All	54	36.7	62	33.5	48	26.4	71	38.6
Total	147	100.0	185	100.0	182	100.0	184	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-16.
Number of all schools that made progress toward goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	29	21.6	55	30.0	62	32.6	52	27.2
Less than half	9	6.7	21	11.5	28	14.7	26	13.6
Half or more	34	25.4	46	25.1	43	22.6	37	19.4
All	62	46.3	61	33.3	57	30.0	76	39.8
Total	134	100.0	183	100.0	190	100.0	191	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-17.
Number of elementary schools that made progress toward goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	17	18.7	23	20.4	29	26.1	19	17.1
Less than half	11	12.1	14	12.4	14	12.6	14	12.6
Half or more	30	33.0	37	32.7	37	33.3	33	29.7
All	33	36.3	39	34.5	31	27.9	45	40.5
Total	91	100.0	113	100.0	111	100.0	111	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-18.
Number of elementary schools that made progress toward goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	13	15.8	28	25.2	37	31.9	31	26.7
Less than half	6	7.3	9	8.1	17	14.7	14	12.1
Half or more	23	28.0	32	28.8	25	21.6	24	20.7
All	40	48.8	42	37.8	37	31.9	47	40.5
Total	82	100.0	111	100.0	116	100.0	116	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-19.
Number of middle schools that made progress toward goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	11	31.4	12	27.3	17	39.5	15	34.1
Less than half	4	11.4	8	18.2	7	16.3	6	13.6
Half or more	12	34.3	8	18.2	14	32.6	12	27.3
All	8	22.9	16	36.4	5	11.6	11	25.0
Total	35	100.0	44	100.0	43	100.0	44	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-20.
Number of middle schools that made progress toward goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	14	43.8	17	38.6	15	31.9	14	29.2
Less than half	2	6.2	8	18.2	8	17.0	9	18.8
Half or more	8	25.0	8	18.2	13	27.7	11	22.9
All	8	25.0	11	25.0	11	23.4	14	29.2
Total	32	100.0	44	100.0	47	100.0	48	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-21.
Number of high schools that made progress toward goals for English language arts

English Language Arts	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	0	0.0	7	31.8	6	28.6	5	22.7
Less than half	1	5.9	1	4.6	2	9.5	2	9.1
Half or more	4	23.5	8	36.4	5	23.8	5	22.7
All	12	70.6	6	27.3	8	38.1	10	45.4
Total	17	100.0	22	100.0	21	100.0	22	100.0

Source: MSAP grant application and annual performance reports

Exhibit A-V-22.
Number of high schools that made progress toward goals for mathematics

Math	# of Schools - Year 1	% of Schools - Year 1	# of Schools - Year 2	% of Schools - Year 2	# of Schools - Year 3	% of Schools - Year 3	# of Schools - Final	% of Schools - Final
None	1	5.9	8	36.4	9	42.9	5	23.8
Less than half	0	0.0	2	9.1	3	14.3	3	14.3
Half or more	3	17.6	5	22.7	1	4.8	0	0.0
All	13	76.5	7	31.8	8	38.1	13	61.9
Total	17	100.0	22	100.0	21	100.0	21	100.0

Source: MSAP grant application and annual performance reports

Technical Note: Exclusions from Achievement Analysis

Exhibit A-V-23.
MSAP-supported elementary schools excluded from trend analyses

	Number of Schools
Reason for Exclusion	19
Grades in School not Covered by State Test	5
Magnet School Not in Operation in 1998–1999	11
Magnet School Eliminated before 2000–2001	2
School Lacked an NCES Identification Code	11
Reason Yet to be Determined	2

Technical Note: Standardization of Outcome Data

States not only administer different tests, but they also differ in which grades they test and the way they report their results. Some states report average scores (scale scores or national percentile scores) while others report the percentage of students who scored at various levels of mastery (or proficiency). Between 1997–1998 and 2000–2001, several states also changed their assessments so that baseline and final scores were not directly comparable. In order to combine these diverse measures in an overall analysis of MSAP student achievement, we translated all of the scores into a common metric: a standardized score that indicated the amount (in standard deviation units) that each school's score differed from the average score for students in its state. In states whose assessments did not change over the study period, both the baseline and final year's test scores were standardized in terms of baseline year standard deviation units, allowing us to measure actual gains in standard deviation units over time. In states whose assessments changed, we standardized the scores for each year separately. In these cases, changes in standardized scores over time showed the degree to which each school's performance moved toward or away from the state average between the baseline year and 2000–2001.

Technical Note: Characteristics of MSAP Elementary and Matched Non-MSAP Elementary Schools

The analysis of student achievement trends is based state assessment results of 135 MSAP-funded elementary schools and a comparison sample of 1350 non-MSAP elementary schools. Each MSAP school was matched with 10 non-MSAP schools from the same state that resembled it most closely on student demographic characteristics and prior achievement. Exhibit A-V-24 summarizes the mean demographic characteristics of the MSAP elementary schools and the Non-MSAP schools used in the analysis. The exhibit does not display average initial achievement levels of MSAP and non-MSAP schools because the metric of the achievement measures varied from state to state.

