EXHIBIT 6.2
NUMBER OF DISTINCT ACTIVITIES UNDERTAKEN BY SCHOOLS TO PREVENT PROBLEM BEHAVIOR OR PROMOTE A SAFE AND ORDERLY SCHOOL ENVIRONMENT, BY SCHOOL LEVEL

School level	Median
All schools	14
Elementary	14
Middle/junior high	16
High	11

Note: "Median" is the median number of distinct (unduplicated) activities named (i.e., each activity is counted only once regardless of the number of times it was named by a respondent). Includes all schools, whether or not receiving SDFSCA funds or services.

Source: U.S. Department of Education/U.S. Department of Justice, unpublished preliminary data from National Study on School Violence and Prevention/National Study of Delinquency Prevention in Schools (see endnote 2).

The SDFSCA National Programs support a range of activities designed to help elementary and secondary schools and institutions of higher education prevent drug use and violence. Activities include identifying model programs and approaches to prevention, disseminating information about effective programs and strategies, providing technical assistance, and developing and implementing interagency initiatives that promote coordination and collaboration among federal agencies for drug and violence prevention. To target a greater percentage of program funds on high-quality programs in areas of significant need, the Department will expand National Programs activities in Fiscal Year 1999 by investing more than $95 million in competitive grants designed to meet that goal. In this way, the Department seeks to focus limited resources on high-quality programs and enlarge the available pool of strategies of demonstrated effectiveness.

Exhibit 6.3 summarizes the key provisions of SDFSCA and briefly describes how the program functions.

EXHIBIT 6.3
ED'S PROGRAMS FOR SCHOOL SAFETY AND DRUG PREVENTION AT A GLANCE

Program Name	1999 Appropriation*	Purpose	Funding and Targeting	Participation	Services
SEA Programs	$344 million	Assist school districts in implementing comprehensive drug and violence prevention programs	Formula grants to states based on the school-age population of the state and the state's Title I, Part A allotment 80% of the total amount allocated to the state Suballocations to school districts based on enrollment (70% of funds) and greatest need (30% of funds)	52 states (including the District of Columbia and Puerto Rico) 97% of all school districts	Student instruction, curriculum development, student assistance (e.g., counseling, mentoring), after-school programs, parent involvement, and other activities
Governors' Programs	$86 million	Support community-based drug and violence prevention activities, with a focus on youth with special needs or who are not normally served by schools	20% of the total amount allocated to the state Discretionary grants or contracts to community and nonprofit entities based on targeting of children and youth who are not normally served by schools or who need special services	52 Governors Over 4,000 grants to community and nonprofit entities in 1995-96 and 1996-97 Over 15 million students served from 1995-96 to 1996-97	Dissemination; training parents, law enforcement officials, and community members; linking community resources with schools; and other activities
National Programs	$90 million**	Support drug and violence prevention activities for students (preschool through postsecondary) with a focus on unmet and emerging national needs	Discretionary grants, contracts and cooperative agreements with federal agencies, SEAs, districts, schools, institutions of higher education, and nonprofit organizations	24 new awards, 18 continuation awards in 1998	Identification of model programs, dissemination, technical assistance, data collection, interagency initiatives, evaluations, and other activities

* For fiscal year 1999, the total SDFSCA appropriation was $566 million, including $35 million for a special initiative to support middle school prevention coordinators, and funds reserved for the outlying areas, Bureau of Indian Affairs, Programs for Native Hawaiians, and program evaluation.

** Includes $60 million for competitive grants to LEAs for programs to create safe and orderly learning environments.

Source: U.S. Department of Education.

What Do We Know About Successful Efforts to Prevent Drug Use and Violence?

To strengthen the quality of drug and violence prevention programs implemented with SDFSCA funds, the U.S. Department of Education recently established the Principles of Effectiveness for SDFSCA. These Principles of Effectiveness derive primarily from the requirements in SDFSCA, but they are also based on ideas, drawn from theory and practice, about how to encourage high-quality program planning, implementation, and improvement.

Effective July 1, 1998, all recipients of SDFSCA State and Local Grants Programs funds are required to abide by the following Principles:

1. A grant recipient shall base its program on a thorough assessment of objective data about the drug and violence problems in the schools and communities served.

2. A grant recipient shall, with the assistance of a local or regional advisory council that includes community representatives, establish a set of measurable goals and objectives, and design its activities to meet those goals and objectives.

3. A grant recipient shall design and implement its activities based on research or evaluation that provides evidence that the strategies used prevent or reduce drug use, violence, or disruptive behavior.

4. A grant recipient shall evaluate its program periodically to assess its progress toward achieving its goals and objectives and use its evaluation results to refine, improve, and strengthen its program and to refine its goals and objectives as appropriate.

The Principles are closely related to district application requirements in Section 4115 of the statute. This section requires school districts to conduct an objective analysis of their current drug and discipline problems, create measurable goals for drug and violence prevention, and report on progress toward attaining those goals.

The Principle requiring the use of research-based approaches was developed largely in response to the findings of a Department study of programs in 19 school districts supported by the Drug Free Schools and Communities Act (that is, the program prior to the 1994 reauthorization). That study found that few districts seemed to know about or consider research findings when planning their prevention programs, and that prevention approaches that have been shown to be effective were not widely used.[3] Although the statute does not expressly require the adoption of research-based prevention programs, a focus on such programs is in accordance with the purposes of SDFSCA. The Department has convened an Expert Panel to identify, validate, and recommend to the Department those school-based programs that have proven effective, when judged against rigorous criteria, in promoting safe, disciplined, and drug-free schools. Once the Expert Panel designates programs as exemplary or promising, the Department will disseminate information about them and encourage their use.

The Principles of Effectiveness are an important part of the Department's efforts to improve and strengthen the SDFSCA program. Because the Principles were recently developed, the Department does not have current data on their implementation. The Department is currently collecting information on state and local implementation of the principles from a variety of sources. Data generated from these studies will be available beginning in the spring of 1999.

How Well Is the Nation Meeting Its Goals for School Safety and Drug Prevention?

Given the many factors that affect student behavior and attitudes related to violence and drug use, it is not clear how much effect SDFSCA has had on national trends. However, an examination of these trends provides valuable information on the context within which the program operates as well as some indications of the effects the program may be having.

Drug Use: **For the nation as a whole, an annual survey of students in grades 8, 10, and 12 demonstrates that alcohol and drug use continue at much lower rates at school than they do overall. Overall, while the use of alcohol remains high (with a recent slight decrease for grades 8 and 10), 1998 results indicate that the aggregate use of other illicit drugs may be finally heading downward after six years of steadily climbing (due primarily to increases in marijuana use).**

Information on long-term trends is available only for students in grade 12. Rates of use (see Exhibits 6.4 and 6.5) declined sharply from peak rates in the mid-1970s to about 1991. Since that low point, overall rates have been higher, although except for marijuana use, substance use rates have been relatively stable throughout the 1990s—and as previously stated, the most recent data show a decrease in use rates.

- The percentage of high school seniors in 1998 reporting use of alcohol at school during the preceding year (8 percent) was the same as for 1994. For marijuana, the percentage reporting use at school during the preceding year is now also the same as for 1994 (8 percent), reflecting a reversal of recent increases that had reached as high as 10 percent.

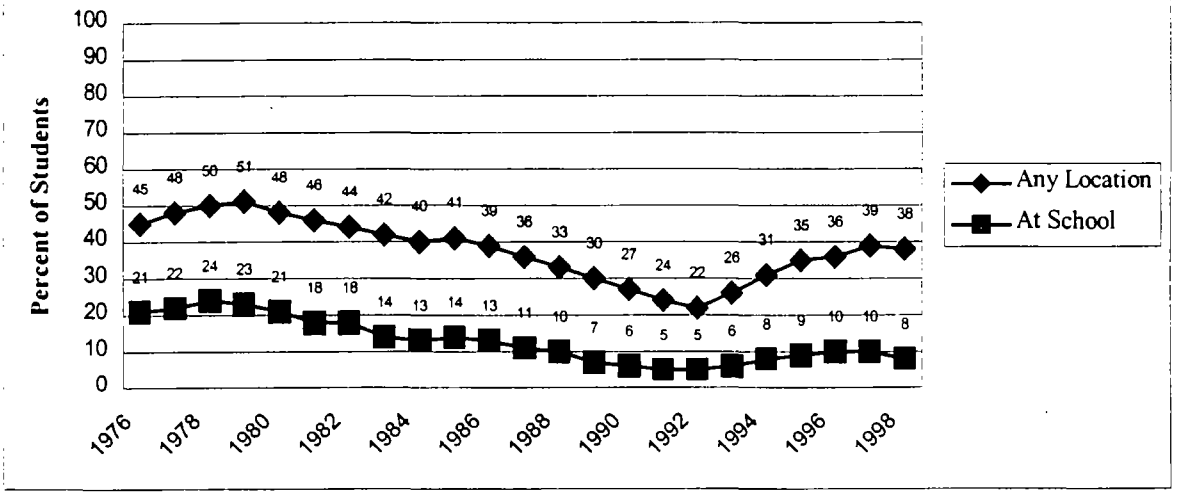
- In comparison, for substance use at any location in 1998, about three-quarters of high school seniors reported using alcohol and about two-fifths reported using marijuana in the preceding year.

National Indicators:

Drug use in schools. By 2001: rates of annual alcohol use in schools will decline to 4% for 8th graders and 7% for 10th and 12th graders and rates of annual marijuana use in school for the same time period will decline to 3%, 9% and 7% for 8th, 10th, and 12th graders.

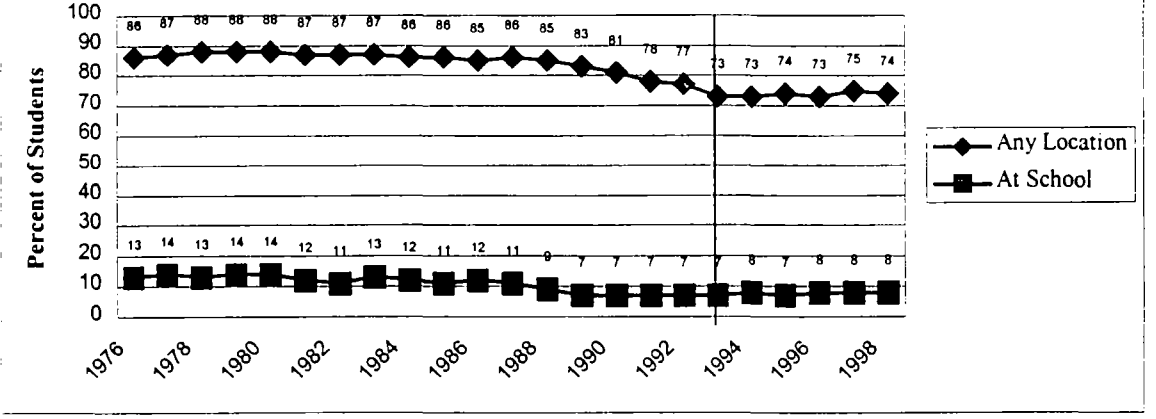
Drug use by school-aged children. By 2000: rates of 30-day prevalence of alcohol use will decline to: 21% for 8th graders, 32% for 10th graders, and 41% for 12th graders and rates of 30-day prevalence of illicit drug use will decline to: 12% for 8th graders, 19% for 10th graders, and 20% for 12th graders.

EXHIBIT 6.4
PERCENTAGE OF 12TH GRADERS REPORTING THE USE OF MARIJUANA IN THE PAST YEAR, AT SCHOOL AND AT ANY LOCATION



Source: University of Michigan, Survey Research Center, Institute for Social Research, Monitoring the Future Study, 1976 to 1998.

EXHIBIT 6.5
PERCENTAGE OF 12TH GRADERS REPORTING THE USE OF ALCOHOL* IN THE PAST YEAR, AT SCHOOL AND AT ANY LOCATION



* In 1993, the wording for this item changed. Alcohol use was redefined as "more than a few sips."

Source: University of Michigan, Survey Research Center, Institute for Social Research, Monitoring the Future Study, 1976 to 1998.

Violence: Findings from studies of school violence and disorder vary, depending on how the data are collected. Data collected from school administrators, who may not be aware of all incidents that occur on school property, differ from data collected directly from students, and data collected from students vary according to whether the information is collected via a household survey (in the presence of parents) or at school (in the environment asked about). Because of their differences, a combination of these data sources presents a more accurate picture of school safety than any single source.

The *Annual Report on School Safety 1998*[4] examined a range of different sources of data, and concluded that **schools nationally are comparatively safe places, and students in school today are not significantly more likely to be victimized than in previous years. Crime in or on the way to school has fallen, and most school crime is theft, not serious violent crime. However, a small proportion of schools experience serious crime and violence.**

National Indicators:

Serious violent incidents in schools. By 2001: the proportion of high school students in a physical fight on school property will decrease to 12% and the annual rate of students aged 12 to 18 who report experiencing serious violent crime, in schools or going to and from school, will decrease to 8 per 1,000.

Weapons in schools. By 2001, the proportion of high school students carrying weapons (including firearms) to school will decrease to 6%.

School-related homicides. For the two-year period ending in 2001, the number of school-related homicides will decline to 64.

- A 1996 household survey of students found that per 1,000 students aged 12 to 18, about 26 were victims of serious violent crimes away from school, while about 10 were victims of such crimes at school or going to and from school.[5]

- During the 1996-97 school year, 10 percent of all public schools reported one or more serious violent crimes to the police. Another 47 percent of all public schools reported at least one less serious or nonviolent crime to police, but did not report any serious violent crime. The remaining 43 percent of public schools did not report any of these crimes to the police.[6]

Preliminary data from two ongoing, linked studies, the "Study on School Violence and Prevention" and the "National Study of Delinquency Prevention in Schools," provide some information on the extent of problem behavior in schools. These studies, which are being jointly funded by the U.S. Department of Education, the National Institute of Justice, and the Bureau of Justice Assistance, surveyed a nationally representative sample of schools, and included data collected from students via in-school surveys.[7] Nearly 1 in 7 secondary school students reported being physically attacked in school during the 1997-98 school year, and 1 in 20 secondary students reported being threatened with a weapon in school during that year.

- A total of 14 percent of secondary school students reported that they were physically attacked this year in school. The percentage of students physically attacked was higher in middle and junior high schools (19%) than in high schools (10%).

- A total of 5 percent of secondary school students reported that they were threatened with a gun or knife this year in school and 19 percent reported that they were threatened with a beating. The percentage of students threatened with a beating was higher in middle and junior high schools (22%) than in high schools (16%).

How Well Is the Safe and Drug-Free Schools Program Working?

Targeting of funds. Exhibit 6.6 shows the extent to which states used various factors to allocate the 30 percent of funds that are targeted to districts with the greatest need for additional funding to prevent drug use and violence. These funds may be allocated to 5 districts or 10 percent of districts in each state (whichever is more). Approximately two-thirds of the states based their "high-need" allocation decisions on rates of student alcohol and drug use, arrests, expulsions or suspensions from school, and rates of school violence or vandalism. Rates of violence or criminal victimization and levels of district poverty figure in the allocation decisions of just over 60 percent of states.

EXHIBIT 6.6
FACTORS USED TO ALLOCATE STATE FUNDS TO DISTRICTS WITH GREATEST NEED: SCHOOL YEARS 1995-96 AND 1996-97

Factor	Percent of States Citing Use	
	1995-96*	1996-97**
Rates of alcohol/drug use	74	72
Arrest rates	74	68
Student expulsions/suspensions from school	70	68
Rates of school violence/vandalism	64	66
Rates of violence or criminal victimization	64	62
Level of district poverty	60	61
Incidence of child abuse and domestic violence	57	58
Rates of school dropout and absences	60	58
Referrals to juvenile court	49	50
Illegal gang activity	47	44
Participation in alcohol/drug treatment	40	42
Other factors	43	40

* 53 states reporting.
** 50 states reporting.
Note: For both school years, includes Washington, D.C., Puerto Rico, and Virgin Islands.
Source: U.S. Department of Education, unpublished data from state performance reports.

State goals and objectives. **The statute requires states to develop goals and objectives for their SDFSCA program, and all states have met this requirement. However, the quality of these goals and objectives varies.** The Department reviewed the state goals and objectives contained in state applications and performance reports, and Exhibit 6.7 describes their characteristics. These goals were sometimes poorly articulated, or they lacked a reference to a baseline data source or to the methodology to be used to assess the outcomes. The majority of states addressed either student outcomes or program outcomes, but not both.

EXHIBIT 6.7
CHARACTERISTICS OF SEA AND GOVERNORS' PROGRAM GOALS AND OBJECTIVES

Characteristic	SEA	Governors
Goals and objectives submitted[a]	53	53
Measurable goals and objectives submitted	19	18
Student outcome goals and objectives submitted	28	25
Program outcome goals and objectives submitted	30	24
Both student and program goals and objectives submitted	15	10
Process goals and objectives submitted	19	27
Outcome and process goals and objectives submitted	12	13

[a] Four states submitted the same goals for the SEA and the Governors' program.
Note: Totals include Washington, D.C., Puerto Rico, and Virgin Islands.

Source: U.S. Department of Education, unpublished data from state performance reports, 1996-97.

