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ABSTRACT

The Secondary Schools Basic Skills Demonstration Assistance Program of 1988 offered school districts, through a competitive grant program, an opportunity to explore innovative ways of helping disadvantaged secondary school students attain grade level proficiency in basic and more advanced skills. In 1990, the sole year of funding, the program awarded 31 1-year grants to urban and rural schools in the United States and Puerto Rico. Almost half of the grants were in urban areas. An evaluation was commissioned to determine whether the academic achievement of secondary school students improved with participation and strategies that accounted for improvements. Primary means of data collection were a survey of the grantees, 10 case studies, and analyses of student outcomes, including test scores that exceeded estimates of measurement error. Data from 13 grantees were used in this report. The overall message from the program evaluation is that under certain conditions peer tutoring and mentoring can be useful for addressing the educational and developmental needs of disadvantaged secondary school students. The program achieved limited success, but does support research on the effectiveness of peer tutoring. Teachers' responses were generally positive, as were parent perceptions of the effectiveness of tutoring. Eighteen tables present data about the programs, and an appendix lists the programs. (Contains 16 references.) (SLD)

PEER TUTORING AND MENTORING SERVICES FOR DISADVANTAGED SECONDARY SCHOOL STUDENTS

An Evaluation of the Secondary Schools Basic Skills Demonstration Assistance Program

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1993

The views expressed in this report, developed under contract to the U.S. Department of Education, do not necessarily reflect the position or policy of the Department, and no official endorsement by the Department should be inferred.

EXECUTIVE SUMMARY

The Secondary Schools Basic Skills Demonstration Assistance Program of 1988 offered school districts, through a competitive grant program, an opportunity to explore innovative ways of helping disadvantaged secondary school students attain grade level proficiency in basic and more advanced skills. Establishing priorities for the program's grant competition, the U.S. Department of Education (ED) reserved funds exclusively for peer tutoring and mentoring projects. In 1990, its sole year of funding, the demonstration program awarded 31 one-year grants to school districts in urban and rural communities from all major regions of the United States and Puerto Rico. The grant amounts ranged from $20,880 to $300,000, for a total of $4,700,000 in awards.

ED commissioned an evaluation of the demonstration program to identify whether the academic achievement of secondary school students improved with participation and the strategies that accounted for such improvements. The primary means of data collection for the study were a survey of program grantees, ten case studies, and analysis of student outcomes, including test scores that exceeded estimates of measurement error. Outcomes were analyzed only if they met criteria for representativeness (two-thirds or more of participants represented) and comparative value (i.e., pre- and post-intervention data on the participant group or outcomes presented in comparison to those of a control or other non-project comparison group, test scores presented as NCE gains). Twenty of the 31 grantees submitted performance reports by January 1992; most included multiple outcome measures for the tutors and learners (i.e., tutees and proteges) for one semester of project services. Data from 13 of the 20 met the screening criteria and were analyzed. This report shares the study findings.

The overall message emerging from the evaluation of the demonstration program is that under certain conditions peer tutoring and mentoring can be useful strategies for addressing the educational and developmental needs of disadvantaged secondary school students--a population historically resistant to assistance from supplemental programs such as Chapter 1. While the demonstration program achieved limited success, our findings support existing research in suggesting that peer tutoring and mentoring can positively affect the academic achievement (as evidenced by improvements in test scores, grade point averages, and course pass rates) and social integration (as evidenced by improved attendance and students' testimonials about their attitudes toward school) of program participants. Peer tutoring and mentoring may be particularly helpful in improving the classroom performance of learners who receive both tutoring and mentoring services that assist them with daily assignments and help them develop efficient organizational and study skills. Such services can also raise the academic achievement of the peer tutors, particularly when they themselves are (1) at-risk,

(2) working with younger children in a cross-age tutoring program, and (3) the beneficiaries of focused and related services, such as mentoring, intensive training, or monitoring. On a cautionary note, peer tutoring or mentoring is not a substitute for high quality instruction provided by a skilled and thoughtful teacher. Where we observed weak instruction, peer tutoring made the class more palatable to students, but it did not increase the quality of the instruction.

Peer tutoring and mentoring may be particularly potent ways of increasing students' feelings of belonging to the school community when:

- Personal compatibility is used as factor in pairing tutors and mentors with learners.
- Students in very large schools are matched one-to-one with their mentors or tutors.
- Tutoring and mentoring services include counseling or problem-solving sessions to help learners (i.e., tutees and proteges) constructively address their conflicts with teachers, other school staff, or fellow students.

While not central concerns of the study, effects on teachers and school-community relations emerged as two additional, if tentative, sets of program outcomes. On balance, teachers' responses to participation were generally positive, and those who were involved in designing and implementing services tended to be the most enthusiastic and supportive. They attended training sessions, supervised student tutors in their classrooms, and offered suggestions for improving project services. Negative responses tended to come from teachers who did not fully understand the project goals and objectives and who were asked to complete project-related paperwork that they viewed as unnecessary, burdensome, or counterproductive to the cause of helping students become more responsible for their own learning.

Both peer tutoring and mentoring services appear to have potential for producing positive effects on school-community relations but in somewhat different ways. Our case studies and a few grantee-administered surveys indicate that tutoring was perceived by parents to have an immediate and beneficial impact on students' attitudes toward school; both their academic work and attachment to school seemed to improve. Mentoring services appeared to have a broader influence. By introducing members of the community--through the role of mentor--to the complex challenges and rewards of teaching and nurturing adolescents, mentoring projects at some sites garnered community support and recruited goodwill ambassadors at the same time they recruited mentors.

Overview of the Funded Projects

The projects funded under the demonstration program emphasized different goals for learners and peer tutors. Goals for tutees and proteges focused on academic achievement and high school graduation:

- Slightly more than half of the projects (55 percent) identified "improving learners' basic skills in both English and math" as among their most important goals.
- Forty-five percent identified "preventing learners from dropping out of school" as among their most important goals.
- More than one-third of the projects marked "improve learners' study skills" (38 percent) and "build learners' self-esteem" (34 percent) as important goals.

Goals for the peer tutors included building self-esteem and leadership skills while improving academic achievement:

- More than 80 percent of the projects agreed that a major objective for participating tutors was to build their self-esteem and self-concept.
- Fifty-five percent sought to develop leadership skills among peer tutors as a major goal.
- Fifty-two percent identified "improving the peer tutors' academic achievement" as a major goal.

The projects operated in a variety of settings and served diverse student populations with a range of barriers to academic and personal success.

- Almost half (46 percent) of the projects were located in urban areas such as New York City and Tucson, Arizona, and more than a third (35 percent) were in rural areas such as Monticello, Utah, and Oaks, Oklahoma.
- Overall, projects served roughly equal numbers of white, black, and Hispanic students. Eleven percent of the learners were bilingual.
- An equal number of whites and blacks served as peer tutors (38 percent each), and 16 percent of peer tutors were Hispanic. Half of the adult mentors were white and one-third were black.

Projects varied widely in terms of the scope and complexity of their operational designs. The most basic designs involved discrete sets of participants who either delivered (tutors, mentors) or received (tutees, proteges) services. The most common of these basic designs was the provision of

both peer tutoring and mentoring services to a single group of learners. However, in several cases, mentoring services were provided to peer tutors, who, in turn, worked with tutees. The most complex of these "scaffolding" designs was in Fairbanks, Alaska, where adults from the community mentored 11th and 12th graders who, in turn, tutored 8th graders at a local middle school. The 8th grade tutees (and another group of 9th graders) also served as tutors working with primary grade students at local elementary schools.

The academic content of tutoring instruction and the range of other project services also differed from project to project.

- Three considerations determined the content of instruction provided: teacher recommendations, homework assignments, and diagnostic evaluations.
- Across all projects, tutors and mentors spent 20 percent of their time on basic reading skills, between 10 and 30 percent on basic math skills, up to 20 percent on advanced math skills, and 10 percent each on composition and short writing tasks.
- Three-fourths of the projects also provided counseling, 69 percent offered employment-related assistance or career awareness activities, and 62 percent offered social, recreational, and cultural enrichment.