Exhibit A-V-24.
Demographic characteristics of MSAP and matched non-MSAP elementary school samples used in analysis of achievement trends.

Demographic Characteristic	MSAP (N = 135)	Non-MSAP (N = 1,350)
Urbanicity		
Percent Large City	43	43
Percent Medium City	37	37
Percent Urban Fringe	20	20
Average Number of Students	622	649
Average Percent Students Eligible for Free or Reduced-price Lunches	74	70
Average Percent Minority	78	72
Average Percent:		
Black	39	33
Hispanic	31	31
Asian or Pacific Islander	7	6
Native American or Alaskan Native	0.5	0.6

Source: 1997-1998 Common Core Data, except for percentages of students eligible for free or reduced-price lunches which are based on data from the 1999-2000 Common Core Data.

Technical Note: Calculation of the "Residual Achievement Measure"

The analysis of factors associated with greater student achievement in MSAP-supported schools uses an academic improvement measure that sets each school's achievement growth in the context of the growth observed for ten comparison schools matched on demographic composition and prior academic performance. The measure is the calculated difference between the amount of growth predicted by a regression equation that includes variables for demographic composition and prior test scores and the actual growth achieved by the school. A large positive difference indicates that the school's growth is higher than would be expected, given the school's demographics and prior achievement levels. A small difference indicates that the school's growth is close to that predicted by the regression equation.

Technical Note: Hierarchical Linear Modeling of Reading and Mathematics Trends

The trends in achievement for MSAP and non-MSAP schools are analyzed in a four-level hierarchical linear regression model. The four levels included in the model are the states (schools from 14 states are included in the analysis), comparison blocks of schools within the states (each of 135 blocks consists of one MSAP magnet school and 10 comparison schools from the same state, for a total of 1,485 schools), schools within the blocks, and grades within the schools (test scores are reported separately for each of the grades 3 through 5, and states vary in which grades they test). The full (four-level) hierarchical linear model is given by the following, where Y_{ijkl} is the change in performance for grade i in school j in block k in state l, between the baseline year and 2000–2001, the final year of the MSAP grants.

Level-1: Grade

$$Y_{ijkl} = \alpha_{0jkl} + \alpha_{1jkl}\text{Grade4}_{ijkl} + \alpha_{2jkl}\text{Grade5}_{ijkl} + s_{ijkl}$$

Level-2: School

$$\alpha_{0jkl} = \pi_{00kl} + \pi_{01kl}(\text{PctMin01-PctMin97})_{jkl} + \pi_{02kl}\text{PctFRL}_{jkl} + \pi_{03kl}\text{Magnet}_{jkl} + e_{0jkl}$$

Level-3: Comparison Block

$$\pi_{00kl} = \beta_{000l} + r_{00kl}$$

Level-4: State

$$\beta_{000l} = \gamma_{0000} + u_{000l}$$

Random Effects:

s_{ijkl} = random grade-level effect; varies between grades within schools across blocks across states
e_{0jkl} = random school-level effect; varies between schools across blocks across states
r_{00kl} = random block-level effect; varies across blocks across states
u_{000l} = random state-level effect; varies across states

The results of the HLM analysis for elementary reading and mathematics are shown in Exhibit A-V-25.

Exhibit A-V-25.
Parameter estimates for MSAP and comparison elementary schools: multilevel model for change in standardized test sores between 1997–1998 and 2000–2001*

	Est.	SE	P-value	Est.	SE	P-value
Grade-level variables		***Reading***			***Mathematics***	
Intercept	0.485	0.118	0.001	0.455	0.122	0.002
Grade 4	-0.039	0.035	0.263	0.045	0.039	0.244
Grade 5	-0.080	0.034	0.018	0.030	0.038	0.431
School-level variables						
MSAP	0.020	0.052	0.697	-0.055	0.054	0.311
Percent Change in Minority	-0.017	0.003	<.0001	-0.015	0.003	<.0001
Percent Free/Reduced Lunch (1999)	-0.001	0.001	0.192	<0.001	<0.001	0.530
Unexplained variance						
Between States	0.102			0.118		
Between Comparison Blocks	0.082			0.047		
Between Schools	0.133			0.115		
Between Grades	0.276			0.346		
Number of schools	1485**			1485**		

*Change is measured in baseline year standard deviation units. For most states, the baseline year is 1997–1998, but in a few it is 1998–1999. In all states, the terminal year is 2000–2001.

** Sample consists of 135 blocks, each containing one MSAP elementary school and ten matched comparison schools from the same state.

Source: National School Level Assessment Score Database and responses to 2000 and 2001 Principal Surveys