State reporting of prevalence rates. One of the reporting requirements under the statute is that states report on the prevalence of drug use and violence in schools and communities. Exhibit 6.8 shows the surveys that states used to provide this information for their program performance reports. Most states use the Youth Risk Behavior Survey.

EXHIBIT 6.8
TYPES OF PREVALENCE SURVEYS USED BY STATES
SCHOOL YEARS 1995-96 AND 1996-97

Prevalence Survey	1995-96			1996-97		
	Grade 8	Grade 10	Grade 12	Grade 8	Grade 10	Grade 12
Number of states reporting	53	53	53	51	50	51
Youth Risk Behavior Survey	11	37	36	12	40	39
PRIDE Survey	1	1	1	2	2	2
State/Local	16	12	15	15	11	12
Other	4	3	4	5	5	5
Total[a]	32	53	56	34	58	58

[a] Some states did not survey 8th graders. Some states used more than one type of survey.
Totals include Washington, D.C., Puerto Rico, and the Virgin Islands.

Source: U.S. Department of Education, unpublished data from state performance reports.

State leadership and district response. Because SDFSCA is primarily a formula grant program, with districts applying to states for funds and making their progress reports to states, responsibility for overseeing the quality of local activities rests with state education agencies. Indeed, the statute requires these agencies to consider the quality of districts' comprehensive plans in determining whether to approve their applications. The statute specifically gives states the authority to disapprove local applications and to withhold, limit, or place restrictions on the use of district funds. States thus have both the statutory

authority and the responsibility to set standards for district programs and to insist, when necessary, that districts improve the quality of programs.

The extent to which states are making use of their authority to carry out their responsibilities is not clear. Anecdotal evidence obtained through monitoring and other sources suggests that although most districts are complying with program requirements (such as the requirement that they conduct a needs assessment and establish measurable goals and objectives), many districts are having trouble developing coordinated prevention plans that link their goals and objectives with the findings from their needs assessment. **Moreover, while the flexibility that the law provides may be a boon to districts seeking to tailor program activities to local needs, districts may not necessarily select activities to match their needs assessments or goals and may seldom use activities that are based on research.**

SDFSCA state coordinator offices often have very small staffs; in some cases, only one or two persons are responsible for hundreds of school districts, making intensive technical assistance to districts and oversight of district activities very difficult. Data from the State Follow-up Study substantiate these concerns: of 48 state SDFSCA administrators surveyed, 24 report being able to provide monitoring visits to fewer than one-fourth of their districts in the previous year. Of 25 states that conduct program-specific monitoring visits, 18 SDFSCA administrators strongly or somewhat agreed that they were no longer able to visit as many districts as in the past because of a lack of staffing or funds. Of 34 state SDFSCA administrators who responded to a question on technical assistance problems, 28 cited insufficient staff size, 9 cited lack of program funds, and 9 cited lack of knowledge or expertise among state-level staff as barriers to meeting districts' technical assistance needs. Elsewhere, state officials may be reluctant to interfere with local autonomy, which may result in less rigorous review of applications.

Findings from a recent Office of the Inspector General (OIG) audit, which examined implementation of the program in 4 states and 26 districts, illustrate some of these concerns. The OIG report indicates that states' application review processes generally complied with SDFSCA, and funds were properly distributed. In the 26 districts visited, OIG found that the expenditures reviewed were "supported and consistent with the applications and program objectives."[8] However, OIG expressed concern that one of the states visited "did not require the LEAs to prepare a comprehensive plan for drug and violence prevention, including a description of how the SDFS funds would be spent to meet its measurable goals and objectives. As a result, LEAs visited that did not have a comprehensive plan appeared to be unclear as to the direction of the SDFS program and the best use of the funds."[9] Moreover, three out of four states reviewed "have not assured that LEAs have outcome-based performance indicators," and in many cases, district goals focused on outputs, such as the number of staff trained, that "show the quantity of work activity completed and do not measure the effectiveness of the program."

The role of SDFSCA in prevention. Preliminary data from a 1997-98 national study[10] provide some information on the role SDFSCA plays in prevention. This study surveyed a nationally representative sample of schools. Elementary and secondary school principals reported that, after the school district's own budget allocation for the school, the SDFSCA program was the most frequent source of resources for practices related to schoolwide discipline. SDFSCA funding was cited as a source much more frequently (52%) than other government funding, private funding, or local fund raisers.

In addition, elementary and secondary schools regard the resources provided by SDFSCA as important for schoolwide discipline, and schools have considerable discretion in how they use SDFSCA funds.[11] When asked about the importance of resources in improving or maintaining the safety and orderliness of the school or in preventing problem behavior, 77 percent of the elementary and secondary school principals in schools that received SDFSCA funds reported that these funds make a difference, make a big difference, or are essential. Twenty-five percent of the principals indicated that SDFSCA funds are essential. Elementary and secondary school principals reported that they had a fair amount of discretion

in how they used SDFSCA program funds. For example, 80 percent of the principals in schools that received these funds indicated that their school was permitted to select from a menu of options provided by the district, or the school was otherwise permitted to decide how it used the SDFSCA funds.

Until the 1999 evaluations[12] are completed, the best available program-specific information is a 1991-95 study by Research Triangle Institute (RTI) of 10,000 students in 19 school districts, which examined the program prior to its 1994 reauthorization. This study showed that some drug prevention programs improved student outcomes but the effects were small. Student outcomes were somewhat better in districts meeting two conditions. The first is where the prevention programs had greater stability over time, a definition that included being in place for a long period, with continuity of staff, planning, and leadership. The second is in districts with more extensive program components, defined as targeting both the general student population and high-risk students, and including a range of student support services such as student assistance programs, student support groups, individual and group counseling, mentoring projects, and conflict mediation. The stability of the prevention program was statistically associated with more antidrug attitudes and better recognition of the consequences of drug use by students. The extensiveness of the prevention program was statistically associated with benefits for students: lower lifetime use of drugs, more antidrug attitudes, and better recognition by students of the consequences of drug use. While these findings were statistically significant, they represented quite small differences in student outcomes.[13]

Problems with local implementation. **It is more difficult to influence local policy and improve the quality of local implementation through a formula grant program like SDFSCA State Grants than through a discretionary program.** Any federal initiatives for a state-administered formula grant program depend on state action to implement them. State awareness, capacity, and willingness vary widely. Moreover, local factors influence the effective implementation of any effort to prevent youth drug use and violence. These factors include societal and parental attitudes; activities of organized crime and gangs (and law enforcement response); individual, family, and community risk and protective factors; and advertising and other media images of drug use and violence.

The RTI study,[14] which examined the program prior to reauthorization, highlighted problems at the local level with the quality and consistency of program services. The concerns raised by this study were a major factor in the Department's development of the Principles of Effectiveness.

The strongest theme to emerge from the study was tremendous variability in local programming. Even within districts that were attempting to deliver consistent programs, the amount and content of prevention activities varied greatly from classroom to classroom and from school to school. There was variability in the amount, method and content of classroom instruction related to prevention, and in the availability of support services for students. Implementation was inconsistent because teachers and counselors simply did not have enough time, support, training, or motivation to provide all the instruction or other activities that they had planned to provide.

The 1991-95 RTI study illustrates other problems with local program implementation as well:

- Districts rarely implemented approaches that, according to current research, have the greatest potential for making a difference for students. These approaches include teaching children how to resist and deal with powerful social influences that may promote drug use, and correcting misperceptions about peer drug use. The probable reason is the higher cost of these approaches, particularly in terms of teacher training and staff time.

    - More recent information indicates that this is still a concern. For example, preliminary data from a 1997-98 national study[15] of schools (not all of which may be receiving

SDFSCA-funded services) indicate that D.A.R.E. is among the most common programs—48 percent of elementary schools, 21 percent of middle schools, and 8 percent of high schools reported using the D.A.R.E. program. Longitudinal studies of D.A.R.E.'s effectiveness using rigorous methodology have found few short-term and no long-term positive effects.[16]

- Although all school districts periodically conducted informal assessments of their programs, fewer than half conducted more formal evaluations or responded to the evidence from such evaluations in selecting or altering their programs.

Helpful implementation factors. In the RTI study,[17] an examination of the case studies revealed that certain factors appear to improve program implementation. These include: commitment on the part of the program implementors; leadership provided by the prevention program coordinator; community involvement in the program and a sense of shared responsibility for drug prevention. Other helpful factors include district-level reinforcement of school-level commitment to prevention through the use of school-based coordinators and emphasis on staff training in prevention.

Options for Strengthening the Program

Through reauthorization, the Department and Congress can take several steps to strengthen the program. The following are possibilities:

- **Make the Principles of Effectiveness a legislative requirement**. Future legislation could require grant recipients to use research-based prevention approaches and engage in coordinated, comprehensive planning, including a thorough needs assessment, establishment of goals and objectives that respond to needs assessment findings, and the use of evaluation data for program planning and improvement.

- **Target funds based on need for services and quality of programming, with a focus on research-based approaches**. While continuing to provide a small amount of funding to all districts would have the benefit of requiring all districts to engage in coordinated, comprehensive planning for their drug and violence prevention efforts, this strategy does go far enough to encourage the widespread use of high-quality programming. Because research-based approaches are often more intensive, and therefore more expensive, than other approaches, school districts may not be able to afford them, given the average level of resources now available. Future legislation would need to find a way to balance the need for quality improvement, represented by a focus on research-based approaches, with the understandable desire to spread resources as far as possible and to continue existing prevention efforts. The Department continues to explore ways to improve program quality, including targeting program funds more effectively and furthering the development of competitive grants.

- **Balance the program's flexibility with increased accountability for results**. In particular, this could be accomplished by encouraging states and districts to use outcomes-based performance measurement, with more emphasis on outcomes related to changes in student behavior and attitudes, along with improved performance reporting by states.

- **Increase coordination within states between SEA and Governors' programs**. This could be done by encouraging joint planning, implementation of activities, and assessment, such as through requirements for joint applications and joint provision of technical assistance, as well as

an increased focus within the Governors' program on coordination of grantees' activities with school-based prevention efforts.

To improve local implementation, the Department can stress the Principles of Effectiveness through dissemination of information on effective approaches, technical assistance, and monitoring. Broader social and cultural factors can be addressed through interagency cooperation, including coordinated research and development, continuing efforts to identify effective programs, and technical assistance, including technical assistance with performance measurement.

[1] U.S. Department of Education, *Safe and Drug-Free Schools: Increasing Accountability and Preserving Flexibility. Final Audit Report* (Washington, DC: U.S. Department of Education, Dec. 1998).
[2] This project was supported in part by Grant No. 96-MU-MU-0008 awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice. Additional support was provided by U.S. Department of Education Contract No. 96-055001.
[3] E. Suyapa Silvia, Judy Thorne, and Christene Tashjian, *School-Based Drug Prevention Programs: A Longitudinal Study in Selected School Districts. Final Report* (Washington, DC: U.S. Department of Education, 1997).
[4] U.S. Department of Education and U.S. Department of Justice, *Annual Report on School Safety 1998* (Washington, DC: Authors, 1998).
[5] Serious violent crime includes murder, rape or other types of sexual battery, suicide, physical attack or fight with a weapon, and robbery.
[6] Serious violent crime includes murder, rape or other types of sexual battery, suicide, physical attack or fight with a weapon, and robbery. Less serious or nonviolent crime includes vandalism, theft or larceny, and physical attack or fight without a weapon.
[7] This project was supported in part by Grant No. 96-MU-MU-0008 awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice. Additional support was provided by U.S. Department of Education Contract No. 96-055001.
[8] U.S. Department of Education, *Safe and Drug-Free Schools.*
[9] Texas responded that "the Texas application for SDFSCA contains the LEA's comprehensive plan for drug and violence prevention. . . . Texas further wrote that in an effort to ensure that the LEA's comprehensive plan activities align with LEA program goals, objectives, and activities, the Texas application will be revised to specifically reflect an alignment between the LEA's program activities, needs assessment, and the Principles of Effectiveness. They stated that . . . LEAs are currently required to identify specific drug prevention and violence prevention goals in the Safe and Drug-Free Schools and Communities Annual Evaluation Report." U.S. Department of Education, *Safe and Drug-Free Schools.*
[10] This project was supported in part by Grant No. 96-MU-MU-0008 awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice. Additional support was provided by U.S. Department of Education Contract No. 96-055001.
[11] This project was supported in part by Grant No. 96-MU-MU-0008 awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice. Additional support was provided by U.S. Department of Education Contract No. 96-055001.
[12] Three evaluations and data collections are under way but not yet completed: (1) "Study on School Violence and Prevention" (Westat) [survey of schools, case studies]; reports: interim report, 1999; case study report, 2000; final report, 2001. (Preliminary data are available.) (2) "Study of Local Educational Agency Activities under SDFSCA (Westat) [survey of districts] report: 1999. (3) "Performance Indicator System for the SDFSCA" (Westat) [state performance reports] report: 1999.
[13] R^2 values for multiple regression analyses for these variables range from .24 to .49, significant at $p<.01$ or lower. As an example of effect size, the proportion of students who in year 1 of the study had never used drugs or alcohol and who reported trying drugs or alcohol by year 4 of the study ranged from a high of 74 percent to a low of 43 percent. For details of study findings, see E. Suyapa Silvia, Judy Thorne, and Christene Tashjian, *School-Based Drug Prevention Programs.*
[14] E. Suyapa Silvia, Judy Thorne, and Christene Tashjian, *School-Based Drug Prevention Programs.*
[15] This project was supported in part by Grant No. 96-MU-MU-0008 awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those

of the author and do not necessarily represent the official position or policies of the U.S. Department of Justice. Additional support was provided by U.S. Department of Education Contract No. 96-055001.

[16] Lawrence W. Sherman, Denise Gottfredson, Doris MacKenzie, John Eck, Peter Reuter, and Shawn Bushway, *Preventing Crime: What Works, What Doesn't, What's Promising. A Report to the United States Congress prepared for the National Institute of Justice*, (College Park MD: Department of Criminology and Criminal Justice, University of Maryland, 1997).

[17] E. Suyapa Silvia, Judy Thorne, and Christene Tashjian, *School-Based Drug Prevention Programs.*

7. IS FEDERAL SUPPORT STRENGTHENING ACCESS TO AND USE OF TECHNOLOGY TO SUPPORT LEARNING?

KEY FINDINGS

Access to Technology

Classroom access to modern computers and the Internet is growing rapidly. The ratio of students to modern multimedia computers in the nation's classrooms was cut by almost half between 1997 and 1998. More than half of all public school classrooms have access to the Internet, compared with almost none in 1994.

The "digital divide" between students in high- and low-poverty schools has been nearly eliminated in terms of access to instructional computers. Gaps remain in classroom access to modern multimedia computers, Internet access, and in access outside of school, but they are closing.

Federal Programs

Federal funds paid for a quarter of all computers received by schools last year. Federal funds paid for half of all new computers in high-poverty schools, and they paid for more computers in high-poverty schools than in low-poverty schools.

Districts report that long-term district plans, such as the education technology plans required by the Technology Literacy Challenge Fund, are important factors in influencing their educational technology activities.

States and subgrantees vary widely in their allocation of the Technology Literacy Challenge Funds to high-need areas.

Star Schools and the Technology Innovation Challenge Grant programs are demonstrating effective uses of educational technology, but are not providing a clear focus for federal leadership in developing the knowledge base.

Many states and other grantees have not devoted sufficient effort to evaluating the effectiveness of their programs. They also collect very different data, making it difficult to monitor performance and impact across districts and states.

Challenges in Integrating Technology in Instruction

Priority should be given to effectively targeting high need students and schools, and concentrating efforts in critical areas such as professional development and technical support. Effective use of educational technology is dependent on ongoing professional development and technical support. At least half of all schools--including both high- and low-poverty schools-- cite lack of teacher awareness, software, training, and technical assistance as barriers to the integration of technology into classroom instruction. The rapid evolution of educational technology requires continuing research on how to most effectively design and use these technologies.

While access to computers and the Internet is growing rapidly in our nation's schools, effective use depends on professional development and continuing research on how best to integrate these technologies with broader reforms to improve teaching and learning.

One of the goals in the U.S. Department of Education's Strategic Plan is to make educational technology part of a broader education reform that will provide new learning opportunities and raise educational achievement for all students.

For two decades, technology has held the promise of radically transforming the quality and very nature of education. Comparatively primitive technology, scant access, and limited know-how restricted the effective use of these technologies. This is changing. Computer chips, which continue to double in power every 18 months, together with advances in telecommunications, have simplified the use of technology, reduced costs, and are now able to support complex learning in ways previously unachievable.

Technological literacy is an essential skill that all students will need in order to compete in the new millennium. Moreover, when linked to broader school improvement, educational technology can increase educational access, improve teaching and learning, and open new vistas of learning.

Among key policy issues that need to be addressed to fulfill the potential of educational technology for improving teaching and learning are:

- How to make technology accessible to all students, regardless of family income.
- How to help teachers develop the skills to use technology effectively in the classroom.
- How to identify, develop, test, and widely implement promising technology interventions.
- How to fully integrate educational technology with broader school improvement.