The type, amount, and quality of evaluation data collected and reported by the grantee projects covered a broad spectrum and prohibit us from concluding that the demonstration program was universally successful. A third of the grantees never reported evaluation results with which their effectiveness could be assessed. Many of those with no previous experience running tutoring or mentoring services had difficulties with implementation and evaluation largely due to the short duration and fast track of the demonstration program. Planning and start-up activities were crippled by the award of grants after the beginning of the 1990-91 school year. Most projects did not achieve full implementation until well into the second semester of the one-year grant period, which resulted in more than half requesting and receiving project extensions. Other projects never achieved full implementation, foregoing training sessions, truncating the period of service delivery, or reducing the scope of tutor recruitment, coordination activities, and their mentoring programs. Nonetheless, eight (roughly one-fourth) projects reported multiple outcomes that met the screening criteria and showed modest positive effects on the academic achievement and or social integration of participating students. The outcomes included gains in standardized test scores, GPAs, and course pass rates, increased attendance, decreased numbers of disciplinary referrals, and positive responses on attitudinal surveys

Features of Effective Peer Tutoring and Mentoring Services

An analysis of the eight most successful projects revealed a set of promising practices that fall into five general categories:

- ***Reducing the stigma associated with receiving help*** included (1) selecting at-risk students to serve as tutors and (2) training peer tutors to act as mentors for their tutees. When at-risk youth serve as tutors they experience, perhaps for the first time, the confidence, prestige, pride, and positive feedback from others that typically accompany charitable work. Such tutors need substantial support to successfully fill their new role as helper, so effective projects included preservice training, regularly scheduled debriefing and problem-solving sessions, and journals as a structure for reflection. One project sought to reduce the stigma associated with receiving help by teaching students to become tutor-mentors and building mentoring time into the tutoring sessions. During this time, the tutor-mentor and learner discuss social issues; these types of discussions tend to put both participants on more equal footing, thus establishing that both participants--the tutor-mentor and learner--are capable of giving and receiving assistance.

- ***Providing incentives when necessary to help tutors see their tutoring responsibilities as important and productive work*** was a key characteristic of effective projects. However, program planners should carefully consider the need before providing them. The danger is in undermining the importance and inherent value of school by paying students to attend. A prudent course of action may be to offer course credit to peer tutors for tutoring services provided during school hours and a stipend for services performed during out-of-school time.

- ***Training tutors and supervising classroom teachers*** was a grant requirement and a pivotal feature of many project designs. Effective tutor training was frequent, focused on instructional and problem-solving strategies, and was congruent with the tutoring activities the students were expected to perform. Effective training for supervising classroom teachers explained the goals of the project and the importance of developing tutors' leadership skills.

- ***One-to-one matching based on interpersonal bonds*** was the preferred method of matching tutors and tutees in the most effective projects. A number of teachers we interviewed added that if the two don't get along, either the tutor/mentor or learner will end the relationship by withdrawing from the sessions, physically or mentally.

- ***Collaborating with local colleges, universities, and other professional organizations*** served to infuse new ideas and current research into schools and strengthen relationships among agencies with similar missions in the same community. In some cases, the collaborations also lent credibility to innovations that had not yet gained a foothold in the public schools.

Policy Implications

Despite the logistical hurdles that face most one-year grant programs, the demonstration program achieved some success and was delivered at a per-learner cost roughly comparable to that of Chapter 1 services. About one-fourth of the 31 projects reported modest positive effects on the academic performance and/or social integration of participating students which suggests that, given a chance to mature, these and similar programs may yield positive results for more students on a sustained basis. This potential supports the expanded use of peer tutoring and mentoring services in several contexts.

> ***New or limited English proficient (LEP) students*** can easily feel lost or overwhelmed at school. This is especially true if the school has a large student body or if school staff members do not make a special effort to help students establish close relationships with their peers. In these contexts, pairing new (including incoming freshmen in high school) or LEP students with upper classmen who can serve as tutors and mentors may help socialize the younger students into the mainstream school culture; help them negotiate the new and possibly confusing system of rules, schedules, and activities; and accelerate their academic growth.
>
> ***Chapter-1 eligible adolescents*** typically have a history of school failure and many years experience receiving help from others. They may have virtually no experience being the helper. Placing disadvantaged youth in the role of tutor/mentor for younger students can produce a host of positive effects for the adolescent, from enhanced self-esteem to stronger attachments to school, to improved academic achievement. A strong training program and ongoing monitoring, including debriefing and problem-solving sessions, are essential ingredients of this model.

Mentoring services present a different set of benefits to Chapter-1 eligible youth. They include the provision of successful role models, personal assistance and support, exposure to new career paths, job shadowing experiences, and even academic support in the form of tutoring. Schools that wish to provide mentoring services should consider, however, that they are not cost free. A smooth mentoring operation requires focused and sustained efforts to (1) establish and maintain strong communications with participating and potential mentors in the community, (2) conduct or arrange for training and consistent monitoring, and (3) coordinate mentoring services with the regular school program, especially if a goal of the mentoring services is improved academic achievement.

Finally, we learned that one-year demonstration grants are inherently difficult to implement smoothly. They require quick start-up, presume smooth implementation, and anticipate positive outcomes. Based on the experiences of the projects we examined, we have identified three areas in which improvement in future demonstration programs may be warranted. First, it may be desirable to take advantage of grantees with prior experience in the design, provision, and evaluation of similar services. There was a strong relationship between prior experience and successful project

implementation. Pairing inexperienced grantees with those that have a proven track record could enhance the network among grantee districts and enable the delivery of technical assistance to fledgling projects at a relatively low cost. Second, when a demonstration program requires identification of a subpopulation of students such as at-risk youth, grantees that are inexperienced at identifying and serving such students might benefit from technical assistance in these areas. Third, because districts invariably need more than one year to design, implement, and institutionalize a successful set of new services, it would be wise to award multi-year grants to permit sufficient time for implementation.

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I. BACKGROUND: STUDYING THE EFFECTS OF THE DEMONSTRATON PROGRAM

Congress enacted the Secondary Schools Basic Skills Demonstration Assistance Program, Part B of Title VI of the Elementary and Secondary Education Act of 1965, as amended, in 1988, to provide supplementary educational services to low achieving secondary school students. Funded for one year only, the demonstration program supported peer tutoring and mentoring projects in 31 local school districts nationwide. This report presents the findings of a study of the design, implementation, and outcomes of the 31 projects.

Legislative Background for This Study

Improving education for disadvantaged children is a longstanding national objective, which Congress and the Executive Branch have addressed in various ways since the mid-1960s. Chapter 1, the largest federal education assistance program, boasts a 27-year history of support for supplementary educational services delivered to educationally disadvantaged students in high-poverty areas. Chapter 1 services are, however, disproportionately targeted to elementary grade students.[1] According to Birman et al. (1987), this preference for focusing Chapter 1 in the lower grades is due, in part, to a widespread conviction that early intervention is especially beneficial. Two additional factors encouraging this emphasis are the reluctance of secondary school students to participate in Chapter 1 (Birman et al., 1987) and the scarcity of viable supplementary program arrangements at the middle/high school levels (Zeldin, Rubenstein, Bogart, Tashjian, & McCollum, 1991; Birman et al., 1987).

To explore innovative ways of delivering supplementary educational services to those secondary school students who are educationally disadvantaged, Congress enacted the Secondary Schools Basic Skills Demonstration Assistance Program. The law authorizes grants to local school districts with high concentrations of children from low-income families for the purpose of initiating or expanding programs designed to help Chapter 1-eligible secondary school students (i.e., children

[1] The National Assessment of Chapter 1 reported that 90 percent of all Chapter 1 students are enrolled in prekindergarten through 8th grade (Birman, Orland, Jung, Anson, Garcia, Moore, Funkhouser, Morrison, Turnbull, & Reisner, 1987).

achieving below the level that is appropriate for their age[2]) attain grade level proficiency in basic skills and, as appropriate, learn more advanced skills.