In response to these and other issues, the legislation enacted in 1994 expanded the federal role in support of educational technology. Recognizing the importance of stimulating state and local efforts to acquire and effectively use educational technology, it expanded the federal government's responsibility and encouraged states to set priorities, target funds to high-poverty schools and districts, and conduct other activities to catalyze national action.

Introduction to the Programs and the 1994 Legislative Changes

Title III, Parts A and B of the reauthorized Elementary and Secondary Education Act of 1965, recognized that technology could provide greater opportunities for all students to achieve high academic standards. It envisioned that increased use of technology would enhance the ongoing professional development of teachers and administrators by giving them access to current research about teaching and learning. It also considered it essential that teachers receive adequate training in the use of technology for effective instruction. Prior to the 1994 reauthorization, the federal role was limited primarily to the Star Schools program, which funded the development and use of distance education to support increased access and equity.

The 1994 legislation requires that the Secretary of Education develop a National Long-Range Technology Plan that sets out how the Department and other agencies will promote the use of technology to support

educational reform.[1] It authorizes four programs that are intended to work together to improve technology access and integration in schools.

- **The Technology Literacy Challenge Fund** (TLCF) provides states and districts with flexibility and leverage to more effectively plan, coordinate, support, and use educational technology to improve teaching and learning. States receiving grants and districts receiving subgrants must have educational technology plans that include all sources of support, not just TLCF supported activities. State plans outline long-term strategies for financing technology and plans for assistance so that school districts with the greatest need and highest poverty are not left behind. Local educational agencies must submit a 3- to 5-year technology plan with their applications for subgrants.

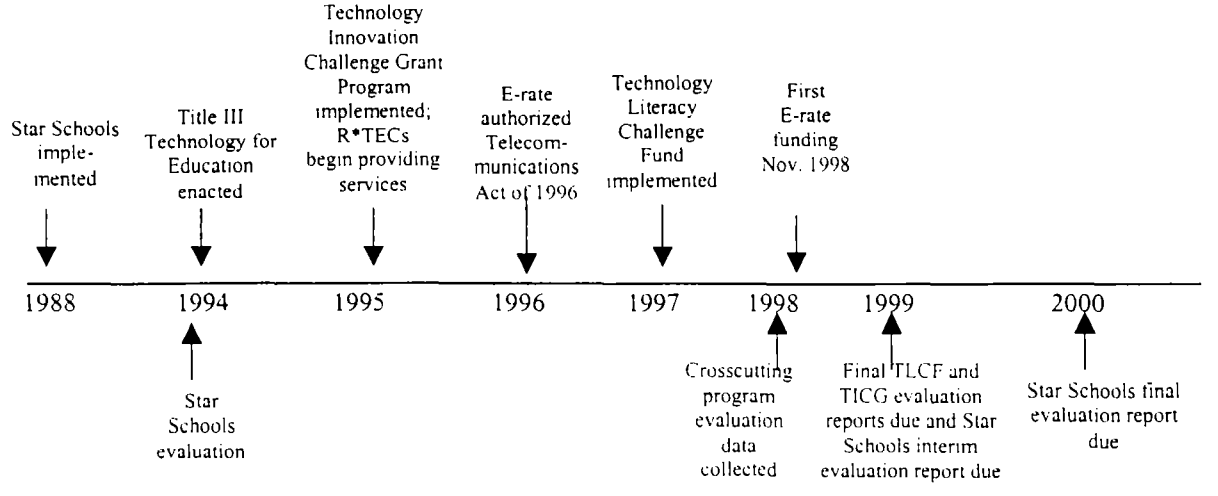
- **The Technology Innovation Challenge Grants** (TICG) program provides competitive grants to consortia that include at least one low-income school district for innovative uses of educational technology to improve teaching and learning.

- **The Star Schools program** supports partnerships to provide distance learning services, equipment, and facilities. Applicants must now demonstrate how they will assist state and local school reform, help meet the National Education Goals, and provide opportunities for students to meet high standards.

- **Regional Technical Support and Professional Development** (R*TECs) provides funds to consortia to work in alliance with states, provide information to school districts, offer professional development, and disseminate information about resources for educational technology. They target many of their products to serve administrators, teachers, and parents of students who have traditionally had little access to educational technology.

Program roles and linkages continue to evolve. For example, the Technology Innovation Challenge Grant program was planned to operate until appropriations reached the $75 million threshold set for state formula funding. The program was retained as a catalyst for innovation and knowledge-base building when appropriations for the Technology Literacy Challenge Fund passed this threshold.

EXHIBIT 7.1
TIMELINE OF FEDERAL EDUCATIONAL TECHNOLOGY PROGRAMS



Source: U.S. Department of Education

EXHIBIT 7.2 TECHNOLOGY-FOCUSED PROGRAMS AT A GLANCE					
Program Name	**1999 Appropriation**	**Purpose**	**Funding and Targeting**	**Awardees**	**Services**
Technology Literacy Challenge Fund	$425 million	Leadership and leverage to support wide-spread, effective use of educational technology.	State formula, with competitive local subgrants to LEAs based on high need for technology or high-poverty.	All states, with competitive subgrants affecting about 2,500 LEAs serving over 15 million students.[2]	Integration of technology into instruction, connectivity, acquisition of hardware and software, and professional development.
Technology Innovation Challenge Grants	$115 million	To develop the knowledge base for effective use of educational technology.	Competitive 5 year grants to consortia based on the significance and feasibility of the proposed projects with an emphasis on need.	82 current grantees, including 20 new grants in 1998, working with partners in 150 school districts, 100 businesses and 80 colleges and universities, serving about one million students.	Create results, products, or benefits that can be replicated; integrate technology into curriculum. Support for acquiring hardware, software and professional development.
Star Schools	$45 million	Distance education support, including expanding hardware and professional development.	Competitive 5 year grant to partnerships including at least one LEA or SEA.	12 continuation grants, with 4 to 5 new grants to be made in 1999.	Support of distance education, including hardware and professional development.
R*TECs	$10 million	Technical assistance.	Competitive 5 year grants to regional entities and consortia.	6 awardees (continuation grants to projects initiated in 1995).	Professional development, information and resource dissemination, facilitating alliances.
E-Rate	$2.25 billion annually from interstate telecom-munications providers (capped at $1.925 billion for 1998 and the first six months of 1999). Not an appropriation.	Universal access to telecom-munications for schools and libraries.	Need- based discounts to schools and libraries for use of telecom-munications.	Over 30,000 applications for the $1.9 billion of funding available through June 1999. By March 23 of this year $1.7 billion has been committed.[3]	Discounts for telecommuni-cations services and connectivity costs.
Source: U.S. Department of Education.					

In addition to the technology-focused programs enacted in the 1994 ESEA, two other authorities provide major sources of technology support:

- **The "E-rate" program** established in the Telecommunications Act of 1996 requires telecommunications carriers that provide interstate service to contribute to a universal service fund. Part of this fund provides schools and libraries with telecommunications service discounts. Schools and libraries located in rural and low-income areas receive the highest discounts.

- **Title I of ESEA** provides funds to schools in low-income areas to improve services for low-achieving students. Many districts and schools have chosen to improve services through technology.

Other federal programs that state and local school authorities may choose to use for instructional technology to support the program purpose include Goals 2000, Eisenhower, Title VI, migrant education, vocational education, and special education. This chapter does not deal extensively with the E-rate because it is not part of the 1994 ESEA legislation.

In total, federal assistance for technology in school year 1997-1998 provided an estimated $646.5 million from five major education programs and up to $1.9 billion by June of 1999 in telecommunications subsidies for schools and libraries. Federal funding for technology comes directly from programs dedicated to supporting technology as well as from programs in which technology is an allowable expense. As Exhibit 7.3 shows, in FY98, about two-fifths of federal education funding for technology was from dedicated sources, primarily from the Technology Literacy Challenge Fund.[4] Among programs allowing support for technology, Title I, Title VI and Goals 2000 were major sources.

EXHIBIT 7.3 FINANCIAL CONTRIBUTION OF FIVE EDUCATION DEPARTMENT PROGRAMS TO TECHNOLOGY IN THE 1997-98 SCHOOL YEAR		
	Amount	**Total from Five Department of Education Programs**
Total estimated federal support for technology from five Department of Education programs	**$646,535,000**	**100%**
U.S. Education Department of Education dedicated technology programs		
• Technology Literacy Challenge Fund	$200,000,000 *	30%
• Technology Innovation Challenge Grants	$56,965,000**	9%
Subtotal:	**$256,965,000**	**39%**
Estimated spending for educational technology from other selected federal education programs.		
• Title I	$236,937,000	37%
• Goals 2000	$83,995,000	13%
• Title VI	$68,638,000	11%
Subtotal for other federal education programs:	**$389,570,000**	**61%**
E-Rate (FCC, universal service telecommunications subsidy. First discounts to districts in November 1998).[5]	**$1,925,000,000*** **	

** TLCF appropriations were $200 million for FY1997; $425 million for FY1998, and $425 million for FY1999.*

*** TICG appropriations were $ 57 million for FY 1997, $106 million for FY 1998, and $115 million for FY1999.*

**** After the current cap expires in June 1999, the amount annually available under the E-rate is scheduled to return to $2.25 billion a year.*

Source: Funding for federal technology programs based on FY 1997 appropriations, funding for other federal programs is based on school district reports of program expenditures collected in the Study of Education Resources and Federal Funding, U.S. Department of Education, Unpublished tabulations from the Study of Education Resources and Federal Funding, Feb. 24,1999.

What Do We Know About Good Practice?

Technology is a rapidly evolving field. For example, when Congress reauthorized the ESEA in 1994, the Internet had little relevance to most school activities. Today, the Internet is a major resource for schools, offering instructional and professional development activities that were previously not possible. Continuing to build—and continually update—the knowledge base is crucial for educators and policy makers.

Research has shown that technology, when well implemented, can help all students—including poor students and students with disabilities—to master basic and advanced skills[6]. The research base is strongest for older technologies, such as drill-and-practice computer programs; the knowledge base is still

emerging for many of the newer technologies, such as programs that emphasize development of higher order skills through simulations, large scale Internet-based instruction, and other techniques. Computer Assisted Instruction (CAI) can individualize instruction, provide instant feedback, and drill students on specific topics for which they need extra help. A decade-long series of studies found that students in classes that used CAI out-performed their peers on standardized tests of basic skills by 30 percent on average. (However, not all applications of CAI have been found to be so successful in all settings.) Video and audio technologies can significantly enhance students' recall of basic facts and their understanding of complex systems. Distance learning can be at least as effective as traditional instruction. Research suggests that well-used educational technology can improve student motivation.

At the classroom and school levels, educational technology has the potential to contribute to schoolwide changes that improve teaching and learning. Technology makes possible modes of instruction for learning of complex skills that are not otherwise possible. This includes complex simulations for learning mathematical, scientific, and other concepts, and large-scale activities such as Project Globe linking students across the nation to study environmental science, linking students and scientists for actual scientific work and enhanced learning.[7] It can not only increase access to high quality curriculum and skilled instruction, and provide increased time on task, but also fundamentally change the role of instructors from the "sage on the stage," to free up teachers to work more intensively with individual students in the class when they most need it. Technology also has the potential to transform links between home and school for more effective parent involvement in their children's learning to support learning outside of school.[8]

Research and classroom experience show that the impact of educational technology depends on how it is used. Effective integration with instruction requires adequate access. Experts suggest a ratio of at least one computer for every five students and at least one Internet connection in a classroom.[9] Educational technology, like most instructional tools, works best when it supports high standards and high quality curriculum, and includes software and other content that is aligned with the curriculum and instruction.[10]

Evaluations of technology practices have shown that access to equipment is only one prerequisite to effective use. It is important for staff to know how to use technology and to have the instructional materials to support integration of technology in the classroom.

Reflecting the research and to guide the national technology plan required by the legislation, in January 1996 the President set forth the "four pillars" of the Technology Literacy Challenge to govern federal initiatives on technology:

1. All teachers in the nation will have the training and support they need to help students learn through computers and the Information Superhighway.

2. All teachers and students will have modern computers in their classrooms.

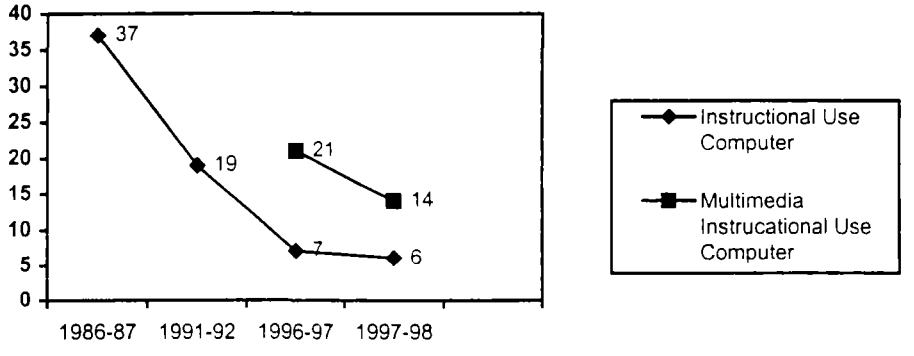
3. Every classroom will be connected to the Information Superhighway.

4. Effective and engaging software and on-line learning resources will be an integral part of every school's curriculum.[11]

How Well is the Nation Meeting Its Technology Goals?

While access to technology is increasing, our schools are still at an early stage in learning how to effectively use the full potential of educational technology for improved teaching and learning. Identifying and encouraging effective practice, and providing the necessary leadership and supports is vital.

EXHIBIT 7.4
NUMBER OF STUDENTS PER COMPUTER



Source: US Department of Education: FY 2000 Annual Plan, Vol. 1, February 25, 1999, Figure 43, p. 65.

Access: **Student access to modern multimedia computers has increased greatly in the last two years.** The number of students for every modern computer dropped from 21 in 1997 to about 14 in 1998. The number of students per instructional computer fell from 37 in 1987 to 6 in 1998.

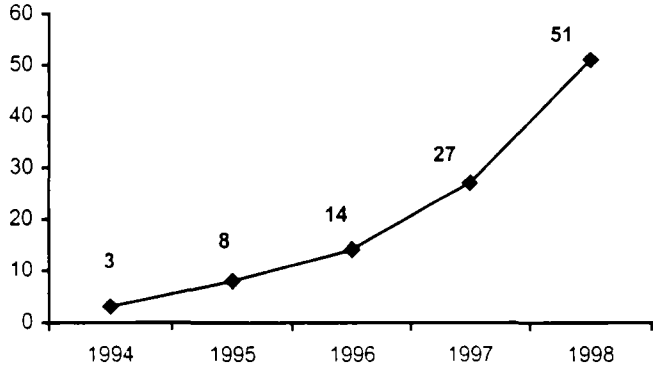
National Indicator: The ratio of students per modern multimedia computer in public schools will improve to five students per modern multimedia computer by the year 2000.

The number of public schools connected to the Internet grew from 35 percent in 1994 to 89 percent in 1998. Exhibit 7.5 shows that the percentage of instructional rooms connected to the Internet grew from 3 percent in 1994 to 51 percent in 1998. **We expect a rapid increase in classroom access following the availability of E-rate funds beginning in November 1998.**

While the ratio of students per instructional computer is approaching the ratio recommended by the President's Committee of Advisors on Science and Technology, the ratio of students to computers with Internet access is more than double the recommended student-to-computer ratio.

National Indicator: The percentage of public school instructional rooms connected to the Information Superhighway will increase from 14% in 1996 to 25% in 1998, and higher percentages thereafter.

EXHIBIT 7.5
PERCENT OF INSTRUCTIONAL ROOMS WITH INTERNET ACCESS IN THE CLASSROOM



Source: NCES, *Internet Access in Public Schools and Classrooms:* 1994-1998. (Feb. 1999).

While both high and low poverty schools had similar student-to-instructional computer ratios, low poverty schools had better Internet access than high poverty schools. For schools with less than 11 percent of their students eligible for free or reduced school lunch, 62 percent of the instructional rooms have Internet access--falling to 39 percent in schools with over 70 percent of their student eligible for free or reduced-price school lunch.

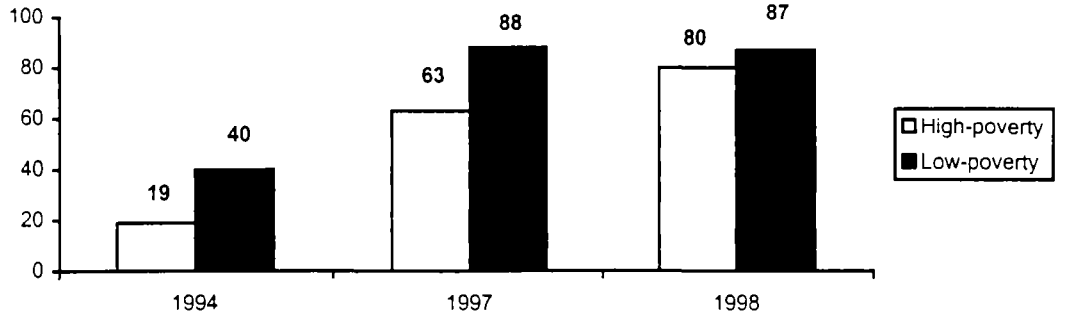
***Integration with Instruction*: The full integration of computers into classroom instruction has not yet occurred for the majority of teachers.** Most teachers report that their lessons require students to use computers, but relatively few (17 percent) incorporate computers into instruction on a daily basis. Seventy percent of classroom teachers say their lessons require students to use computers at least once or twice a month. One-third of teachers report that lessons required students to use the Internet no more than once or twice a month.[12]

National Indicator: Increasing proportions of teachers will have the professional development and the administrative, technical, and local financial support they need to help students learn through modern multimedia computers and the Internet.