In 1990, the U.S. Department of Education (ED) established funding priorities for the demonstration program's grant competition. Under the priorities, ED explicitly reserved funds for peer tutoring and mentoring projects that would be coordinated with an in-depth federal evaluation. A lean set of program requirements specified that:

- Program funds could be used to implement peer tutoring, mentoring, or a combination of the two services.
- Peer tutoring and mentoring services alike must focus specifically on skill attainment by students in basic and more advanced skills. Peer tutors could assist their disadvantaged peers by helping them with homework assignments, conducting instructional activities, and fostering good study habits. Mentoring services should pair adults from the community with educationally deprived secondary school students.
- Peer tutors and mentors must receive training and supervision as a part of project activities.

In 1990, its sole year of funding, the demonstration program awarded 31 one-year grants to school districts, with grant amounts ranging from $20,880 to $300,000, for a total of $4,700,000 in grant awards. The 31 grantees included school districts in urban and rural communities from all major geographic regions of the United States and Puerto Rico.

Goals and Methods of This Study

The purpose of this study of the demonstration program was to evaluate the effects of peer tutoring and mentoring services in improving the achievement of participating secondary school students. The study design directed special attention to answering two questions:

- Did the achievement levels of secondary school students improve after participating in a funded project?
- What strategies were most effective in improving students' achievement levels?

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[2] The law defines eligible students as "secondary school students who meet the requirements of part A of chapter 1 of title I of this Act other than the requirement of attendance in the designated school attendance area."

To obtain information to address these questions, ED's Planning and Evaluation Service retained Policy Studies Associates, Inc., to conduct this study. We examined the 31 peer tutoring and mentoring projects within the context of recent findings on the educational needs of secondary school students who are eligible for Chapter 1 services and the effectiveness of peer tutoring and mentoring programs.

Following a review of relevant literature, preliminary data collection began with an examination of project applications and related documents. We developed project profiles based on information gathered from these documents and supplemented, as needed, through telephone calls to local project staff members. A companion volume to this report, entitled *Mentoring and Peer Tutoring Projects Funded Under the Secondary Schools Basic Skills Demonstration Assistance Program: Project Profiles*, is the result of these preliminary activities.

The primary means of data collection for this study were a survey of program grantees, ten case studies, and analysis of student outcomes, including test results that exceeded estimates of measurement error. Outcomes were analyzed only if they met criteria for representativeness (two-thirds or more of participants represented) and comparative value (i.e., pre- and post-project data on participants or outcomes presented in comparison to those of a control or other non-project comparison group, test scores presented as NCE gains).

The survey of program grantees was mailed on a staggered schedule between June and October 1991 depending on the expiration of each project's grant period (including federally approved project extensions).[3] Twenty-nine of the 31 project directors (94 percent) responded to the survey, although not every director answered every question.

Six months into the 12-month grant period, we began a series of visits to ten project sites to collect in-depth information related to project design and implementation. At each site, study team members interviewed a central office administrator, the project director, school principal(s), teachers, peer tutors and mentors, learners (i.e., tutees and proteges), and, in some cases, parents of participating students. We used the information documented in the case study reports to supplement results from the survey of project directors. The case study sites reflected urban and rural regions

[3] The award of demonstration program grants to local school districts *after* the beginning of the 1990-91 school year crippled project start-up activities (e.g., hiring and training staff, recruiting peer tutors and mentors, coordinating services among schools within a district). Most projects did not achieve full implementation until the winter of 1991. Consequently, more than half of the grantee school districts requested and were granted project extensions to allow sufficient time for full implementation of their projects

nationwide, varied in terms of per-learner cost of the supplementary services funded by the grant, and held promise of success in boosting student achievement within the short timeframe imposed by the 12-month grant period. Given the fast track of our study plan, we considered prior experience in the delivery of peer tutoring or mentoring services as a proxy, albeit an imperfect one, for promise of quick success (Table 1).

Twenty of the 31 grantees submitted performance reports by January 1992. Most included multiple outcome measures for the tutors and learners for one semester of project services. The outcomes included changes in test scores, course pass rates, GPAs, attendance rates, and responses on attitudinal surveys. Data from 13 of the 20 performance reports met the screening criteria and were analyzed for this study.

At the conclusion of data collection, we analyzed all available data in light of other relevant research findings to answer the study's key questions. The results of that analysis are presented in this report, along with information describing the operations and settings of the funded projects.

The next chapter of this report presents a descriptive overview of the 31 projects funded under the program. The third chapter summarizes and discusses the effects of peer tutoring and mentoring on students, teachers, and school-community relations. Chapter IV analyzes the most successful of the grantee projects and distills promising practices from their common design features. The last chapter discusses policy implications based on the study findings.

Table 1

Selected Characteristics of Case Study Sites

Project and District	Location	Urbanicity	Projected Annual Per-learner Cost	Experience
Project Outreach Fairbanks North Star Borough School District	Fairbanks, AK	Combination	$2,142	Yes
Pima County Educational Group Effort Tucson Unified School District	Tucson, AZ	Urban	$2,290	Yes
Project Peerage Sweetwater Union High School District	Chula Vista, CA	Combination	$ 231	Yes
Student Serving Students School Board of Broward County	Pompano Beach, FL	Urban	$ 231	Yes
ConCurrent Options Tutoring/Mentoring Model New York City Board of Education	Brooklyn, NY	Urban	$ 548	Yes
ACHIEVE in Basic Skills Reidsville City Schools	Reidsville, NC	Rural	$4,196	No
Sec. Schools Basic Skills Improvement Program--Oaks Mission School	Oaks, OK	Rural	$7,333	No
Expect Success Fort Bend Independent School District	Sugar Land, TX	Urban	$ 254	Yes
Sec. Schools Basic Skills Assistance Prog. Davis County School District	Farmington, UT	Urban	$ 579	No
Mt. Mansfield Union H. S. Learning Lab Chittenden E. Sup. Union #2	Richmond, VT	Rural	$ 667	Yes

II. DESCRIPTIVE OVERVIEW OF THE FUNDED PROJECTS

All 31 projects funded under the Secondary Schools Basic Skills Demonstration Assistance Program offered peer tutoring services to disadvantaged elementary, middle, or high school students. The vast majority also offered adult mentoring services to disadvantaged secondary school students, including participating peer tutors and tutees. For purposes of clarity, we use the following terms and definitions throughout this report to identify participants in the program:

> ***Mentor:*** An adult from the community who assists educationally deprived secondary school students (proteges) to attain grade-level proficiency in basic skills and, as appropriate, learn more advanced skills
>
> ***Peer Tutor:*** A secondary school student who assists educationally disadvantaged peers (tutees) to attain grade-level proficiency in basic skills and, as appropriate, learn more advanced skills by assisting with homework assignments, providing instruction, and fostering good study habits
>
> ***Learner:*** A student who receives tutoring (tutee), mentoring (protege), or both (tutee-protege)

This chapter presents a general description of the projects funded under the federal demonstration program, and includes information about their host districts and schools, project design, characteristics of tutoring/mentoring sessions, and project administration.

Participating Districts and Schools

The school districts that received grants under the demonstration program vary by size, region, racial/ethnic composition, and degree to which students are economically and educationally disadvantaged. The median district size is 26,000 students. The smallest district--in Oaks, Oklahoma--serves just over 160 students in grades 9-12. The largest, with more than 250,000 students, is the New York City Board of Education's High School Division. Among the 31 grantee districts, 46 percent are located in urban areas, 35 percent in rural areas, and 19 percent are in suburban communities. Most of the school districts serve a substantial number of minority students, many of whom are both economically and educationally disadvantaged.

The participating schools vary by type, enrollment size, and racial/ethnic diversity. Although most were traditional high schools serving grades 9-12, elementary and middle school students also benefitted from tutoring services at a number of project sites. Several magnet schools and alternative

high schools serving diverse populations--including former dropouts, adjudicated youth, pregnant and parenting teens, and special education students--also participated.

According to available data, the average enrollment of the participating schools is 998 students. The smallest project site is in Deer Park, Washington, where 45 students constitute the student body of a local alternative high school. New Bedford High School in Massachusetts has the largest enrollment: about 3,200 students in grades 9-12. Substantial numbers of low-income and minority students attend the participating schools. Oaks, Oklahoma, and Monticello, Utah, serve large percentages of Native Americans, and the Anchorage and Fairbanks schools serve substantial proportions of Alaskan Natives.

Project Design

The projects varied widely in terms of the scope and complexity of their operational designs. For example, the 21 projects that provided both tutoring and mentoring services varied in how such services were distributed. The most basic operational design involved discrete sets of participants who either delivered or received services. The most common arrangement involved delivering both peer tutoring and mentoring services to a single group of learners. There were several cases, however, where mentoring services were provided to the tutors, who, in turn, provided services to tutees. The most complicated of these "scaffolding" designs was in Fairbanks, Alaska, where adults from the community mentored 11th and 12th graders who, in turn, tutored 8th graders at a local middle school. The 8th grade tutees then served as tutors to primary grade students at a local elementary school. A third group of students (enrolled in a 9th grade writing workshop) tutored students in grades K-2 at two additional elementary schools participating in the project.

The setting and time of tutoring and mentoring sessions varied across projects. Some sessions were held after school in a media center or an empty classroom. Others were held during school and were usually conducted during students' independent study halls or regular class periods. The project in Reidsville, North Carolina, offered peer tutoring services during the summer months only.

Although the operational designs of the projects funded under the demonstration program varied in scope and level of complexity, most projects were similar in terms of their tutor and tutee populations, project goals and objectives, services provided, staffing configurations, and project evaluation activities.

Project Demographics

Most grantee projects served between one and five schools, with 106 schools participating in all. Only two of the 29 projects--in Chula Vista, California, and Fort Lauderdale, Florida--served more than 10 schools each during the grant period (Table 2). The scope of these particular programs can be explained by district size and level of degree to which students are disadvantaged. In Fort Lauderdale--the third largest grantee district--the project's 11 target schools represent the district's most disadvantaged middle schools, where 50-70 percent of the students qualify for free or reduced price school lunch. Chula Vista, another large school district, targeted the entire secondary school district for peer tutoring services principally because such a large proportion of its upper-grade students are economically and educationally disadvantaged; selecting schools with the largest concentrations of disadvantaged students for services would have been far more complicated and, ultimately, less sensible to students and staff than the inclusive approach that was adopted.

Altogether, the 29 projects responding to the survey served a total of 7,466 students under the federal demonstration program. The total numbers of peer tutors and adult mentors participating in the 29 projects were 2,207 and 591, respectively.

Table 2

Number of Schools Participating in Peer Tutoring and Mentoring Projects (n = 29)

Number of Participating Schools	Number/Percent of Projects Serving That Number of Schools
One school	11/38%
2-5 schools	13/45%
6-10 schools	3/10%
11-15 schools	1/3%
16 or more schools	1/3%

NOTE: Percentages do not sum to 100 due to rounding error.

Project Goals for Learners and Tutors

Not surprisingly, the goals for learners expressed by most of the 29 projects reflected the stated purposes of the demonstration program (Table 3). Approximately 55 percent of the directors selected "improve basic skills in English" as either their project's first, second, or third most important goal for participating students. Similarly, about 55 percent of the projects also selected "improve basic skills in math" as among their project's most important goals for learners. The third most frequently selected goal was "dropout prevention," selected by about 45 percent of the respondents.

The paucity of projects that focused on improvement of advanced skills suggests that the gap between research and practice in the education of low achieving students persists. While recent studies have pointed to the effectiveness of instruction that focuses on higher-order skills and applications of learning, compensatory education generally continues to take a traditional remedial approach that assumes students must master "the basics" before applying skills and knowledge to solve more complex and real-world problems. For the most part our study bears this out, with one exception: job mentoring. Our data suggest that job mentoring (where students work alongside their mentors in a professional capacity) has some potential for engaging students in authentic tasks that require more complex problem-solving behaviors and, as a consequence, achievement in basic as well as advanced academic skills. Only four projects offered this type of service.

Although the primary purpose of the demonstration program was to improve the academic skills of disadvantaged tutees and proteges, many local projects recognized a potential benefit for participating tutors as well. In fact, according to the research, tutors may experience increased understanding of the subject matter as a result of reinforcement gained from teaching the material themselves. In addition, tutoring can instill an increased sense of responsibility and self-confidence in the peer tutors (Webb, 1988). Recognizing the potential value of the demonstration program, most projects set goals that were as numerous and challenging for peer tutors as those they set for participating tutees and proteges. Twenty-four of the 29 projects (83 percent) selected "building self-esteem and self-concept" as among the most important goals for peer tutors. Other key goals included developing leadership skills (55 percent), improving academic achievement (52 percent), and improving students' attitude and motivation to learn (48 percent). Few projects (10 percent) reported that improving communication skills was a significant goal for peer tutors (Table 4).

Table 3

Relative Importance of Project Goals for Learners
(n = 29)

Project Goals for Participating Learners	Number of Projects Ranking Goals As: Most Important Goal	2nd Most Important Goal	3rd Most Important Goal	Total Number/Percent
Improve basic skills in English	9	5	2	16/55%
Improve basic skills in math	2	11	3	16/55%
Prevent students from dropping out	8	1	4	13/45%
Improve study skills	1	4	6	11/38%
Build self-esteem	2	3	5	10/34%
Improve students' attitudes toward subject matter	3	0	3	6/21%
Increase attendance	1	1	2	4/14%
Facilitate transition from middle junior to high school	0	0	1	2/7%
Improve advanced skills in English	0	0	1	1/3%
Improve advanced skills in math	0	0	0	0/0%
Develop employment skills	0	0	0	0/0%
Other	1	1	0	2/7%

Table 4

Relative Importance of Project Goals for Peer Tutors
(n = 29)

Project Goals for Participating Peer Tutors	Number of Projects Ranking Goals As: Most Important Goal	2nd Most Important Goal	3rd Most Important Goal	Total Number/Percent
Build self-esteem and self-concept	5	10	9	24/83%
Develop leadership skills	8	4	4	16/55%
Improve academic achievement	8	2	5	15/52%
Improve attitude toward subject matter and/or motivation to learn	3	8	3	14/48%
Improve communication skills	0	3	0	3/10%
Other	3	0	1	4/14%

Services Provided

In addition to academic instruction, most projects (Table 5) reported providing counseling (76 percent); employment-related assistance or career awareness (69 percent); and social, recreational, and cultural enrichment (62 percent). Few projects reported offering vocational skill instruction (24 percent) or health and child care counseling (3 percent). The projects that did offer such services, however, typically served students who were enrolled in alternative high schools where the core curriculum and supplemental programs included activities other than traditional academic instruction. In addition, these projects tended to

Table 5

Projects Offering Services in Addition to Academic Instruction
(n = 29)

Project Services Offered in Addition to Academic Instruction	Number/Percent of Projects
Counseling	22/76%
Employment-related assistance or career awareness	20/69%
Social, recreational, or cultural enrichment	18/62%
Vocational skills instruction	7/24%
Health and child care	1/3%
Other	2/7%

have a mentoring component and/or operate during the summer months. For example, in Reidsville, North Carolina, participating tutees were required to spend every weekday afternoon in a paid summer internship at a local business or government agency (e.g., Department of Recreation, local school district).

Staffing

More than half (58 percent) of the 29 survey respondents reported a project staff size of two to five full-time equivalents (FTEs). Another 28 percent reported one or fewer FTE staff members. Only 7 percent of the respondents reported having no project-paid staff; 7 percent reported having as many as six to ten FTE staff members (Table 6). The largest project staff was in Richmond, California, where positions included: a part-time project director; a part-time project coordinator; a school counselor who recruits, selects, and counsels all project participants; and a teacher who helps train the peer tutors. Although most projects had several staff positions, most required less than a quarter time commitment.

Table 6

Number of Paid Staff Members (in FTEs) Employed by Projects
(n = 29)

Number of Paid School or District-Level Staff Members (in FTEs) Projects Employ	Number/Percent of Projects
None	2/7%
Up to 1 FTE	8/28%
2-5 FTEs	17/58%
6-10 FTEs	2/7%

Of the time devoted to project activities (which, in most cases, was a fraction of the staff member's total scheduled work time), most projects reported that staff members spend up to 25 percent of time on conducting training activities; coordinating project services; recruiting, selecting, and matching project participants; and evaluating project activities. See Table 7. The project activity for which staff time varied most was supervising and monitoring project participants. Although the greatest number of projects reported that staff members spend between 26 and 50 percent of their time on this activity (41 percent), eight projects (28 percent) reported that as much as 75 percent of staff time was spent supervising and monitoring project participants.