***Professional Development:* Half of public school teachers had participated in professional development activities on the integration of educational technology in the grade or subject they teach during the previous 12 months--and 38 percent of these teachers had participated in more than 8 hours of such training.**[13]

Teachers with over 8 hours of professional development in educational technology in the past year were three times as likely as those with no hours, and almost twice as likely as those with between 1 and 8 hours, to report they were very well-prepared to integrate educational technology into the grade or subject taught.[14]

EXHIBIT 7.6
PERCENTAGE OF HIGH*- AND LOW-POVERTY SCHOOLS WITH INTERNET ACCESS**

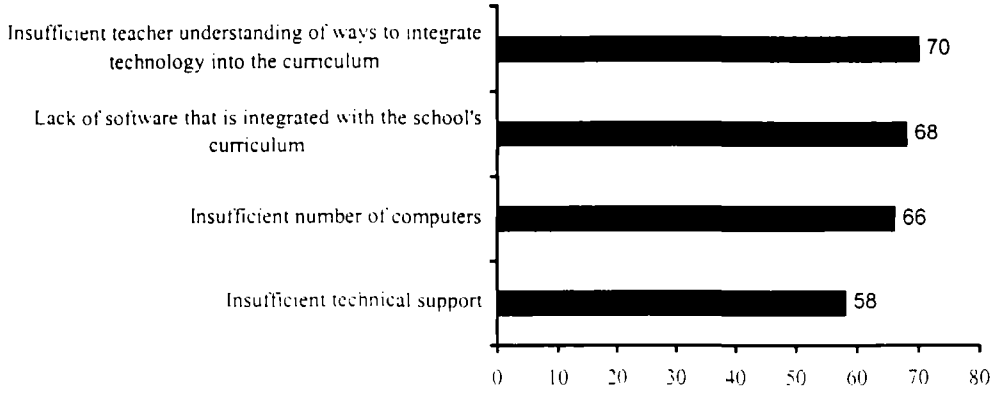


* High-poverty schools: 71% or more low-income student enrollment
** Low-poverty schools: 11% or less low-income student enrollment

Source: US Department of Education: FY 2000 Annual Plan, Vol. 1, Feb. 25, 1999, Figure 46, p. 68

While access to computers and the Internet is improving, teachers and principals report that lack of professional development, quality software linked to the curriculum, and technical support remain major barriers to effective use of technology. Exhibit 7.7 shows that over half of the principals report that teachers lack the knowledge to integrate educational technology into the curriculum, lack software integrated with the curriculum, lack staff training, and lack technical support.[15]

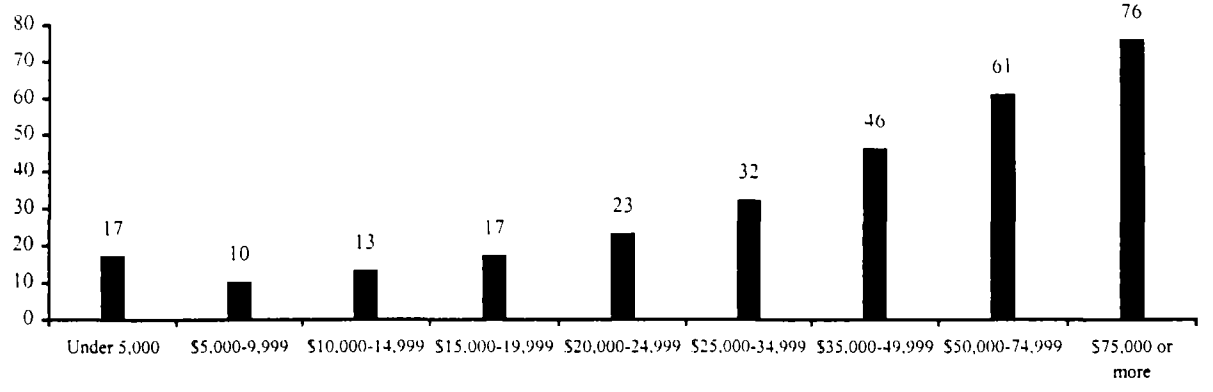
EXHIBIT 7.7
BARRIERS TO EFFECTIVE USE OF TECHNOLOGY IN SCHOOLS (PERCENTAGES OF PRINCIPALS REPORTING, SPRING 1998)



Source: U.S. Department of Education, Study of Educational Resources and Federal Funding, Table 40.

Home access to computers: **There are important differences in students' access to educational technology in the community and at home.** These differences are rooted in family income, parent education, and other factors. Families with college degrees were almost 10 times as likely to own a computer as those without any high school degree. Thirty-five percent of families with a college degree have home access to the Internet compared to 10 percent of those with a high school degree and 2 percent of those without a high school degree. While the number of black and Latino households with computers has grown rapidly in recent years, the "digital divide" has also grown. For example, between 1994 and 1997 the difference in the percentage of black and white households that own a computer grew from 17 percent in 1994 to 22 percent in 1997.[16]

EXHIBIT 7.8
PERCENT OF HOUSEHOLDS WITH A COMPUTER, BY INCOME



Source: U.S. Department of Commerce, *Falling through the Net II: Perspectives for the 21st Century*, Table 13.

How Well Are the Programs Working?

Federal education support is having an important impact on increasing access to educational technology, particularly in high-poverty schools. By 1998 there was little or no difference in student-to-computer instructional ratios in high- and low-poverty schools.[17]

National Indicator: The access to educational technology in high-poverty schools will be comparable to that in other schools.

- Federal funds paid for about a quarter of the computers schools acquired in 1997-98 school year. Of an average 16 additional computers that each school purchased that year, 4 were obtained with federal funds, 10 through state and local funds, and 2 through private sources.[18]

- Federal funds had an important equalizing effect on the distribution of new computers, providing half of the new computers in high-poverty schools (6 computers, compared to 2 computers in low-poverty schools).[19]

- Federal funds are playing an important role in supporting professional development in the use of educational technology. For example, Title I funds are used by 34 percent of districts for developing teachers' skills in using educational technology and by 21 percent of districts for professional development in integrating technology into instruction.[20]

Technology Literacy Challenge Fund

The Technology Literacy Challenge Fund (TLCF), the Department of Education's major source of dedicated support for technology, provides formula assistance to states based on their share of ESEA Title I allocations. Within states, funds are competitively awarded to local school districts and are targeted on the basis of poverty and need. The Department encouraged states to use these funds strategically and to take into account other available sources of funding. Data for 1997 obtained from states prior to the end of the funding period provides a preliminary look at in-state allocations.

- Fifteen percent of all school districts (about 2,500 districts) participated either by directly receiving a subgrant from their state or as a member of a consortium that received a subgrant. Thirty percent of the applications to states were funded, with an average district grant of about $100,000.[21]

- The Technology Literacy Challenge Fund (TLCF) supports leadership and leverage for the effective use of educational technology. Accordingly, different states use this funding in very different ways. The resulting diversity of state policies is reflected in differences among states in the proportion of LEAs receiving grants, which ranged from 2 percent to 93 percent of a state's districts.[22]

- Technology Literacy Challenge Funds grants are well targeted on rural districts, which often have special technology needs, but there is wide variation among states on the degree of targeting on urban districts. TLCF local grants are targeted by poverty and need. Exhibit 7.9 shows that TLCF local grants are somewhat more likely to go to suburban districts than are Title I funds. In addition, funding of districts serving the largest cities tended to be below their share of total enrollment.[23] Of the school districts serving the 19 largest cities, 7 districts directly received TLCF funding at or above their share of enrollment. Funding for the other big city districts was considerably below their share based on enrollment, or they received no funds at all.

EXHIBIT 7.9
DISTRIBUTION OF TECHNOLOGY LITERACY CHALLENGE FUND ENROLLMENT AND FUNDS BY URBANICITY (FY1997)

	Percent of total enrollment	Percent of Title I funding	Percent of TLCF funding*
Urban center	26	45	25
Suburban	46	29	35
Rural	28	27	35

*NOTE: Urbanicity information was not available for sites receiving 5 percent of the TLCF program funds.
Source: U.S. Department of Education, Goals 2000 and Technology Literacy Challenge Fund: Subgrantee Data Base.

While the program is competitive and there is no requirement that funding be proportionate to enrollment, disparities in funding for large urban districts with concentrations of poor children prompted ED action. The Department contacted several states where urban districts received small or no awards and found that causes for the disparities varied. Some districts did not submit proposals, did not compete successfully, or otherwise failed to meet state criteria or requirements for technology plans. In a number of cases, large urban areas participated indirectly via a consortium or regional center. The Department subsequently asked states to examine their requirements and outcomes from the first year's competition and to increase funding to high-need and high-poverty districts during subsequent cycles if the outcomes warranted action.

All states have satisfied the Technology Literacy Challenge Fund requirement to have a state plan. Plan specifics differ considerably across states. Differences reflect state technology priorities, previous use of educational technology in the state, and differing state agency roles. Key findings about the state plans are drawn primarily from the TLCF formative evaluation and a review by *Education Week*:[24]

- All states have a technology plan and most have a schedule for revising it to keep it current in the fast changing technology area. Forty-six states report updating their plans.

- All states have outlined financial strategies. However, only 21 state plans include cost estimates, which may change considerably with technology improvements.

- All but eight states supplemented federal funds with state funds for educational technology.

- Thirty-eight states have some form of technology requirements for entering teachers, which range from professional development to proficiency assessment.

- Thirty-eight states have requirements for student knowledge of technology, although only North Carolina will be requiring students to demonstrate proficiency.

Local districts that receive the program grants are required to have an educational technology plan. Districts and schools report that long-term district plans are important in determining how to use federal program funds. **Fully 85 percent of districts report that technology plans are important in influencing funding decisions.**[25]

States vary greatly in their collection of education technology related program implementation and performance data.[26]

- The states focus more on inventory questions than on computer use or teachers' professional development in instructional technology. The most commonly addressed measures were the extent of Internet access, the availability of computer hardware, and the type of computers. The indicators that referred to use of technology were addressed least often—measures of the use of the Internet, classroom use of technology, teacher skill level, and the quality of professional development in technology were rarely topics in state surveys.[27]

Technology Innovation Challenge Grants

The Technology Innovation Challenge Grant program provides competitive grants for a wide variety of innovative uses of technology to improve teaching and learning. These include partnering with businesses and communities to provide technology to schools, linking classrooms via electronic

networks, empowering teachers with the technology skills to customize student learning, integrating technology with curriculum reform, utilizing technology to meet the needs of at-risk youth, preparing students for the workforce, building new learning communities, and connecting classrooms to homes for effective parent involvement.

A formative case study evaluation found that some projects were using Challenge Grant resources to develop and test out new ideas. For example, in launching the Virtual High School, the Hudson (MA) Public Schools and the Concord Consortium were working with ideas and even some technologies that were very new. In fact, much of the server software used to host the learning environment on the World Wide Web was barely out of beta testing. The project is a collaboration of high schools across the United States. For the 1998-99 school year, 33 high schools from 11 states are offering net courses. In addition, more than 60 teachers from over 50 schools are taking part in the Teachers Learning Conference, a graduate level netcourse on web-based instruction. The Virtual High School is initiating a new and cutting-edge concept, and was applying it for the first time in an educational context.

There is confusion, rooted in the statute, regarding the program purpose--whether it should be a demonstration program that develops the knowledge base for effective use of educational technology, or a funding source to support the use of educational technology. The TICG program has increasingly focused on providing a knowledge base for effective use of educational technology and encouraging its integration with teaching and learning.

National Indicator: An increasing number of teachers will integrate high-quality technology based curriculum into their instruction.

The most recent cycle of grants focuses on use of technology in professional development. These grants for 20 school district partnerships in 17 states provide support for preparing new and current teachers to effectively use technology. These school district participants work with partners in 150 school districts, 100 businesses and 80 colleges and universities. The grants are intended to serve about 1 million students and provide additional training opportunities for thousands of teachers in these communities. They range from $789,000 to $2 million a year for five years, and are intended to leverage business and community matching commitments valued at more than $90 million.[28]

The formative evaluation's reviews of previously funded projects documented that that while the projects were innovative at the local level, relatively few involve radically new technology or uses.

- Projects generally met the application criteria, although in different ways. Some were innovative in design and others in demonstrating ways to expand the number of customers served by a technology resource.

- It was too early to gauge the sustainability of most projects, although some projects had begun to build a mechanism for sustainability after the grant ended.

Many of the site evaluations assessing their effectiveness are deficient. A formative evaluation of the program reviewed 10 of the program's 82 projects during the 1997-98 school year. Evaluators examined several dimensions, including whether projects were truly innovative, promoted sustainability, and were guided by evaluation evidence. A second wave of case studies is planned for 1999. This formative evaluation found that:[29]

- A number of project evaluators had difficulty in designing and executing project evaluations.

- Budgets were generally low, from one to seven percent of the grant, for evaluation.
- Several projects had no evaluator at all or had not met with an evaluator.
- Evaluators and project directors reported a sense of confusion over conflicting messages they had received from the program office. In particular, some projects felt they had been initially required to use a portfolio approach (i.e., compile examples of activities) when the projects began, but were now being asked to provide outcome data for GPRA and other purposes that portfolios would not support.

To address these issues, the Department of Education has taken steps to strengthen project implementation and evaluation. In the first four years of the program's operation, application guidelines did not include evaluation as a criterion for assessing the merits of applications and there was little specificity in the application guidelines about this activity. The new application guidelines add evaluation as one of the criteria for selecting applications beginning in 1999. Draft guidelines for project evaluations have been developed that suggest that resources for project evaluation be increased to 15 percent of project funds. Finally, evaluation workshops are being conducted at project directors' national meetings and national conferences to build capacity. Together these activities are designed to provide guidance and technical assistance to provide grantees with clear expectations regarding required program performance measures for annual performance reports and other purposes, as well as enhancing the ability of the projects to use site evaluation data to strengthen program implementation.

Star Schools

The Star Schools program supports distance learning projects designed to increase student access to high quality curricula and instruction. Through the use of satellite, cable, Internet and other advanced telecommunications and computing applications, Star Schools projects make it possible for students to take courses, such as foreign languages or advanced placement mathematics, that might not otherwise be available in their schools. Teachers also use Star Schools projects to supplement their courses with content modules intended to enhance what they are able to provide locally.

Star Schools projects are operated as consortia that can include local education agencies, postsecondary institutions, public broadcasting companies, and telecommunications providers such as telephone companies, cable television companies and satellite companies. The consortia cover many states and territories. Recent funding cycles have focused on multiple and cutting-edge technologies.

Since its inception the program has served more than 6,000 schools across the country. Nearly three-out-of-four of these schools are rural. More than 2,000,000 students have benefited from its instructional programming and more than 30,000 teachers and many administrators have completed Star Schools professional development courses and workshops.[30] In 1997, Star Schools offered more than 150 full credit courses, up from 30 in 1994. In 1998 Star Schools projects provided services to 279,000 learners in nontraditional settings (community centers, correctional facilities, etc.), up from 194,000 in 1997.[31] An example of such activities is the Pacific Star Schools Partnership, which is developing interactive courses for obtaining education through GED certification and retraining displaced workers.

> **National Indicator:** The number of learners in non-traditional settings (community centers, correctional facilities, etc.) who participate in distance education will increase annually.

An ongoing evaluation of the Star Schools program found that the Star Schools program, like other education technology programs, is being heavily influenced by technological change and the

availability of other funding sources.[32] The result of these changes is evident in projects that blend technologies and communication modes in delivering distance education services. For example, a mathematics course taught via satellite is likely to be complemented by web-page learning activities. It allows students to ask questions by sending e-mail to their teachers or share examples of their work with other students on electronic bulletin boards. In addition, Star Schools projects offer enrichment modules that allow students, for example, to take a virtual tour of the Philadelphia Museum of Art, or to see practical applications and speak with experts in the chemistry topics they are studying.

The growing role of dedicated technology programs (such as Technology Literacy Challenge Fund and E-rate), the emergence of the Technology Innovation Challenge Grant in knowledge building, and the funding of educational technology through broader purpose programs such as Title I, mean that the program's role must continue to adapt. Questions to consider include:

- How can more adequate professional development be provided? The 1994 Star Schools evaluation found that at many schools that use Star Schools programs, professional development to appropriately integrate Star Schools offerings with ongoing curriculum was often of limited duration and not tightly integrated with the school's curriculum and broader school improvement efforts. The evaluation of the Star Schools program now underway is finding that many Star Schools projects offer distance learning modules for teachers, and some focus on helping teachers use technology more effectively. However, the projects acknowledge a need for more professional development.[33] Monitoring of this through program reports, site evaluations and other means has been increased, but remains an area for more effective program management. Information beyond that available from program records is necessary in some areas. For example, for materials provided by satellite or cable, the program has information only on the participation of students who register through the school for the program--while in many cases many more students may be using the materials at those schools.