Projects that invested more time in project management also tended to emphasize communication and coordination among project staff in order to maintain a focus on project goals and to keep project activities running smoothly. For example, in Louisville, Kentucky's "Basic Connections" project, the director and coordinator met regularly with school coordinators in two participating schools in order to monitor progress toward meeting the project's goals. Louisville's school coordinators were expected to communicate daily with the tutees' classroom teachers to monitor student performance and behavior. In Monticello, Utah, school coordinators monitored the tutoring sessions to ensure that students attended and that they discussed academics rather than socialized. In addition, the project director held three separate monthly meetings--with all of the project teachers, counselors, and peer tutors--in order to monitor project activities and services.

Table 7

Allocation of Staff Time
(n = 29)

Project Activities	Number of Projects Whose Staff Members Devote the Following Percentages of Time to Project Activities				
	76-100%	51-75%	26-50%	1-25%	0%
Supervise and monitor peer tutors and mentors	0	8	12	7	0
Conduct training sessions	0	0	3	24	0
Coordinate project services with other special programs or regular classroom teachers	1	0	4	18	3
Recruit, select, and match peer tutors and mentors with participating learners	0	0	4	23	0
Evaluate project activities	0	0	0	24	0
Other activities	0	0	1	23	23

Evaluation Activities

Reflecting the demonstration program requirements, evaluation activities tended to be fairly uniform across projects. Ninety percent of project directors reported that they collected attendance records and test score data on all participating peer tutors and tutees. Eighty-six percent reported that they collected the grades of all participating peer tutors and tutees. More than half of the projects reported that they collected additional evaluation data such as dropout rates, course descriptions, writing assessments, and student responses to attitudinal surveys and self-concept scales.

Characteristics of Project Participants

According to the research literature, tutoring programs can raise academic achievement levels, increase motivation, and facilitate positive psycho-social development in all types of students. Because this demonstration program targeted disadvantaged students for tutoring and mentoring services, learners across projects were similarly disadvantaged in terms of academic standing. Participating peer tutors and adult mentors, however, varied from project to project in a number of respects, but particularly in terms of educational background, academic standing, and racial/ethnic composition.

Learners: Tutees and Proteges

Of the 7,466 students receiving peer tutoring and/or mentoring services at 29 project sites, the racial/ethnic distribution was fairly balanced among blacks (32 percent), whites (30 percent), and Hispanics (30 percent). The remaining learners included 5 percent who were Asian or Pacific Islanders, 2 percent who were American Indians, and 0.2 percent who were Alaskan Natives. The grade levels represented among the learners ranged from 1st to 12th, with numerous dropouts served among them. The largest concentration of learners was found in grades 6-12; within that range, the majority came from grades 7, 9, and 10. (See Table 8.)

Survey data offer some measure of the degree to which participating learners are disadvantaged. For example, 29 percent of the tutees and proteges were receiving Chapter 1 services, 29 percent were receiving dropout prevention services, 12 percent were receiving alternative education services, and 11 percent were participating in bilingual/ESL programs.

Peer Tutors

The 2,207 peer tutors (in the 29 responding projects) were a diverse group in terms of racial/ethnic composition, grade level, and academic achievement. They included mostly blacks (38 percent), whites (38 percent), and Hispanics (16 percent). Among the rest, 4 percent were Asian or Pacific Islander, 2 percent were American Indian, and less than 1 percent were Alaskan Native (Table 9). In addition, 12 percent of the peer tutors used their skills in a language other than English in their tutoring. Most peer tutors were in grades 8, 11, and 12.

Table 8

Grade-Level Distribution of Participating Learners
(n = 7,466)

Grade Level	Number/Percent of Participating Learners
6th grade	313/4%
7th grade	1,623/22%
8th grade	881/12%
9th grade	1,601/21%
10th grade	1,104/15%
11th grade	874/12%
12th grade	383/5%
Other (e.g., elementary, dropouts, etc.)	687/9%

According to findings from a review of programs involving college students as tutors and mentors (Reisner, Petry, & Armitage, 1989), the racial/ethnic diversity among the demonstration program's peer tutors is unusual. The earlier study found that tutors and mentors in college programs tended to be young women who were not socioeconomically disadvantaged nor members of racial/ethnic minority groups. Although the racial/ethnic diversity of the tutor population in the demonstration program can be largely attributed to the fact that many participating districts and schools serve large percentages of minority students, it may also be the result of project features such as recruitment strategies, monetary and/or academic credit incentives, and organizational structures that promoted positive experiences for all participant groups. In any case, the unusually rich racial/ethnic diversity among peer tutors is a notable achievement, the causes of which merit further investigation, especially given Webb's (1988) suggestion that sharing the tutor's cultural background may increase the likelihood that a learner will benefit from her/his tutoring experience.

Table 9

Racial/Ethnic Composition of Peer Tutors
(n = 2,207)

Race/Ethnicity	Number/Percent of Participating Peer Tutors
Black, not Hispanic	852/39%
White, not Hispanic	837/38%
Hispanic	359/16%
Asian/Pacific Islander	97/4%
American Indian	45/2%
Alaskan Native	17/0.01%

NOTE: Percentages do not sum to 100 due to rounding error.

The survey data show that the achievement levels of the peer tutors ranged from below to well above average, with the majority (55 percent) considered to be above average in achievement. Interestingly, some of the most promising results, discussed in Chapter 3 of this report, came from projects that selected low achieving students to tutor much younger students.

Regarding the duration of peer tutor participation, survey data show that, within the 27 projects that specified participation periods, three-quarters (1,655) of the peer tutors completed their service. Projects reported that the amount of time tutors were expected to participate was usually one semester (52 percent) or one school year (33 percent). Only 11 percent of the projects reported that tutors were required to participate for less than a semester.

Adult Mentors

Most of the 591 adult mentors participating in the 21 projects offering adult mentoring services were either college/university students, employees of cooperating businesses, retired persons, or members of community-based organizations. The racial/ethnic distribution of this group does not reflect the makeup of the participating learners as strongly as did the diversity among the peer tutors. Only 8 percent of the adult mentors were Hispanic, 34 percent were black, and 52 percent were white. The educational background of the adult mentors varied, although over three-quarters have at least some college education (Table 10).

Of the 504 mentors who were required to participate in their local project for a given length of time, 87 percent completed their expected service. The typical length of commitment reported by the 18 relevant projects was either one semester (39 percent) or one school year (50 percent).

Table 10

Educational Background of Adult Mentors
(n = 591)

Educational Background	Number/Percent of Participating Mentors
Less than a high school graduation	14/2%
High school graduation only	55/9%
Some vocational/trade school after high school	22/4%
Less than 2 years of college	77/13%
Two or more years of college	82/14%
Bachelor degree only	222/38%
Masters degree	71/12%
Ph.D. M.D.	11 2%
Don't know	37 6%

Characteristics of Tutoring/Mentoring Sessions

Obtaining the maximum benefits from peer tutoring and mentoring services depends in large part on the characteristics and quality of the activities or services provided. In fact, the operational features and the subject matter of peer tutoring and mentoring sessions may dictate the quality and longevity of the program itself. Some agreement exists in the research literature regarding the preferred structure for peer tutoring sessions. Levine (1986), for example, reports that programs in which tutors follow a structured lesson plan tend to be more successful than unstructured programs. Cohen (1986) adds that, although external feedback and supervision are necessary to maintain peer tutoring programs, the structure of a program should not interfere with or detract from the tutoring process. Hedin (1987) suggests that tutoring should take place in the classroom under teacher supervision to ensure full and continuous participation by both the tutor and learner. Despite the research findings, survey results indicate that few projects agree on any one issue, whether it be session duration and participation, tutor/mentor/learner relationships, academic content, or other services provided.