- With the rapid growth in Internet access, is it effective to support other modes of distance learning?

- Is support for Star School grantees the most effective way to develop new curriculum and professional development packages? Should they be tested more rigorously?

- Can Star Schools activities be supported by other authorities that allow for even greater flexibility and effective monitoring?

R*TECs

The 6 Regional Technology in Education Consortia (R*TECs) are designed to help school districts integrate technology into the curriculum by identifying and disseminating promising practices, providing professional development and support in integrating technology into curricula, and helping support cutting-edge uses of technology.

R*TECs are consortia that establish alliances with schools, institutions of higher education, school districts, state education agencies, and others to develop and disseminate products and to deliver services. Some 212 such alliances of organizations working with R*TECs were operating in FY1998.[34]

Examples of R*TEC activities include:

- **The Kansas Exemplary Educators Network** (KEEN) is a web-based resource designed by an R*TEC and its partners to build and maintain a network of exemplary teachers who are leaders in the improvement of schools, student performance, and the teaching profession. This network disseminates resources regarding professional development opportunities and recognizes exemplary teachers in the region. A Kansas technology coordinators' network was also established to help technology coordinators pool their contacts, share vendor information, and help each other respond to technical assistance issues. This regional activity led to the establishment of a professional organization for school technology coordinators.

- **The NetTech** web site supports a collaborative initiative between the R*TEC, American Association of Colleges for Teacher Education (AACTE), and the National Council for Accreditation of Teacher Education (NCATE) to help teacher education programs in the region enhance their use of technology. This effort includes Deans' Forums to explore how states in the region can foster greater cooperation in promoting the use of technology in teacher education, special interest groups, and web based discussions about the use of technology in teacher education.[35]

R*TEC customer satisfaction surveys indicate that general satisfaction with R*TEC services is high, although there is currently no information about the impact of R*TEC services on practice:[36]

National Indicator: An increasing proportion of recipients of R*TEC services and products—including those developed and produced through the Consortia, collaboration among R*TECs and strategic alliances—will indicate that those products and services are of high quality and meet their needs.

- The R*TECs target many of their products and services to communities that have traditionally had limited access to technology. An analysis of R*TEC services and products in FY 1998 found that 60 percent of their services and 39 percent of their products were specifically designed to benefit underserved populations.

- Although there is currently no information on the number of schools and districts the R*TECs have served, over 268,000 clients received products and over 146,000 clients received services from R*TECs from October 1997 through September 1998. Almost half of R*TEC customers are teachers; most of the remainder are administrators, students and parents.

- More than 80 percent of all R*TEC clients surveyed in 1997-8 agreed or strongly agreed that R*TEC services were "useful", "relevant" and/or "high-quality" and that they facilitate learning.

- Working through alliance networks is rated as helpful by the R*TECs' alliance members. More than 70 percent of participants in regional, statewide, or schoolwide alliances facilitated by the R*TECs rated the alliance work "high" in terms of increasing access to resources, supporting school reform and addressing educational concerns.[37]

- Analysis of customer surveys administered from October 1997 through September 1998 showed improvements in the levels of customer satisfaction with R*TEC services.

Questions to consider include:

- Why should there be regional organizations if services can be provided electronically?
- How can these activities be integrated most effectively with other technical assistance providers?

Options for Strengthening Program Support for Educational Technology

Since the pioneering creation of the Star Schools program to provide national leadership in the area of educational technology a decade ago, the context for federal policy in educational technology has changed in fundamental ways. This includes rapidly growing and widespread access to computers and the emergence of the Internet, the E-rate, and a growing understanding of how these technologies can be used to improve teaching and learning.

With this progress comes important challenges to current programs. While access remains crucial, these changes make federal leadership in other areas increasingly important. Challenges include strengthening the capacity to effectively use these technologies through professional development, more effective monitoring of program performance, and an initiative of rigorous cumulative research to strengthen the knowledge base, particularly for emerging technologies.

The following options can help ensure that this investment in technology works to increase equity and excellence in our nation's schools:

- **Focus the Technology Literacy Challenge Fund on professional development.** When the 1994 Amendments were enacted, TLCF was the primary dedicated source of federal support for technology. Access to the E-rate is providing other funding sources for telecommunications. In addition, given the rapid rate of growth in the number of school computers, overall, increasing access through education programs is no longer as important as strengthening teachers' ability to effectively use these technologies for improved teaching and learning.

- **Target Technology Literacy Challenge Fund resources** to ensure that, in combination with state and local resources, high-poverty and high-need schools receive adequate resources to effectively use educational technology.

- **Clarify the purposes of the Technology Innovation Challenge Grants** as to whether it is simply a funding source for educational technology, or is focused on developing the knowledge base and demonstrating strategies for effective use of educational technology. If the purpose is to develop the knowledge base, the program may need to focus not only on encouraging stronger project evaluations, but also on encouraging the submission of more innovative proposals.

- **The role of project evaluation and project monitoring should be strengthened** to provide meaningful performance information. These grants are a source of support for potentially innovative projects, but without meaningful evaluation not much will be learned about their usefulness. The program needs to build in evaluation as a high priority from the start of grant competitions to provide information on whether they are effective in promoting technological literacy and learning. Independent national evaluations should also validate the most promising among the funded projects.

- **Adopt a uniform set of core performance indicators in the legislation for states to use in preparing their technology performance reports for the Technology Literacy Challenge Fund, the Technology Innovation Challenge Grants, Star Schools, and other relevant programs.** Where appropriate, these should be common indicators for programs supporting acquisition and use of educational technology. This would address states' highly uneven reporting on improvements in educational technology and its role in school improvement. These performance indicators should also be used to monitor equity in access and use of educational technology in high- and low-poverty schools. Possible core indicators include:

    - Percent of students at selected grade levels, including at high school graduation, who demonstrate proficiency in using multimedia computers and the Internet.

    - Percent of teachers who regularly use technology in the classroom.

    - Percent of teachers who are adequately trained or demonstrate proficiency in instructional use of technology.

    - Percent of schools, broken out by percent of low-income children, with access to modern computers and the Internet.

    - Percent of students with ready access to computers and the Internet at home and at other sites outside of school.

    - Percent of projects providing new knowledge about how to use technology to improve schooling, teaching and learning.

- **With the tremendous growth in technology access, the Department should launch rigorous evaluations of strategies that can optimize technology's potential to improve teaching and learning.**

- **Develop and implement a national research agenda to field test educational technology innovations to improve teaching and learning.** This includes strengthening the information base on the relations of educational technology and student performance, and on student technological literacy, particularly for high school seniors. **A sustained research strategy for rigorous and cumulative research to help teachers use technology to improve teaching and learning** should identify, develop, test, and widely implement promising technology interventions. The Educational Technology Research Agenda should be aligned with state technology plans, and should ensure that the needs of low-income communities will be addressed.

- **Consider consolidating Technology Innovation Challenge Grants with Star Schools** to provide a clear focus for federal leadership in developing the knowledge base and demonstrating large scale application of educational technology to improve teaching and learning. This includes research on how to fully integrate educational technology with broader school improvement. The purpose would be to expand our knowledge base about the use of educational technology to improve student learning by supporting projects that address questions of national significance and that develop models of innovative and effective uses of educational technology for wide-scale adoption by states and school districts.

- **Continue to develop and strengthen information dissemination and technological assistance through R*TECs** as part of the Department's broader information dissemination and technical assistance services.

In sum, the 1994 legislation has clearly brought increased federal resources to strengthen educational technology. Technology programs and other federal program funds, in combination with non-federal funds, are expanding schools' access to educational technology. However, schools are at the initial stage in reaping the potential benefits from educational technology. Continued federal leadership and leverage can facilitate this to enable states and districts to remove barriers to effective use of educational technology for improved teaching and learning.

[1] The Improving America's Schools Act of 1994, (PL 103-382) Sections 3101-3604.

[2] From the U.S. Department of Education's Technology Literacy Challenge Fund Subgrantee Data Base, conducted for program office on Feb. 3, 1999. The figure, 15,098,815 students includes consortia members.

[3] The $1.7 billion of commitments is through the 10th wave of applications. The data is from the FCC web site (www.slcfund.org/Reference/1998/national.asp).

[4] U.S. Department of Education, Unpublished tables from the *Study of Education Resources and Federal Funding, 4* Feb. 1999, Table 32a.

[5] The E-rate provides discounts—no direct funding—to schools and libraries, with those in rural and low-income areas receiving the highest discounts. It is not necessarily at the district level. Funding for the E-rate is capped at $2.25 billion annually. In June 1998 the FCC extended the first funding period to 18 months and adjusted the amounts that could be collected and spent during 1998 and the first 6 months of 1999 at $1.925 billion. These estimated levels of ED support for educational technology are estimated at the district level. Proportions may vary at the school level

[6] U.S. Department of Education, *Getting America's Students Ready for the 21st Century: Meeting the Technology Literacy Challenge*, (Washington, DC: Author, 1996) 15-25. See also J.D. Fletcher, Institute for Defense Analysis, "*Does This Stuff Work? Some Findings from Applications of Technology to Education and Training*", Proceedings of Conference on Teacher Education and the Use of Technology Based Learning Systems, Warrenton, VA: Society for Applied Learning Technology, 1996.

[7] See, for example, Barbara Means, "Melding Authentic Science, Technology, and Inquiry-Based Teaching: Experiences of the GLOBE Program", *Journal of Science Education and Technology*, Vol, 7, No. 1, 1998, pp. 97-104. "High -Tech Pathways to Better Schools: Ten Ways that Technology can Advance the Cause of Reform" by Erik Fatemi et al, *Education Week*, "Technology Counts" issue, Oct. 1, 1998, pp. 23-66.

[8] See, for example, B. Means and K. Olson, (1997*) Technology's Role in Education Reform: Findings from a National Study of Innovating Schools*. Washington, D.C. U.S. Department of Education, Office of Educational Research and Improvement; Thomas K. Glennan and Arthur Melmed, *Fostering the Use of Educational Technology: Elements of a National Strategy,* RAND, 1996; Kathleen Fulton, *Learning in a Digital Age: Insights Into Issues: The Skills Students Need for Technological Fluency*" Milken Exchange on Education Technology, 1997.

[9] U.S. Department of Education, *Getting America's Students Ready.*

[10] President's Committee of Advisors on Science and Technology, Panel on Educational Technology. (March 1997) *Report to the President on the Use of Technology to Strengthen K-12 Education in the United States.* See also The CEO Forum: *School Technology and Readiness Report. Professional Development: A Link to Better Learning.* Year 2, Feb. 22, 1999.

[11] U.S. Department of Education, *Getting America's Students Ready,* 5.

[12] U.S. Department of Education, Unpublished tables from the *Study of Education Resources and Federal Funding,* Tables 37-38. (2/16/99)

[13] U.S. Department of Education, National Center for Education Statistics, NCES 199-*080 Teacher Quality: A Report on the Preparation and Qualifications of Public School Teachers* (January 1999).

[14] . U.S. Department of Education, Unpublished tables from the *Study of Education Resources and Federal Funding,* Table 24. The study reports that 11 percent of teachers with no professional development in educational technology last year, 17percent of those with 1 to 8 hours, and 33percent of those with more than 8 hours felt well prepared to teach with educational technology.

[15] U.S. Department of Education, Unpublished tables from the Principal's Report, *Follow-up Public School Survey on Education Reform*, 9 Dec. 1998, Table 21F.

[16] U.S. Department of Commerce, "Falling through the Net II: New Data on the Digital Divide National Telecommunications and Information Administration" 1998. Hoffman and Novak, "Bridging the Digital

Divide: The Impact of Race on Computer Access and Internet Use", and "Bridging the Racial Divide on the Internet", *Science*, April 17, 1998.

[17] The National Center for Education Statistics, Issue Brief NCES 99-0017: *"Internet Access in Public Schools and Classrooms: 1994-98"* shows no difference in access to instructional computers. Other sources, such as MDR show small differences, which are within the range of sampling error. There are larger differences in other areas. For example, the NCES study also reported that the ratio of students to classroom computers with Internet connections was 10 in low poverty schools, and 17 in high poverty schools.

[18] U.S. Department of Education, Unpublished tables from the *Study of Education Resources and Federal Funding*, 22 Jan. 1999, Table 43.

[19] U.S. Department of Education, Unpublished tables from the *Study of Education Resources and Federal Funding*, 22 Jan. 1999, Table 43.

[20] U.S. Department of Education, Unpublished tables from the *Study of Education Resources and Federal Funding*, 22 Jan. 1999, Table 28.

[21] U.S. Department of Education, Unpublished tables from the *Technology Literacy Challenge Fund Framework Study*, Jan. 1999. These figures are for responding districts. Figures for proportion of grants funded and average size of grants are from preliminary data presented by the program office prior to collection of performance reports. See *Technology Literacy Challenge Fund, Initial Program Data*, 23 Sept. 1998.

[22] U.S. Department of Education, Unpublished tables from the *Technology Literacy Challenge Fund Framework Study*, Jan. 1999.

[23] U.S. Department of Education, Goals 2000 and Technology Literacy Challenge Fund Subgrantee Data Base. Jan. 1999. The Title I figures are from *The Distribution of Federal Education Funds in FY 1995: A Biennial Report Mandated Under GEPA 424* (Third Draft, Jan. 1999). The measure of urbanicity is from the Common Core of Data. Based on Census metropolitan statistical area codes, it provides a broad measure but does not consider many areas typically thought of as urban.

[24] Mary Ann Zehr, "The State of the States," *Education Week*, Oct. 1, 1998, XVIII/5, 69-101. See Also, U.S. Department of Education, OERI: Rita Kirshstein et al. *The First Year Implementation of the Technology Literacy Challenge Fund in Five States*. (Draft, 1999.)

[25] U.S. Department of Education, Unpublished tables from the *Study of Education Resources and Federal Funding*, 21 Jan. 1999, Table 35.

[26] Review of selected state performance reports by the U.S. Department of Education, Planning and Evaluation Service.

[27] U.S. Department of Education, OERI, *"State-by-State Profile of Technology Data Collection"*, prepared by American Institutes for Research, June 1998.

[28] U.S. Department of Education, "Technology Challenge Grants for Professional Development Awarded to 20 Partnerships," *U.S. Department of Education News*, Sept. 22, 1998, and Shirley A. Steele, *Meeting the Technology Challenge: Building New Learning Communities* (Washington, DC: U.S. Department of Education, Oct. 1998).

[29] U.S. Department of Education, Office of Educational Research and Improvement, *Formative Evaluation of the Technology Innovation Challenge Grants Program*, Draft Sept. 1997, and review of program files.

[30] U.S. Department of Education, *Budget Justification* (Washington, DC: Author, 1999) V-19.

[31] U.S. Department of Education, Star Schools program records.

[32] US Department of Education, OERI, Naida C. Tushnet et al. *Evaluation of the Star Schools Program Final Report* Dec. 1994. Unpublished. Prepared by the South West Regional Lab.

[33] U.S. Department of Education, Unpublished tables from the *Evaluation of the Star Schools Program*, 1999.

[34] See U.S. Department of Education, *Regional Technology in Education Consortia Program Performance: Draft Report Fiscal Year 1998*. Washington DC: R*TEC Program, Jan .1999.

[35] The examples are from *Regional Technology in Education Consortia Highlights of the Program's First Two Years* R*TEC section of the Department's website (http://www.rtec.org).
[36] U.S. Department of Education, Regional Technology in Education Consortia Program Performance: Draft Report Fiscal Year 1998. Washington DC, R*TEC Program, Jan. 1999.
[37] U.S. Department of Education, *Regional Technology in Education Consortia Program Performance: Preliminary Report* (Oct.-March, Fiscal Year 1998) Washington, D.C.: Author, 1998 13.

8. ARE FEDERAL PROGRAMS CONTRIBUTING TO GREATER CHOICE IN PUBLIC SCHOOLS?

KEY FINDINGS

Charter Schools

- Almost three-quarters of the roughly 1,100 charter schools in existence have received at least one subgrant from the federal Public Charter Schools Program (PCSP) to help with planning and start-up costs.
- A lack of access to start-up funds continues to be the largest single barrier to the successful implementation of charter schools.
- The amount of funds charter schools received from the PCSP in 1997 was, on average, $60,000, roughly 6 percent of the total costs these schools incur.
- States, other charter granting entities, and charter schools are finding it a challenge to implement mechanisms that hold charter schools accountable for improving student outcomes.
- Preliminary findings and anecdotal evidence suggest that results for student achievement have been mixed, in part reflecting the vastly different charter school compositions within and across states and their relatively new status as a reform mechanism.
- Nationally, students who attend charter schools have similar demographic characteristics as compared to students who attend other public schools; however, these national averages mask significant state-by-state variability.