Duration and Participation

The research literature indicates no simple answer to the question of how long tutoring relationships should last or what the optimal duration and frequency of tutoring and mentoring sessions should be. Jenkins and Jenkins (1985) conclude that at the secondary level tutors and learners should meet for one period daily; that study found that programs that were continuous and of moderate duration were most successful. Cohen (1986) maintains that the longer the program and the more frequent the sessions, the greater the academic gain. By contrast, a meta-analysis of 65 evaluations of peer tutoring programs, conducted by Cohen, Kulik, and Kulik (1982), revealed that the shorter the duration of services, the more favorable the results.

The survey data on tutoring and mentoring service participation reflect much of the disagreement in the literature. For example, 24 percent of the projects reported that the average length of time peer tutors and mentors actually participated in their projects was 16 to 20 weeks; another 45 percent reported that the average number of weeks tutors and mentors participated was from 26 to 50. With regard to learner participation, the strongest groupings were from 6 to 20 weeks, reported by 41 percent of the projects, and 26 to 50 weeks, reported by another 41 percent of the projects.

There was more consistency among projects regarding the duration of services. This is probably a function of the semester system adopted by most public schools. Seventy-two percent of the projects reported that the average length of time peer tutoring and/or mentoring services were offered to students was 16 weeks or more. Eighty-three percent of the projects reported that the average number of sessions scheduled during each week of the project ranged between one and five. A little more than two-thirds of the survey respondents reported that the average session lasted about an hour.

Tutor Mentor/Learner Relationships

According to the survey data, the typical service configuration was either one tutor or mentor working with one learner, or one tutor or mentor working with a small group. Only four projects reported using some other arrangement to provide tutoring or mentoring services. Typically, each peer tutor and mentor worked with two to five students a week over the course of their participation in the project. Few projects, however, reported that mentors and peer tutors worked with only one student a week, and even fewer reported mentors and peer tutors working with a single student for the duration of their participation.

Most projects recognized that screening and matching tutors and mentors with students who have similar characteristics and interests affects the longevity of the project itself (Table 11). The literature supports this concern about and attention to matching (see Jenkins & Jenkins, 1985; Cohen, 1986; Webb, 1988; Gray, 1990). Indeed, if improperly screened and matched, the student and the peer tutor/mentor may feel that they have had an unsuccessful experience. Table 11 indicates that a third factor affecting the longevity of tutor/mentor relationships with learners was the frequency and duration of the tutoring and mentoring sessions. Reflecting the findings in the research literature, most projects recognized the importance of scheduling frequent, short sessions that would not compromise the attention of the student nor burden the tutor or mentor.

Table 11

Factors That Most Affect the Longevity of Peer Tutor/Mentor Relationships with Learners (n = 29)

Factors Affecting the Longevity of Relationships Between Peer Tutors/ Mentors and Learners	Most Important Factor	Second Most Important Factor	Third Most Important Factor	Total Number Percent
Initial screening and matching of tutors/mentors with students who have similar characteristics and interests	11	4	3	8/ %
Degree of coordination among tutors/mentors and classroom teachers	6	7	5	.8/ %
Frequency and duration of tutoring/mentoring sessions	5	8	4	17/ 9%
Time of day when sessions occur	5	8	4	17/ 9%
Location of tutoring/ mentoring sessions	1	3	5	9/ 1%
Level of parent participation or support	2	0	6	8/28%
Amount and quality of training for tutors/mentors	1	4	1	6 21%
Other	0	0	1	1-3%

Academic Content

The factors that helped determine the academic content of the instruction provided to learners included teacher recommendations (31 percent), homework assignments (28 percent), and diagnostic evaluations (21 percent). According to the survey data, most peer tutors and mentors apportioned their instructional time among a variety of academic tasks, typically related to language arts and math.

including up to 20 percent on basic reading skills, 10 percent on advanced reading skills, 10 percent on short writing tasks, 10 percent on composition, between 10 and 30 percent on basic math skills, up to 20 percent on advanced math skills, and up to 10 percent on test taking skills.[5] Very little time was spent on English as a Second Language instruction or other content areas. Our case studies suggest that the focus of many tutoring and mentoring sessions was on homework help in the various skill areas listed above.

Other Services

Although academic instruction, counseling, and building the self-esteem of participating students were among the most common services provided by participating peer tutoring and mentoring projects, the case studies revealed a number of informal services that contributed to overall project quality and success. For example, a basic service provided to participating students in Richmond, Vermont, was instruction in organizational and study skills. On occasion, this was the entire focus of tutoring sessions, beginning with helping students organize their book bags and notebooks. In Farmington, Utah, homework hotlines were installed and operated in both high schools participating in the demonstration program. Staffed by two teachers and two tutors, the homework hotlines provided academic tutoring services to anyone calling in need, and operated from 6:00 to 10:00 pm Monday through Thursday. Also, in Farmington, teachers provided tutor vouchers to students who were interested in obtaining additional tutoring services. After a slow start, the service finally caught on, when teachers began distributing the vouchers to parents during annual parent/teacher conferences. In Florida's Pompano Beach project, peer tutors shared their knowledge and wisdom with each other so that, collectively, they could better serve the needs of their tutees. For example, two Haitian tutors recounted numerous stories of helping one another work with their tutees. Since one spoke Creole and the other did not, the Creole-speaking tutor would help translate information for the other tutor's tutees. In other instances, tutors discussed their tutees' academic problems, and then collectively determined the appropriate actions to take. The result, most agreed, was better service, greater collegiality and responsibility, and improved self-esteem among all participants.

[5] The time reportedly spent on advanced math skills is heartening if somewhat contradictory given the goals for learners discussed on page 9 of this report.

Project Administration

Several researchers have analyzed the elements that make up successful tutoring and mentoring programs. There is general agreement among them that careful recruitment and selection of peer tutors and mentors, as well as training, matching, and monitoring project activities are among the most important factors affecting project success. In this section we describe these administrative operations across the demonstration program sites.

Recruitment and Selection of Learners, Mentors, and Tutors

Project administrators at all sites developed criteria and procedures for recruiting and selecting all three groups of participants: learners, adult mentors, and peer tutors.

Learners. According to the survey data, several factors accounted for a tutee's or protege's selection to receive peer tutoring and/or mentoring services. In general, these factors are the same as those used to identify students at risk of school failure. Among the selection factors identified for students were: at-risk or dropout status (97 percent), teacher/counselor referral (93 percent), low self-esteem (83 percent), disciplinary problems (67 percent), and low family income (55 percent). Other frequently cited student selection factors included student interest (83 percent) and parent/student willingness to sign a contract (62 percent).

Popular project recruitment methods included teacher referrals (97 percent), counselor referrals (93 percent), and fliers/posters (62 percent). Among the various incentives offered for learner participation, the most frequently cited was academic credit (66 percent). Other popular incentives were public recognition of achievement (55 percent), stipends/wages (52 percent), and prizes and awards (52 percent).

Adult mentors. The most important factor in selecting an adult mentor was availability and flexibility of time (100 percent). Other frequently cited selection criteria included social skills (76 percent), leadership qualities (71 percent), and academic background (62 percent). Popular recruitment sources included community organizations, local businesses, and colleges and universities (Table 12). With regard to incentives, the most frequently cited were providing an opportunity to contribute (95 percent), and special recognition (62 percent) (e.g., certificates of merit or recognition at an awards ceremony). Other incentives such as stipends and wages, academic credit, and publicity for participating businesses and community organizations were rarely cited.

Table 12

Number and Percent of Projects Using
Various Methods to Recruit Adult Mentors
(n = 21)

Methods of Recruitment	Number/Percent of Projects
Community groups	15/71%
Local businesses	13/62%
College and universities	12/57%
Other	11/52%
Religious organizations	9/43%
Local media (newspaper, radio, etc.)	7/33%
School newspaper	4/19%
Senior citizen homes	1/5%

Peer tutors. Like adult mentors, peer tutors were selected based on a variety of factors, the most popular of which were expressed interest (97 percent), teacher/counselor recommendations (93 percent), and academic achievement (93 percent). When asked which selection criterion was most important, "academic achievement" was cited most frequently (Table 13). The most common recruitment strategy was to rely upon teacher/counselor referrals; all 29 projects cited this method. Other recruitment methods included soliciting members of selected student groups (e.g., Honor Societies, academic clubs, etc.) and publicizing the program in the school newspaper. Several types of incentives were used to attract potential peer tutors to projects. The most frequently cited were: providing students with the opportunity to contribute (90 percent), offering stipends or wages (83 percent), and offering special recognition (e.g., certificates or awards ceremonies) to those who participated (79 percent).

Table 13

Most Important Factor in Selecting a Student to Participate as a Peer Tutor (n = 29)

Selection Factor	Number/Percent of Projects Rating Factor as "Most Important"
Academic achievement	7/24%
Teacher/counselor recommendation	5/17%
Expressed interest	5/17%
Leadership qualities	4/14%
Dependability	2/7%
Other	3/10%
Course activity	1/3%
Availability	1/3%
Missing	1/3%

Training of Participants

According to the literature, a common feature of good peer tutoring and mentoring programs is the provision of preservice and in-service training. Jenkins and Jenkins (1985) have found that tutors need to know how to make their tutees comfortable, and how to offer suggestions and criticism in ways that avoid alienating them. Cohen (1986) concludes that training should provide tutors with skills in listening, patience, observation, understanding, use of corrective feedback and social reinforcement, effective communication, building trust, and handling conflicts. With regard to mentoring programs, Gray (1990) adds that training must be provided to both mentors and proteges so all participants know what is expected of them and how to fulfill their respective roles. Consistent with this emphasis, the demonstration program's absolute priorities require training, and in fact, all

but two of the 29 survey respondents reported offering either preservice or in-service training or both to peer tutors and adult mentors.

Adult mentors. The survey data on the 21 projects offering mentoring services revealed that 91 percent provided preservice training to their adult mentors. Although most projects reported that the average duration of preservice training was two to three hours, roughly one quarter of the mentoring projects reported offering six or more hours of preservice training to each mentor. A longer training period was usually associated with those projects that had designed highly detailed and specialized training programs for their participants. Among them was Project Significant Other in Romulus, Michigan, where mentors attended a day-long seminar to discuss project goals and objectives. In Seattle, Washington, the project hired staff from the local community college to provide intensive preservice training to the adult mentors, including instruction on how to select and conduct activities outside the classroom.

Typically, however, most projects reported that preservice training for mentors focused on tutoring and instructional strategies (68 percent), understanding student needs (42 percent), defining expectations and setting goals (42 percent), and communicating effectively (32 percent). Seventy-nine percent of the projects also reported focusing on other things during their preservice training sessions, including how to solve problems, build trust, motivate learners, and understand cultural differences.

In-service training for adult mentors was less common. Sixty-seven percent of the mentoring projects reported providing such training, but only 50 percent required the mentors to attend. The average number of in-service sessions per mentor was one to two. The duration of in-service sessions ranged from one to six hours, with the greatest proportion of projects offering two hours of training per session. Like preservice training, the focus of in-service training sessions centered on instructional strategies (57 percent) and problem solving skills (29 percent). Other topics of in-service training for adult mentors included motivational strategies, study skills, and monitoring student progress.

Peer tutors. Twenty-six of the 29 survey respondents said they offered mandatory preservice sessions for peer tutors. Preservice training typically ranged from one to ten hours. Five projects, however, offered 11 hours or more. Like training for adult mentors, the focus of preservice training for peer tutors was on instructional strategies (81 percent); study skills (42 percent) and communication skills (31 percent) were also prominently featured. Other training topics included building learners' self-confidence and self-esteem, working with computers, and motivating reluctant learners.

In-service training was offered by slightly fewer projects--24 of the 29--and was a requirement for peer tutors at 17 sites. The average number of in-service training sessions per peer tutor ranged from one to ten. Five projects reported offering between 16 and 30 sessions. According to the survey data, 71 percent of the projects reported that the length of each session was one to five hours. Like some of the projects offering lengthy training periods for adult mentors, several went a step further than most in the provision of training services to peer tutors. For example, San Antonio's Project SURE devoted substantial staff time to training peer tutors, who received one hour of in-service training a week and attended a two- to four-hour workshop one Saturday a month. Brooklyn's ConCurrent Options Model engaged the services of researchers at City University of New York (CUNY) to conduct training sessions for peer tutor-mentors.

The primary focus of in-service training was on tutoring and instructional strategies (71 percent) and problem solving methods (46 percent). Other in-service training topics included study skills and test taking skills, handling interpersonal relationships, and improving learner awareness about occupations and employment.

Matching of Participants

Earlier research on peer tutoring and mentoring programs suggests that matching is an important aspect of most successful programs. Cohen (1986) states that students should be matched according to their knowledge of subject matter or their ability and readiness to master the materials. Although there are no data on the desirability of matching peer tutors or mentors with learners of the same race or ethnic background, Webb (1988) suggests that a shared cultural background may improve the likelihood that students will benefit from peer tutoring or mentoring. Jenkins and Jenkins (1985) report that, unfortunately, the personal characteristics of the participants are often overlooked during matching; for a program to be most effective, the tutor and tutee must be compatible, according to their research.

Our findings (Table 14) show that the factors used to match learners with peer tutors and mentors included: observed ability to work together (86 percent of projects), the learner's area of special need (79 percent), and matching the more highly skilled and confident peer tutors and mentors with more needy or "difficult" learners (67 percent). Other, less frequently used matching factors included matching of same-sex pairs, cross-age pairing, similarity in cultural and language backgrounds, personal preference of the peer tutors and mentors, and the personal preference of the learner

Table 14

Factors Used to Match Learners with Peer Tutors and Adult Mentors
(n = 29)

Factors Projects	Number/Percent of
Observed ability to work together	25/86%
Student's area of special need	23/79%
More highly skilled or confident peer tutors or mentors matched with more needy or "difficult" students	19/67%
Personal preference of peer tutors and mentors	16/55%
Personal preference of learners	16/55%
Similarity in cultural background	16/55%
Same sex pairs	14/48%
Cross-age pairing	14/48%
Similarity in language background	14/48%
Same-age pairing	6/21%
Other	6/21%

Monitoring of Participants

Previous research has not examined the role of monitoring beyond the finding that its absence can result in inconsistent project outcomes. Cohen (1986) cautions, however, that although external feedback and supervision are necessary to maintain peer tutoring programs, the structure of a program should not interfere with or detract from the tutoring process.

Survey data collected for this study reveal that monitoring was a significant project activity. Monitoring activities for peer tutors and mentors were essentially the same, differing only in frequency and duration. Table 15 shows, for example, that all projects used one or more method to

Table 15

Frequency With Which Projects Used Various Methods to Monitor the Activities of Peer Tutors and Mentors (n = 29 for tutoring; n = 21 for mentoring)

Monitoring Activities	Number of Projects Monitoring:							
	Weekly or More Often		Monthly		Once a Grading Period or Less Often		Never or N/A	
	Mentors	Tutors	Mentors	Tutors	Mentors	Tutors	Mentors	Tutors
Observe mentoring and peer tutoring sessions	8	23	6	3	2	2	4	1
Review mentor and peer tutor logs or progress reports	3	17	7	5	2	2	8	5
Hold conferences with adult mentors and peer tutors	6	10	12	7	1	6	1	6
Other	2	5	2	2	0	2	16	20
Use of any monitoring method	12	25	13	12	3	9	9	0

mo[illegible]or tutors; 12 of the projects with mentors (57 percent) used one or more methods to monitor them. Observation of tutoring or mentoring sessions was a common monitoring strategy. Twenty-six projects (90 percent) reported observing tutors weekly or monthly. 14 mentoring projects (67 percent) reported observing mentoring sessions on a weekly or monthly schedule. Weekly or monthly review of progress reports was reported by 21 tutoring projects (72 percent) and 10 mentoring projects (48 percent). Seventeen tutoring projects (59 percent) and 18 mentoring projects (86 percent) said they hold weekly or monthly conferences with peer tutors or mentors, respectively.

Projected Expenditures

Of the $4,700,000 awarded to the 31 projects funded under the demonstration program, the average grant award was $151,613. The average projected per-learner expenditure was $905, based on grant awards and other contributions reported in the project applications. The largest projected per-learner expenditure ($7,333) was in Oaks, Oklahoma, where the project received $209,662 from the demonstration program grant and $25,000 in local contributions to serve an estimated 32 tutees and proteges. Among other project costs in Oaks, project dollars were used to pay mentors and peer tutors $5 an hour for their participation; mentors also received an additional stipend of $480 to pay for 12 credits at a local university. In addition, the project offered $15 to $20 stipends to tutees and proteges for attending sessions three to six hours a week. Project funds were also used to purchase computers and software packages and to transport the learners to their semi-weekly tutoring sessions at the literacy center of a state university 30 miles away.