Magnet Schools

- The number of magnet schools has grown substantially, quadrupling between the early 1980s and today. Current estimates place the number of magnet schools at over 5,200, serving approximately 1.5 million students.
- Nationally, 10th grade students attending urban magnet schools in 1990 performed better in reading, science, and social studies than students in public comprehensive high schools or private high schools.
- Half of the districts that received 1991-93 MSAP grants met their two-year desegregation targets. Schools were generally more successful in moving in the general direction described by their desegregation objectives than in meeting specific enrollment targets called for in their desegregation plans.
- Progress in achieving desegregation objectives is still unknown for the 1998 grantees; however, preliminary data show that these grantees have a greater ability to specify their desegregation objectives than the 1991-93 grantees.

Public school choice can be a key component of comprehensive school reform strategies by improving access to a high quality education, heightening parent engagement, and providing models of best practice. Choice in public schools can promote change in a number of ways consistent with the overall tenets of improving access to educational opportunity and promoting high standards for all children. First, because it enables families to select public schools with the academic philosophy, program emphasis, or setting that is best suited to their children's needs, choice is a mechanism for improving access to a high quality education for all children. Second, the very act of choosing a public school can promote a strong sense of shared purpose and involvement in the school that fosters a positive learning environment, and heightens parental engagement. Indeed, a consistently large majority of parents would like to have the opportunity to choose which public school their children attend instead of being assigned to a public school according to where they live. Finally, public school choice can be used as a tool for affecting change in other schools, by creating schools that serve as models of best practice for all schools in a community and by encouraging schools to provide a safe and thriving learning environment so parents elect to keep their children in the school. All of these potential outcomes can be strong forces for fostering improved student achievement.

Choices available to students within the public school system include: charter schools; magnet schools; intra- and inter-district choice programs in which families and students are permitted to choose among public schools within or across districts; postsecondary options for high school students to earn credit at local colleges and universities; and "programs within schools," where schools provide students with opportunities to participate in one or more specialized activities within their school building. The federal government has provided financial support to students and districts primarily to establish charter schools and magnet schools.

Introduction to the Programs and the 1994 Legislative Changes

The Improving America's School Act of 1994 included several provisions designed to expand parents' opportunity to choose among public schools. These programs and provisions included:

- **The Public Charter Schools Program (PCSP)**: To provide start-up funds for charter schools and evaluate the effects of charter schools on schools and students;

- **The Magnet Schools Assistance Program (MSAP):** To help school districts establish new or significantly revised magnet schools to promote school desegregation by creating programs that attract students from different backgrounds;

- **Title I:** A provision that allows school districts to use Title I funds, in combination with other funds, to implement programs that allow Title I parents to select an appropriate public school for their children;[1] and

- **Title I:** A provision that allows states to permit children in failing schools to transfer to another public school.[2]

The remainder of this chapter deals with the two primary vehicles for promoting public school choice in the 1994 reauthorization: the PCSP and the MSAP. These two programs are based on a similar concept, although they were originally enacted at different times and for different purposes. The Congressional intent for the two programs also differed in a number of important ways; thus, each is addressed separately.

Exhibit 8.1 provides information about the scope and nature of the PCSP and the MSAP.

EXHIBIT 8.1
ED'S PUBLIC SCHOOL CHOICE PROGRAMS AT A GLANCE

Program Name	1999 Appropriation	Purpose	Funding and Targeting	Participation (1998)	Public School Choice Services
Public Charter Schools Program	$100 million	(1) Provide financial assistance to charter schools; (2) evaluate their effectiveness; (3) establish a greater number of high-quality charter schools	Discretionary grants with a maximum 3 year duration made to states with charter school authorizing legislation. SEAs make competitive subgrants to charter schools in partnership with a public charter granting entity	31 states (including D.C. and Puerto Rico) Directly to several schools in AR, AZ, HI, MS, NH, NM, and NV Since 1994 enactment, nearly three-fourths of all operating charter schools have received at least one sub-grant	Planning and program design, and dissemination grants
Magnet Schools Assistance Program	$104 million	(1) Help reduce, eliminate, or prevent minority group isolation; (2) promote systemic reform; (3) implement innovation programs; and (4) improve student performance	Discretionary grant with a maximum three year duration made to districts with approved desegregation plans	57 districts Typically 5 schools per district, over half of these serve elementary school children	Planning, materials, staff, and instructional programs

Source: U.S. Department of Education.

Public Charter Schools Program

Charter schools are public schools that are allowed to operate under a negotiated agreement—or charter—in which they are granted exemptions from state and local regulations in exchange for meeting a set of performance-based goals. The PCSP legislation provides for a program that awards grants to state educational agencies (SEAs) or other eligible applicants in states where SEAs elect not to participate. The PCSP funds are then subgranted to schools. The amount of funds that a PCSP grantee receives depends on several factors, including the amount of funds available, the quality of the application as determined by peer reviewers, the grantee's need based on the projected number of subgrantees/schools to be supported, and the amount that the SEA has decided it will provide to each subgrantee.

The PCSP's explicit purpose is to address charter schools' needs for initial financial support by providing start-up funds for up to three years. A second program purpose is to evaluate the effects of charter schools on schools and students, focusing on how these schools contribute to the improvement of learning. Congress cited charter schools as promising new educational models for helping children achieve high standards as well as for promoting reform generally. Recognizing mounting evidence of a lack of access to start-up funding to get these schools off the ground, the PCSP was enacted as the first federal program specifically targeted for charter schools.

The charter schools model clearly reflects the overarching principles of the 1994 reauthorization. Specifically, charter schools: (1) are required set the same high standards that states require of all of their schools; (2) are given flexibility in designing and implementing their educational program; (3) are directly accountable for student performance because their charters could be revoked if they fail to reach those standards; and (4) involve parents in their children's education by giving them the opportunity to open their own school or choose a school for their children.

The PCSP was reauthorized in October of 1998. In this reauthorization, several changes were made to address barriers to establishing effective charter schools, including:

- ***Flexibility***: Many state laws do not provide charter schools with meaningful autonomy from state and local regulations. The reauthorized PCSP sets a funding priority for states that allow schools control over their budgets and expenditures.[3]

- ***Accountability***: In exchange for flexible operations, schools are held accountable for student performance results. To encourage this practice, the reauthorized PCSP sets a funding priority for states and schools that have clear and measurable objectives for student performance. Additionally, funding priority is given to states that renew their charter schools regularly, at least every five years.[4]

- ***Dissemination grants***: Charter schools can be thought of as laboratories for school reform efforts that help inform other public schools of innovative ways to overcome barriers to improving student performance. In order to facilitate this practice, states may reserve up to 10 percent of their grant award to make dissemination subgrants. These grants can be made to charter schools that have been open for at least three consecutive years and have demonstrated overall success, including improving student achievement, maintaining high levels of parent satisfaction, and providing the management and leadership necessary to overcome initial start-up problems. Dissemination grant funds can be used to assist other schools in adapting the charter school's program or to disseminate information about the charter school through such activities as technical

assistance, partnerships, curriculum materials, and evaluations that document the successful practices of the charter school program.[5]

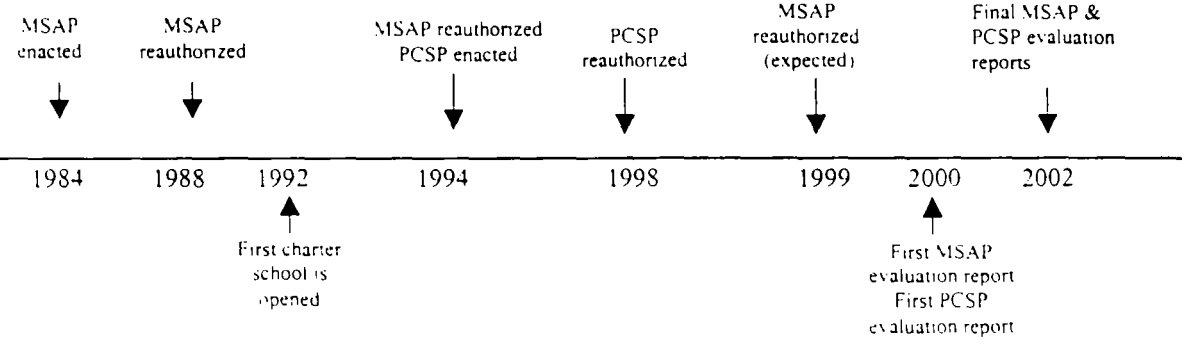
Magnet Schools Assistance Program

Magnet schools are designed as a voluntary tool for desegregating schools by establishing educational programs that draw students of different racial, ethnic, social and economic backgrounds together. The MSAP legislation provides for a program of grants to Local Education Agencies (LEAs) which then fund pre-designated schools. MSAP funds may be used for planning, promotional activities, and for expenditures necessary for the management of programs in magnet schools that are directly related to the improvement of students' reading, knowledge or skills of mathematics, science, history, geography, English, foreign languages, art, music, or improving vocational skills. MSAP grantees are prohibited from using MSAP funds for transportation.

Federal support for magnet schools dates back to 1972 when President Nixon established the Emergency School Assistance Program by Executive Order. In 1976, Congress enacted the Emergency School Assistance Act (ESAA) which was then eliminated as a separate program in 1981 and consolidated with other programs as a part of the Chapter 2 block grant under the Omnibus Budget Reconciliation Act of 1981. In 1984, Congress enacted the Magnet Schools Assistance Program to provide financial assistance to LEAs that lost federal funds because of the repeal of the ESAA. When Congress reauthorized the MSAP statute in 1994, it strengthened its support for the development of magnet schools that help reduce racial isolation in elementary and secondary schools and that enable students to achieve high standards. It also enhanced support for magnet school programs to serve a wide range of students, rather than an elite group. In addition, Congress also stated that magnet schools receiving MSAP funding should design innovative educational programs and prepare students for future careers, clearly linking them to the overall framework of reform in the 1994 reauthorization.

Exhibit 8.2 shows the timeline of the Magnet Schools Assistance Program and Public Charter Schools Program.

EXHIBIT 8.2
PUBLIC SCHOOL CHOICE TIMELINE



Source: U.S. Department of Education.

What Do We Know About Good Practice?

In enacting the PCSP and the MSAP in 1994, Congress recognized that in order to be equitable and effective, public school choice must be integrated within the context of local reform and the framework of higher standards for all children. Research suggests both what characterizes "good" public school choice as well as undesirable effects caused by poorly designed choices.[5] Thus, public school choice programs should be carefully crafted according to the following set of standards:

- **Choice programs should apply only to public schools that offer equal access to all students.** Public schools are open and free to all children, regardless of their religion, race, educational needs, or family income. They do not charge tuition and do not operate to make a profit. Voucher programs that allow the use of public funds for private education do not adhere to this critical principle.

- **Like other public schools, schools of choice should maintain high standards for all of their students, and they should be accountable for achieving those standards.** Schools of choice should be accountable not only to the families they serve, but also to the public as a whole. Providing regular information to the public about their performance is essential for schools of choice to remain accountable to their communities for serving the best interests of all children.

- **Choice programs should promote variety and innovation in public schools.** Central to the promise of choice is its potential to expand the options available to all children, particularly those that have been historically underserved. Recognizing that there is no one model that successfully serves the unique needs of all students, public school choice programs must promote real options for families.

- **Choice programs should help families overcome factors that restrict their choices, especially lack of information about schools.** To give all parents equal opportunity to take advantage of the options available to them, targeted and sustained efforts must be made to reach out to all families, especially those in disadvantaged areas. Two barriers that can drastically reduce the capacity of families to exercise choice are a lack of information and lack of access to transportation; these kinds of issues must be addressed within local contexts to ensure choice is contributing to the improvement of all children.

How Well Are the Programs Working?

On balance, both the PCSP and the MSAP support the public school choice standards described above. Both programs support the development of new or significantly revised public schools that are open and accessible to all students. Less is known about the extent to which schools with PCSP or MSAP funds address barriers to choice for all students, such as access to complete information, or are truly accountable to the public for student performance, although there is some anecdotal evidence that grantees are promoting these goals.

Public Charter Schools Program

As described earlier in this chapter, the Public Charter Schools Program was enacted both to meet the goal of helping a large number of charter schools defray the costs of starting a new school, as well as to evaluate the effect charter schools have on students, student achievement, staff, and parents. A National Study of Charter Schools, a four-year research study to document and analyze the charter school movement, began collecting data in the 1995-96 school district and will present its final report in the fall of 1999. In addition, a comprehensive evaluation of the PCSP that began in the fall of 1998 will continue to inform Congress on the program's effectiveness in the coming years.

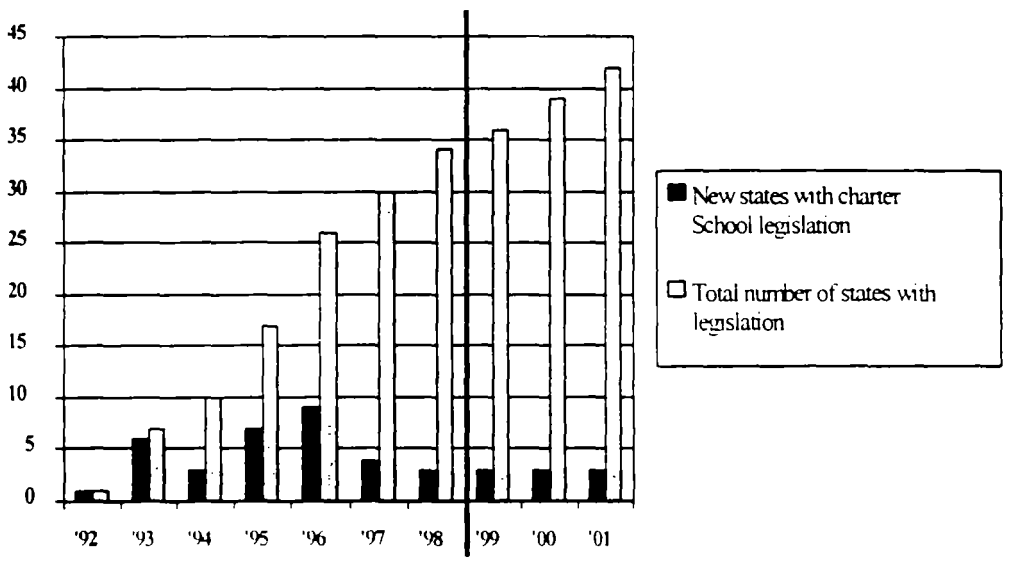
Expansion of charter schools: Minnesota was the first state to enact charter school authorizing legislation in 1991; since that time, 34 states, the District of Columbia, and Puerto Rico have followed suit. The number of charter schools has risen dramatically as well, reaching over 1,100 schools in the 1998-99 school year, up from fewer than 300 in 1995-96.

Program Indicators: By the year 2000, 40 states will have charter schools legislation.

By the year 2002, there will be 3,000 charter schools in operation around the nation.

Exhibit 8.3 shows both the total number of states with charter school legislation, as well as the number of new states with charter school legislation.

EXHIBIT 8.3
NUMBER OF STATES WITH CHARTER SCHOOLS LEGISLATION



Source: U.S. Department of Education.

Funding and targeting: **The PCSP has reached a large proportion of charter schools.** In FY 1998, the PCSP made awards to 31 states (including the District of Columbia and Puerto Rico), as well as directly to several schools in Arizona, Arkansas, Hawaii, Mississippi, Nevada, New Hampshire, and New Mexico because their respective SEAs either chose not to apply for funds or were ineligible. States have funded nearly all of their schools with their PCSP grants, with the exception of Arizona and California, which account for about 40 percent of all charter schools nationwide. Since the program was enacted in

1994, nearly three-fourths of all operating charter schools had received federal support, as well as nearly 8 in 10 of those in the planning stages.

Over the lifetime of the grant program, charter schools have received an average of $60,000 in federal funds per year, with individual grants ranging from $3,300 to $420,000. Although precise figures are not available, it is estimated that federal funds cover about six percent of the total annual costs of running a school.[7] With just seven states providing start-up funds[8] and more than half of charter schools indicating that the lack of start-up funds is a significant barrier,[9] it is unlikely that the number of charter schools would have grown at such a rapid pace without the financial support available through the PCSP.

Exhibit 8.4 shows a state-by-state breakout of PCSP grant awards in 1997, as well as the number of schools supported in each state. (Not all awards are made to SEAs; some individual schools applied directly to ED for awards. Only states with charter school authorizing legislation are eligible to apply.)

EXHIBIT 8.4
PUBLIC CHARTER SCHOOLS PROGRAM 1997
GRANT AWARDS

State	1997 Grant	# Schools Supported
Alaska	$1,516,500	11
Arizona	$3,221,226	17
California	$3,399,959	29
Colorado	$2,024,372	43
Connecticut	$1,286,371	15
Delaware	$691,302	10
District of Columbia	$2,063,095	21
Florida	$4,566,026	33
Georgia	$1,609,380	18
Hawaii	$239,635	2
Illinois	$782,850	3
Kansas	$900,000	13
Louisiana	$373,711	2
Massachusetts	$2,939,142	24
Michigan	$4,943,392	93
Minnesota	$2,183,458	27
New Jersey	$1,759,355	24
New Mexico	$170,173	1
North Carolina	$2,490,276	59
Oregon	$779,948	27
Pennsylvania	$1,333,333	6
Puerto Rico	$1,990,412	36
South Carolina	$1,447,900	4
Texas	$2,415,167	60
Wisconsin	$1,356,548	38
Total	**$46,483,531**	**616**

Source: U.S. Department of Education.

Educational Opportunity: **Charter schools appear to be serving a demographic profile of students similar to those in public schools.** These national averages, however, mask significant state-by-state variability that show many states serving large percentages of underserved populations as well as a handful of states that have charter schools with a higher proportion of white students. Specifically, comparing the enrollments of racial/ethnic minorities, students with disabilities, students with limited English proficiency (LEP), and low-income students in charter schools to statewide averages suggests the following:

Program Indicator: Studies will show that charter schools are open and accessible to all students.

- **Racial/ethnic composition**. More than 70 percent of charter schools are not "racially distinct," that is, they are within 20 percent of their district average. Of those schools that are racially distinct from their districts, the majority serve higher proportions of minority students than their districts. However, minority enrollments vary considerably by state. For example, Texas charter schools enroll only 13 percent white students compared to 46 percent statewide; on the other hand, Alaska charter schools enroll 82 percent white students compared to 63 percent statewide.[10]

- **Students with disabilities**. Charter schools serve a somewhat smaller proportion of students with disabilities compared to all public schools: 8 percent compared to 11 percent. Enrollments of students with disabilities in charter schools vary markedly by state, ranging from 2 percent in New Jersey to 25 percent in Florida.[11]

- **Students with limited proficiency in English**. Charter schools are intended to serve all kinds of students, including LEP students. Public school students with limited proficiency in English are concentrated in a few states and LEP students in charter schools mirror this pattern. Approximately one in ten students served either by charter schools or other public schools have limited proficiency in English The largest numbers of such students in states with charter schools are in California and Texas; charter schools in Texas enrolled a significantly higher percentage of LEP students (23 percent) than the total of all public schools in the state (13 percent), while California charter schools enrolled a somewhat smaller percentage (18 percent) than all its public schools (25 percent).[12]

- **Low-income students**. Nationally, the percentage of students in charter schools who are eligible for free or reduced-price lunches under the National School Lunch Program—a measure for poverty—is about the same as students enrolled in all public schools: slightly more than a third. Again, these comparisons differ at the state level. For example, more than half of the students in Minnesota charter schools are eligible for free or reduced-price lunches, while just over a quarter of all public school students in Minnesota are. Conversely, 30 percent of Georgia's charter school students are eligible compared to 40 percent overall.[13]

In addition to these aggregate measures, several charter schools specifically serve at-risk students. In fact, Minnesota's authorizing legislation describes these types of schools as a key aspect of charter school reform in their state, and their charter schools serve high proportions of all special populations of students described above. Also, of the 798 federally funded charter schools, 154 primarily served students who were "at-risk" or required special services (i.e., underserved, dropped out, low-achieving, LEP students, students living in poverty, or schools otherwise termed "alternative").[14]

Flexibility and autonomy: **Early evidence suggests charter schools are having trouble obtaining significant autonomy in exchange for clear accountability for student performance.** Understanding how well charter schools reflect this vision is critical in order to assess adequately the promise of this reform.

> **Program Indicator**: By 2002, 75 percent of states receiving PCSP funds will exempt charter schools from significant state and local rules that inhibit flexible operation, and each charter school will have a high degree of autonomy.

Many state charter school authorizing statutes do not allow schools to have control over basic functions such as budgeting, acquiring services, and hiring and firing capabilities, and do not allow charter schools to operate outside of the local school district.[15] Without such flexibility, charter schools are less likely to serve as models for redesigning governance structures in public schools.

Accountability: **States, charter granting entities, and charter schools are finding it a challenge to implement meaningful accountability mechanisms for charter schools.** The National Study of Charter Schools found that every charter school that reported coming up for review by 1997 had had its charter renewed by its chartering agency,[16] indicating that at least charter schools are meeting the approval of their chartering agencies. However, as charter schools have come up for renewal, their charter granting entities are using vastly different criteria for their review.

> **Program Indicator**: By 2002, 75% of states receiving PCSP funds will require each charter school's charter to include measurable objectives and specific timelines for meeting student performance goals, including the extent to which students meet or exceed state performance standards. States will also require chartering entities to hold charter schools accountable for meeting the terms of their charter at least once every five years.

A study of charter schools in California, for example, found that charter schools are more typically held accountable for fiscal viability rather than the academic achievement of students, both because there was no stable state assessment program for public schools, and because some charter schools promoted goals other than academic achievement (such as behavioral indicators or safety).[17] The existence of different entities to which charter schools are accountable also resulted in vastly different accountability plans and methods in Colorado.[18] While there are examples of charter school accountability mechanisms that reflect a strong emphasis on academic results, like those implemented in the Los Angeles Unified School District,[19] on balance, implementing meaningful accountability mechanisms remains a challenge for many states, charter granting entities, and charter schools.

Regardless of differences in state law, charter schools are held accountable for the achievement of their students. To assess how well students are faring academically in charter schools, we first need to know the kinds of tests charter schools are using and for what purposes, as these issues have bearing on how to interpret the assessment results. First, nearly all states with charter schools require through their authorizing statutes that their charter schools participate in the state or other relevant assessment program. Essentially, state laws and policies treat charter schools like all public schools with respect to assessments. However, changes in state and district assessment practices make the longitudinal measurement of student performance in charter schools difficult. Less than ten states can provide three consecutive years of assessment data. While the use of standardized tests and the state's assessment test are the most typical method of reporting for accountability purposes, charter schools also use a number of other assessment methods. Most report using performance-based assessments and portfolios to measure student progress.[20]

Impact on student achievement: **So far, it is too early to tell if student achievement is improving in charter schools, both because the research base is limited and because the schools are young.** The final report of the National Study of Charter Schools, due out in the fall of 1999, will examine student achievement in charter schools. In addition to this study, a comprehensive evaluation of the PCSP will obtain information on the academic achievement of charter school students, however it is just underway and cannot contribute to this report.

> **Program Indicator**: By the fall of 1999, a national study of charter schools will be completed that examines the characteristics of charter schools (e.g., range of flexibility, accountability measures, etc.) and examines the impact of charter schools on student achievement.

State and district-level evaluations are another source of information about the achievement of students enrolled in charter schools, but so far, preliminary conclusions are mixed. Two illuminating examples include Colorado[21] and Los Angeles[22] which are widely regarded as having well-developed charter school programs. Findings are limited in terms of the conclusions they can draw about charter school student achievement because the schools have only been operating a short time (sometimes less than a year), have vastly different assessment practices, and enroll a small number of students in limited grade levels. While these evaluations are often held up as models, their methods and findings reveal the difficulties in collecting uniform, comparable student achievement data in charter schools.

Students in the Los Angeles Unified School District Charter Schools maintain or slightly improve their performance over time with respect to students in a comparison group of non-charter district schools, with a few exceptions.[23] The Colorado evaluation found that "the performance of the charter schools, as a whole, on the Colorado Student Assessment Program is stronger than state averages, stronger than sponsoring district averages and stronger than the averages of other schools in the sponsoring districts who serve a population of students roughly comparable to the population served by charter schools."[24]

It is not yet clear if and to what extent these fledgling schools can achieve the ultimate goal of any school reform: improving the academic outcomes of students. However, some charter schools are demonstrating improved outcomes for students, and we need to continue to monitor how and to what extent they do so in the future.

Impact on public school systems: **We know little about the early impact of charter schools on neighboring schools, but available data suggest that charter schools are generally not perceived as strong agents for change by neighboring schools.** That is not surprising given the short lifetimes and small numbers of charter schools. A 1998 University of California at Berkeley study of 25 districts in eight states affected by charter schools revealed that the majority of districts did not respond to the advent of charter schools with "swift, dramatic improvements" in their educational programs; the majority of districts had responded to charters slowly and in small ways. However, almost one quarter of the districts in the study had responded energetically to the advent of charters and significantly altered their educational programs.[25]

> **Program Indicator**: By the year 2000, increasing numbers of charter schools will work with other charter schools and traditional public schools to develop, study and disseminate promising educational practices.

Magnet Schools Assistance Program

As described earlier in this chapter, the MSAP was enacted to reduce minority group isolation, contribute to systemic reform, offer innovative educational programs, and improve student performance. A

comprehensive evaluation of the MSAP that will obtain information on all four of these purposes is underway. However, supplemental sources tell a story about how the MSAP is working and will be drawn upon here.

Expansion of magnet schools: **The number of magnet schools has grown substantially, quadrupling between the early 1980s and today.** Current estimates place the number of magnet schools at over 4,200, serving approximately 1.5 million students.

Funding and targeting: **The MSAP FY 1998 grants were awarded to 57 districts with approved desegregation plans in 25 states, averaging roughly $1.6 million and ranging from $350,000 to nearly $2.9 million (see Exhibit 8.5 below). Out of the 57 districts, 41 had received grants at some point previously.** Each district uses the funds in targeted schools—typically five schools per district—over half of which serve elementary school children. Each magnet school received approximately $300,000 on average.[26]

According to preliminary data about the 57 grantees, 31 districts have voluntary desegregation plans, and 26 districts have mandatory desegregation plans. The projects range from small, focused projects in only a few schools to large programs in many schools. Within the projects, there are MSAP-supported programs in 293 magnet schools. They feature a variety of programs, including technology, mathematics, science, and fine arts.[27]

Exhibit 8.5 shows the grant award amount for each of the 57 districts, as well as whether or not the district was a previous grantee. (Note: Previous grantee means having an MSAP grant in *any* previous grant cycle – not necessarily in the *last* grant cycle.)

EXHIBIT 8.5
MAGNET SCHOOLS ASSISTANCE PROGRAM FY 1998 GRANT AWARDS

District	State	FY98 Grant Award	Previous grantee?
Montgomery County Board of Education	AL	$2,074,806	√
Phoenix Union High School District	AZ	$672,623	√
ABC Unified	CA	$1,478,354	
Berkeley Unified	CA	$1,040,592	
Long Beach Unified	CA	$1,535,607	√
Los Angeles Unified	CA	$2,510,344	√
Moreno Valley Unified	CA	$1,991,371	√
San Diego Unified	CA	$2,533,264	√
Capitol Region Education Council	CT	$350,000	
New Haven City	CT	$2,412,995	√
Gadsden County	FL	$893,493	
Lee County School Board	FL	$1,566,635	√
Miami-Dade County	FL	$2,715,635	
Palm Beach County School Board	FL	$2,400,488	√
Pinellas County School Board	FL	$1,736,255	√
Seminole County	FL	$2,523,078	
St. Lucie County School Board	FL	$1,799,666	√
Decatur Public	IL	$491,364	√

EXHIBIT 8.5
MAGNET SCHOOLS ASSISTANCE PROGRAM FY 1998 GRANT AWARDS

District	State	FY98 Grant Award	Previous grantee?
Indianapolis Public Schools	IN	$2,370,490	√
Fayette County	KY	$1,820,924	
Topeka Public Schools	KS	$464,958	√
Monroe City	LA	$1,339,136	
St. John the Baptist Parish Public Schools	LA	$502,308	√
Montgomery County	MD	$1,107,283	
Springfield Public Schools	MA	$2,335,896	√
Kalamazoo	MI	$1,930,364	
Madison County	MS	$842,687	
City of St. Louis	MO	$2,705,313	
Montclair Board of Education	NJ	$619,479	√
Beacon City	NY	$428,447	√
Freeport Public Schools	NY	$921,886	√
NYC Community School District #3	NY	$1,928,628	√
NYC Community School District #10	NY	$1,492,932	√
NYC Community School District #15	NY	$2,829,108	√
NYC Community School District #22	NY	$1,835,912	√
NYC Community School District #28	NY	$1,783,311	√
NYC Community School District #30	NY	$2,418,693	√
Newburgh City	NY	$1,061,474	√
Rochester City	NY	$2,576,693	√
Yonkers City	NY	$2,466,310	√
Bleden County	NC	$544,790	
Charlotte-Mecklenburg County Schools	NC	$2,656,683	√
Edgecombe Public Schools	NC	$1,530,693	√
Wake County Public Schools	NC	$2,171,309	√
Dayton Public Schools	OH	$2,574,373	√
Oklahoma City	OK	$2,652,448	
Providence	RI	$2,856,392	√
Hamilton County	TN	$2,401,878	
Amarillo Independent	TX	$573,583	√
Corpus Christi Independent	TX	$1,441,145	√
Victoria Independent	TX	$2,242,389	√
Wichita Falls Independent	TX	$1,772,289	√
Danville	VA	$1,208,601	
Roanoke Public Schools	VA	$958,050	√
Seattle Public Schools	WA	$1,194,516	√
Tacoma School District #10	WA	$1,997,271	√
Yakima Public Schools	WA	$1,214,752	√
Total Number of Previous Grantees			**41**

Source: U.S. Department of Education.

Initial examination of Exhibit 8.5 shows that while some of the nation's largest urban centers with serious minority group isolation, such as New York City and Los Angeles Unified District, received magnet school grants in 1998, other large racially isolated cities, such as Chicago and Baltimore, did not receive grants. Some of the districts that received grants are not necessarily in the most racially isolated parts of the state. It is important to understand, however, that in some cases, large racially isolated urban centers did not submit proposals; or they may have submitted them, but due to the highly competitive nature of the grant, they did not receive funding. The level or degree of minority group isolation in a project is not one of the selection criteria used by MSAP to make grants.

MSAP grant awards are determined by peer reviewers (from outside the Department of Education) who take into account the following selection criteria: quality of the project design; quality of the plan of operation; quality of personnel; quality of the evaluation plan; the budget and resources of the project; and the commitment and capacity of the district to continue the project after the three years of the grant. In addition to these selection criteria, the reviewers also give priority to those applications that: (1) demonstrate greatest need; (2) propose new or significantly expanded magnet programs; (3) propose to select students for admission to the magnet schools on the basis of a lottery if schools are over-subscribed; (4) propose to draw on community involvement plans; and (5) demonstrate how the project will implement innovative approaches that are consistent with state and local systemic reform plans. Finally, if total MSAP funds are in excess of $75 million, special priority is given to applicants that were not funded in the previous grant cycle.

In summary, grants are awarded to districts based on the quality of the proposal they submit to the Department of Education with respect to the criteria above. In general, school districts with considerable experience in grant applications tend to have an advantage in discretionary grant competitions of all types. Some districts hire consultants to assist them in writing applications. The Department also offers technical assistance to those who request it. Technical assistance by the MSAP includes regional workshops that provide information such as how to prepare applications, what the eligibility requirements are, and the priorities they need to address. The MSAP also provides one-on-one communication, as well as copies of funded proposals applicants may use as models. If a project was not funded, the MSAP can provide access to the evaluation of that project's proposal and technical assistance during the next funding cycle.

Educational opportunity: **Students who participated in magnet programs would likely not have had comparable educational opportunities in the absence of these programs.** This finding is from a 1997 report from the Citizens' Commission on Civil Rights, which examined the extent to which magnet schools offered improved educational opportunities for poor and minority children in St. Louis, Cincinnati, and Nashville. All three districts received MSAP funding in at least one grant cycle. Not surprisingly, high percentages of minority students attended these magnet schools; the report also notes, however, that poor children are more concentrated in non-magnet schools.[28]

Desegregation: One of the MSAP's statutory goals is to eliminate, reduce, or prevent minority student isolation in targeted schools. Applicants to the Magnet Schools Assistance Program must specify their desegregation objectives, whether they have mandatory or voluntary plans.

Program Indicator: Targeted schools (those with substantial populations of minority group students) will *eliminate*, *reduce*, or *prevent* minority group isolation according to their objective.

The 1998 grantees demonstrated greater ability to specify their desegregation objectives. A preliminary examination of the 1998 MSAP applications showed that desegregation objectives consistent with the MSAP statute could be determined for about 85 percent of schools targeted for impact. The evaluation commissioned by the Department of Education to examine the impact of

federally supported magnet schools on school desegregation found that FY 1991-93 MSAP grantees had identifiable desegregation goals in three-fifths of schools targeted for impact.[29]

The national evaluation of the MSAP that began in 1998 has provided preliminary data about the desegregation objectives of the 1998 grantees. The 57 grantee districts operate a total of 293 programs. Of those programs, 11 percent have a goal of preventing minority group isolation in a magnet school; 13 percent have a goal of eliminating minority group isolation in a magnet school; 57 percent have a goal of reducing minority group isolation in a magnet school; and 3 percent have a goal of preventing, reducing, or eliminating minority group isolation in a feeder school.[30] The goals of 16 percent of the programs have not yet been classified (due to unclear objectives in applications), however, most of those goals are expected to be classified by the end of the evaluation.[31]

Progress in achieving desegregation objectives is still unknown for the 1998 grantees, but the study of the 1991-93 grantees found that two-thirds of the schools targeted for impact achieved some degree of progress in meeting their desegregation objectives. However, about half of the schools with desegregation targets were able to meet their desegregation objectives within the two-year period of the MSAP grant. Schools were generally less successful in meeting specific enrollment targets called for in their desegregation plans than they were in moving in the general direction described by their desegregation objective. MSAP funds typically were used to foster desegregation in schools that had high proportions of minority students and that were located in districts experiencing increases in minority enrollments. There were modest improvements in reducing, eliminating, or preventing minority group isolation among targeted schools in the grantee districts, but the number of targeted schools that were minority-isolated increased slightly during the two-year period covered by the MSAP grants. Success in meeting desegregation objectives was strongly associated with the demographic conditions surrounding the targeted school, with success much less likely in districts with high and rising percentages of minority students.[32]

It is worthwhile to describe the changing context of school district demographics to better understand these findings from the study of 1991-93 grantees. When city school systems first established magnet schools as a way to integrate schools voluntarily, their populations consisted largely of minorities and whites who lived in segregated sections of each city. With white migration to the suburbs and greater numbers of minority immigrants settling in the cities, city populations have become increasingly non-white and more diverse. As a result, there are fewer white children available to help integrate the magnet schools. These trends have considerable influence on the extent to which the MSAP, as currently conceived, can help desegregate schools.

Race as a Selection Factor: **New to the MSAP this grant cycle is a requirement that grantees with voluntary desegregation plans only use race in a narrowly tailored way when selecting students for admission to MSAP-funded magnet schools.** In many instances, in order to carry out the MSAP purpose of reducing, eliminating or preventing minority group isolation, districts may consider taking race into account in assigning students to magnet schools. In order to meet the requirements of Title VI of the Civil Rights Act of 1964 and the Fourteenth Amendment to the United States Constitution, applicants submitting voluntary plans that involve the use of race in decision making must ensure that the use of race satisfies strict scrutiny.[33] That is, the use of race must be narrowly tailored to achieve the important goal of reducing, eliminating, or preventing minority group isolation.

Among the considerations that affect a determination of whether the use of race in a voluntary plan is narrowly tailored are: (1) whether the district tried or seriously considered race-neutral alternatives and determined that such measures have not been or would not be similarly effective, before resorting to race-conscious action; (2) the scope and flexibility of the use of race, including whether it is subject to a waiver;

(3) the manner in which race is used, that is, whether race determines eligibility for a program or whether race is just one factor in the decision making process; (4) the duration of the use of race and whether it is subject to periodic review; and (5) the degree and type of burden imposed on students of other races.[34]

Impact on Student Achievement: A comprehensive evaluation of the Magnet Schools Assistance Program that will obtain information on the academic achievement of magnet school students is underway. There is, however, some evidence about the effectiveness of magnet programs in general, not specifically those funded by the MSAP.

> **Program Indicator**: Students will show achievement gains in core subjects, as well as in applied learning skills, that meet or exceed the gains for students in the district as a whole.

A national-scale research study of magnet school student achievement shows that 10th-grade students in urban magnet schools performed better in reading, science, and social studies than students in public comprehensive high schools or private high schools, after accounting for a host of other factors that explain achievement differences. These results are from a 1996 study that analyzed data from the National Educational Longitudinal Survey in 1988 and 1990. The positive gains of the students in magnet schools were both statistically and educationally significant.[35] Additionally, the 1997 report from the Citizens' Commission on Civil Rights notes that in 1993-94, low-income students attending magnet schools in the three cities in their study outperformed other low-income students in non-magnet schools.[36]

Options for Strengthening the Programs

Public Charter Schools Program

As stated earlier, the PCSP was reauthorized in 1998. This reauthorization addressed several barriers to establishing charter schools, including flexibility and accountability. The findings presented in this chapter, however, extend beyond the issues of flexibility and accountability of charter schools. Since the statute is newly reauthorized, the Department of Education is analyzing other potential programmatic improvements. The recommendations presented here can be made *administratively* rather than legislatively.

- **Increase federal PCSP support for states that target disadvantaged students**. The federal charter school statute explicitly mentions that charter schools can improve the opportunities available to disadvantaged students. While data from the national study of charter schools suggest that, overall, charter schools are serving similar proportions of underserved students as public schools, these findings vary by state, as well as within states. When determining the grant awards, the peer reviewers for the PCSP give 20 percent of available points to SEA applicants that target educationally disadvantaged students, and an SEA that fails to address the needs of educationally disadvantaged students would be unlikely to receive any grant at all. An extension of the current federal action, then, may be in increasing PCSP funds to those states that target and serve educationally disadvantaged students.

- **Ensure charter schools receive equitable and sufficient support.** Charter schools are confounded by a lack of comparable access to funds that support public schools. Although the 1998 reauthorization will impact the equitable distribution of federal funds, we have a dearth of research on charter schools' access to state and local funds. Although research is necessary to inform this issue of equitable funding, a logical federal role may be to direct PCSP funds to those

states that ensure that charter schools receive funding that is comparable to other public schools in the district or state.

Magnet Schools Assistance Program

Although information on the effectiveness of the MSAP is limited, the information presented in this chapter suggests options for federal policymakers to consider.

- **Clarify the kind of diversity the MSAP should address.** Currently, one of the legislative purposes of the MSAP is to reduce, prevent, or eliminate minority group isolation. This is based on objectives designed when the nation was dismantling a dual school system (i.e. black/white). Today, school districts are far more diverse and the MSAP legislation does not distinguish between and among minority groups, placing Asian, Hispanic, African-American and other students into the general category of minority, and promotes only the integration of such minority students with white (non-minority) students. As the nation looks to its future, clarification is needed about if and how the purpose of the MSAP could be expanded to include the reduction of isolation of students from different ethnic and economic backgrounds in order to adapt to the context within which magnet schools are operating. It may be useful to look toward places like San Francisco, a city considering an array of socioeconomic factors to use in school assignments, including parental education, income, and neighborhood.[37]

- **Improve the targeting of MSAP funds.** While the MSAP does provide substantial technical assistance to applicants and grantees, efforts should be strengthened to assist areas with significant minority group isolation in competing successfully for funding. An extension of the current federal role may be to consider a project's level or degree of minority group isolation as a selection criteria for MSAP grants.

- **Clarify the intent of the MSAP statute in regards to whether the MSAP should impact districtwide desegregation, in addition to impacting individual magnet schools.** Although the Findings of the MSAP statute suggest that districts are to benefit from the MSAP, the Purpose seems to state the impact is intended to be at the school level. It is important to note that for approximately 15 years, the Department has interpreted the legislation to mean that the MSAP should impact only individual magnet or target schools – except in instances when all schools in the district are targeted magnets or feeders.

- **Clarify the role of innovative programs.** The role of the innovative program authority is not clearly defined. Upcoming reauthorizations should address this part of the MSAP statute. Policymakers may wish to consider ending this authority or using it as a research and development set-aside in which the new approaches to promoting diversity discussed previously can be designed, evaluated, and emulated when appropriate.

- **Implement an information management system that could provide data regarding the overall progress of the MSAP grantees.** The MSAP staff do monitor the projects that receive grants by obtaining yearly progress reports and by communicating directly with project directors. However, the program does not have an information management system that can aggregate the progress reports or provide data on the program as a whole. One of the objectives of the Department's National Evaluation of the MSAP is to begin developing a database that will contain information about each project in the 1998-2001 grant cycle. This database will be updated during

the four years of the study. It may be possible that once the evaluation is completed, the structure of this database could then be used by the Magnet School Assistance Program office to track projects.

Concluding Thoughts

The federal efforts to promote public school choice in 1994 represented a new approach to this aspect of school reform. While much has been accomplished since then, there is still work to be done to better promote and support public schools of choice that equitably serve all children (particularly underserved students), improve academic performance, and provide valuable lessons that can be used to improve public education generally.

[1] Elementary and Secondary Education Act, Section 1115 (a).
[2] Elementary and Secondary Education Act, Section 1116 (d)(6)(B)(VII).
[3] Elementary and Secondary Education Act, Section 10301.
[4] Elementary and Secondary Education Act, Section 10301.
[5] Elementary and Secondary Education Act, Section 10304.
[6] Bruce Fuller and Richard F. Elmore, *Who Chooses? Who Loses? Culture, Institutions, and the Unequal Effects of School Choice*, (New York and London: Teachers College Press, 1996).
[7] Westat, unpublished tabulations from the *Interim Report to Congress on the Public Charter Schools Program* (Draft, 11 Sept. 1998).
[8] Westat, unpublished tabulations from the *Interim Report to Congress on the Public Charter Schools Program* (Draft, 1 April 1998).
[9] RPP International, *A National Study of Charter Schools: Executive Summary* (Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, 1998) 14-15.
[10] RPP International, unpublished tabulations, 1999.
[11] RPP International, unpublished tabulations, 1999.
[12] RPP International, unpublished tabulations, 1999.
[13] RPP International, unpublished tabulations, 1999.
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[29] Lauri Steele and Marian Eaton, *Reducing, Eliminating, and Preventing Minority Isolation in American Schools* (Washington, DC: U.S. Department of Education, Office of the Undersecretary, 1996) iv.
[30] Magnet schools are those schools in which a special curriculum or theme is established to attract students from other schools in the district. The feeder schools refer to the schools from which students entering the magnet school are drawn (i.e., the school that the student would have attended if they weren't attending the magnet school.
[31] U.S. Department of Education, unpublished tabulations, Planning and Evaluation Service.
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[33] Federal Register, *Magnet Schools Assistance Program: Notice Inviting Applications for New Awards for Fiscal Year 1998*, Vol. 63, no. 31, February 17, 1998.
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9. IS THE SCHOOL-TO-WORK OPPORTUNITIES ACT HELPING GRADUATES LEAVE SCHOOL READY TO BEGIN CAREERS OR TO CONTINUE THEIR STUDIES?

KEY FINDINGS

- Increasing collaboration between employers and schools has been a particularly successful aspect of STWOA implementation. In 1996-97, half of all high schools involved in school-to-work partnerships reported that employers had provided training or internship opportunities for school staff. STWOA partnerships play an important role in promoting and coordinating program activities, but as federal funding ends, their future role is uncertain.
- States support the local implementation of STWOA, but the visibility of high level collaboration among key state agencies has declined.
- STWOA partnerships have tended to favor the provision of varied activities to larger numbers of students over a more intensive mix of activities for fewer students.
- STWOA has fostered the growth of career development activities (e.g., job shadowing, worksite visits, career counseling) designed to help students explore career interests, but developing a coherent progression among these activities has been difficult.
- Implementation has tended to move fastest on less-intensive and less-integrated innovations (such as job shadowing and career guidance activities) while improvements in curriculum and in coordination between school- and work-based learning have been limited and uneven.
- Curriculum changes envisioned in STWOA legislation have been modest; structured career programs combining academic and vocational instruction around a career or industry focus are offered in about a quarter of STWOA partnership schools, but usually for relatively few students. Integration of academic and vocational instruction is spreading slowly, but support for these changes usually comes from a small group of teachers. So far, STWOA has placed less emphasis on linking secondary and postsecondary education than it has on other STWOA elements.
- Students give high marks to their STWOA activities, particularly those that afford them workplace experiences and academic classes related to their career goals. Female and minority students, in particular, rate their school-to-work experiences highly; individualized experiences such as job shadowing and school-arranged internships earn the highest ratings.
- Evaluation findings suggest that more students in school-to-work systems see a connection between their academic coursework and career interests, with the largest increases occurring among black students and the non-college bound. Whether this translates into improved academic performance is the focus of an evaluation currently underway.
- State and district efforts to raise academic standards are occurring largely independently of STWOA.

What Did the 1994 Legislation Seek to Accomplish?

Researchers, educators, employers, and policymakers have sought ways to make education relevant to students' future careers, to adapt instruction to the ways in which students learn best, and to ensure that students learn the habits and skills that employers value. By adding meaningful context from the world of work, educators hope to engage the interest and intellect of students and help them learn more effectively. Whether learning by doing is accomplished at school or in a work setting, school-to-work (STWOA) systems seek to improve career prospects and academic achievement in high school—and thereby boost enrollment in postsecondary education and increase the likelihood of obtaining high-skill, high-wage employment.

The sixth National Education Goal states that by the year 2000, every adult American "will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship." To help achieve this and other National Education Goals, and to help ensure that all high school graduates are better prepared to pursue both further education and high-skill employment, Congress in 1994 passed the School to Work Opportunities Act (STWOA).

Introduction to the Programs and the 1994 Legislative Changes

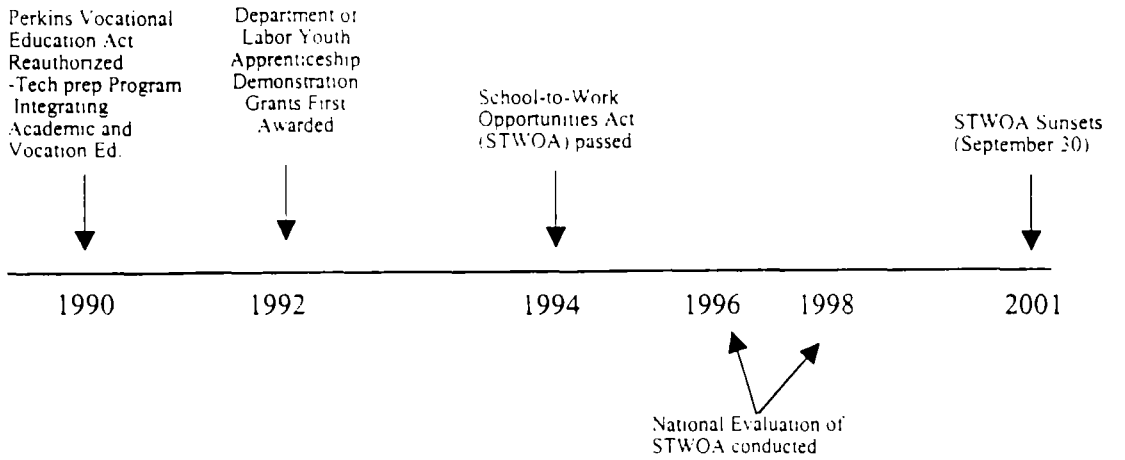
Many federal laws play an important role in helping America's youth leave high school for either postsecondary learning or high skill employment, including: the Elementary and Secondary Education Act, the Carl Perkins Vocational Education Act, and the Higher Education Act. However, this chapter focuses solely on the legislative vehicle enacted in 1994 to support these goals—the School-to-Work Opportunities Act (PL 103-239). Because this legislation expires in 2001, this chapter includes a discussion of how similar programs, such as vocational education, can build upon and sustain some of the promising efforts supported through school-to-work.

Congress targeted both economic competitiveness and educational equity when it passed STWOA. The economic fear was that too many of the nation's youth, particularly those who are not enrolled in college preparation programs, leave high school inadequately prepared to succeed in tomorrow's more technologically-sophisticated and higher-skill jobs. In addition, Congress wished to address growing income inequities attributable to educational attainment. In the 1980s, the gap between the earnings of college graduates and individuals with a high school education or less widened to its greatest level since the 1930s.[1] Real wages fell precipitously for dropouts and those who possessed only a high school diploma.[2] In this environment, Congress became increasingly concerned about the economic prospects of the 14 percent of young Americans who do not earn a high school diploma or GED and the more than 70 percent who never complete a four-year baccalaureate.[3]

STWOA provides "venture capital" to states and localities to underwrite the initial costs of planning and establishing statewide systems for helping young people make more effective transitions between high school and careers or further education. Federal investments are intended to create new programs and to support the expansion and improvement of ongoing efforts.

The Act encourages localities to develop educational programs that combine school-based and work-based learning, integrate vocational and academic education, and strengthen the connections between high school and postsecondary programs. It was not intended to operate as a "stand-alone" program, but rather, to leverage support from ongoing state, local and federal sources. Because it provides seed funding, STWOA is authorized only through September 2001.[4] Exhibit 9.1 summarizes this brief history of school-to-work initiatives.

EXHIBIT 9.1
SCHOOL-TO-WORK OPPORTUNITIES ACT TIMELINE



Source: National School-to-Work Office, U.S. Department of Education.

To promote local experimentation, Congress gave states and localities significant discretion to design and implement school-to-work systems. These systems are to meet needs determined by formal partnerships of employers, educators, parents, labor unions, and others. The law is minimally prescriptive. The intent of Congress was to promote local innovation through incentives and technical assistance, not through compliance requirements. However, the law does specify that local efforts should provide access for any interested student to a program of study that includes the three components summarized below:[5]

- **School-based learning.** The law encourages partnerships to create student opportunities for career exploration by no later than the seventh grade. By the end of 11th grade, students should select a coherent sequence of courses (called a "career major" in the Act) that prepares them for either postsecondary education or employment in a broad industry or occupational area. These courses of study should meet high academic standards as set by the State and also offer students a chance to earn portable, industry-recognized skill certificates.

- **Work-based learning.** The law encourages local initiatives to provide participating students with adult mentoring and a range of work experiences, coordinated with their school curriculum and program of study. The work experience should provide progressively more advanced skill instruction and encompass all aspects of the student's chosen industry or career area.

- **Connecting activities.** The law encourages partnerships to help coordinate the interactions among schools, employers, and young people through assistance with recruiting employers, matching students with work experiences, and helping employers work with students.

Between 1994 and 1998, Congress appropriated nearly $1.5 billion for grants to states and local partnerships.[6] Although most grants did not target recipients on the basis of need, about $70 million was allocated for grants to high-poverty urban and rural communities. Congress intended for annual appropriations to peak mid-way through the Act's life and then taper off until the federal investment ends in 2001. The largest appropriation was $400 million in both FY 1997 and FY 1998. For FY 1999,