By contrast, the smallest projected per-learner expenditures were in Chula Vista, California, and Pompano Beach, Florida, where the projects planned to spend approximately $231 per tutee/protege. Chula Vista received $185,032 in federal program funds and planned to serve 800 tutees. In Pompano Beach, the project planned to serve 98 tutees with $22,681 in grant funds and no local contributions.

A review of 29 of the 31 federal Grant Award Notices (representing 96 percent of all grant awards) indicates how program funds were budgeted, although it does not account for state and local contributions. The projects budgeted roughly 57 percent of their total project grant funds for salaries and benefits. Fourteen percent was budgeted in the "other" category and was used in most cases to pay stipends for tutors, mentors, and in some cases tutees. Supplies claimed 12 percent of projected expenditures, equipment less than 1 percent (Table 16).

Contracted services represented 9 percent of the budgeted dollars. Several projects contracted with other agencies to develop materials, conduct training, or design and conduct the project evaluation.

For example:

- *Reidsville, North Carolina*, collaborated with the education department of the University of North Carolina-Greensboro. College professors there developed the peer tutoring project curriculum, which consisted of four instructional modules that were used to teach tutees literacy, integrative critical thinking, math skills, and appropriate social skills.

- *Brooklyn, New York*, collaborated with the City University of New York's Peer Research Lab. Professors there trained the peer tutor-mentors and held regular bi-weekly training sessions for the project's teacher-coordinators.

- *Seattle, Washington*, hired the Northwest Regional Educational Laboratory to compile evaluation findings and write the project's final report.

Four percent was directly budgeted for training, and 3 percent was used to defray administrative costs.

Table 16

Projected Program Expenditures by Category
(n = 29)

Budget Category	Average Projected Expenditure	Average Percent of Total Grant Funds
Personnel and benefits	$597,919	57%
Supplies and equipment	489,189	12
Contractual services	382,710	9
Training	178,500	4
Indirect costs	136,434	3
Travel	67,384	1
Other	641,875	14
TOTAL	4,494,011	100

III. EFFECTS OF PEER TUTORING AND MENTORING SERVICES

Efforts to determine the effects of one educational program on the overall achievement and attitudes of participants--when they are simultaneously engaged in multiple and varied educational activities--are replete with technical difficulties. Acknowledging this fact, we cast a wide net in our search for evidence of program effects in order to piece together a picture of what peer tutoring and mentoring services can accomplish. This chapter describes that picture. It represents a synthesis of individual project's performance reports, results from the survey of projects, and direct observations and interviews conducted during site visits. The chapter discusses, in turn, the evaluation guidance provided to grantee peer tutoring and mentoring projects, the effects of project services on student participants, and the effects of the demonstration program on teachers and school-community relations.

Evaluation Requirements and Guidance

As a condition of their grant awards, peer tutoring and mentoring projects were required to cooperate with the national evaluation of the demonstration program. Soon after the grants were awarded, ED asked project directors to collect and report outcomes as part of their local evaluations. Outcome data included, as appropriate:

- pre- and post-project achievement levels for all student participants (i.e., peer tutors, tutees, and proteges), based on test scores and report card grades for subjects in which students received project services;
- pre- and post-project school attendance for all student participants;
- other outcomes for all student participants such as (a) incidence of disciplinary action, (b) participation in extracurricular activities, (c) post-high school plans and steps to implement them.

Six months into the grant period, ED conducted a technical assistance workshop for project directors. Attempting to establish a common reporting format, ED encouraged project directors to report (a) all standardized norm-referenced test scores on an annual test cycle and in terms of normal curve equivalents (NCEs) and (b) other outcomes in comparison to those of a control group or some standard (e.g., local dropout rate) that would help others interpret their meaning.

Twenty of the 31 projects submitted evaluation reports by January 1992. Most included multiple outcome measures for both the tutors and tutees (or proteges) for one semester (winter-spring, 1991) of project services. The variation in project and evaluation designs, technical difficulties such as low representativeness of findings (due to student mobility and absenteeism during test and survey administration), and absence of control groups or other comparative standards limit the usefulness of some of the reports. However, the outcomes reported by 13 projects met our screening criteria for representativeness and comparative value (discussed in each outcomes section below) and generally support our case study observations. We present the quantitative data in this chapter within the context of testimonials by students, teachers, administrators, and parents; in our view, both types of information, taken together, can best illuminate the effects of school programs on disadvantaged youth.

Effects of Peer Tutoring and Mentoring on Students

The study examined three general outcomes for all students participating in the peer tutoring and mentoring projects: academic achievement, social integration, and job skills and career interests. The latter category included the development of teaching and other helping skills for the peer tutors, and vocational interests for proteges. During the investigation we asked:

- What happens to the peer tutor in terms of: academic learning (e.g., the capacity to think about and explain concepts and skills), social learning (e.g., skills in modeling desirable behaviors, exercising patience, resolving interpersonal conflicts), and understanding the teaching-learning process (e.g., the ability to guide thinking without giving answers and to provide corrective feedback)?

- What happens to the tutee or protege in terms of: academic learning (e.g., how to compute long division problems, write a cohesive essay), social learning (e.g., how to work well with a peer, be more responsible for one's own learning), and career interests?

Academic Achievement

To analyze the effects of peer tutoring and mentoring on students' achievement, the study looked at test scores, grade point averages (GPAs), and course pass rates. Our own interview data, coupled with and results from student and teacher surveys conducted by the projects themselves, helped us interpret the quantitative information and begin to trust, in some cases, that the effects were related to the peer tutoring or mentoring services. Taken overall, the findings suggest that peer tutoring and mentoring may be particularly helpful in:

- improving the classroom performance of learners who receive both tutoring and mentoring services that assist them with completing daily assignments (e.g., homework) and developing efficient organizational and study skills;

- raising the academic achievement of peer tutors, particularly when the tutors themselves are: at-risk, working with younger children in a cross-age tutoring program, and the beneficiaries of focused and related services, such as mentoring, intensive training, or monitoring.

Standardized test scores. Standardized test scores can be a general gauge of students' overall academic performance, which makes it difficult to attribute score changes to a single program or set of services. Nonetheless, of the 31 projects, roughly half reported standardized test scores as a measure of academic learning for about one semester of project services. Where necessary and possible, we converted all test scores into NCEs and calculated average gain scores. In addition, we culled from the 15 evaluation reports those that reported preintervention scores only, grade equivalent scores, matched pretest and posttest scores for less than two-thirds of the target population, and non-significant gains.[6] After we completed this screening process, five sets of test scores remained for analysis. Of the five, four were the result of a spring-spring test administration; one was from a fall-spring test administration. Only the latter reported gains for both the peer tutors and tutees. The gain scores for these five projects are shown in Table 17.

The gains reported by these five peer tutoring and mentoring projects are comparable to average national gains for similar students receiving Chapter 1 services and, in most cases, indicate a modest positive effect on student achievement. National Chapter 1 gains, reported on an annual cycle, typically show +1 to +2 NCEs for secondary school students in reading and +2 to +3 NCEs in math. The norm for similar students tested on a fall-spring cycle is just over +4 NCEs for reading and +5 to +6 NCEs for math.

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[6] Statistical significance was not cited in most of the project evaluation reports, and we could not calculate it given the information reported. Nonetheless, to get some sense of the size of the measurement error associated with the scores for individual projects, we used the "Give or Take Table" constructed by the Chapter 1 Technical Assistance Centers to estimate measurement error and determine significance of NCE gains.

Table 17

Gain Scores in Normal Curve Equivalents (NCEs) for Selected Peer Tutoring and Mentoring Projects by Test Cycle and Participant Group

Participant Group by Project and Test Cycle	Average NCE Gain					
	Writing Mechanics	(error)	Reading	(error)	Math	(error)
Spring-Spring Test Cycle						
Fairbanks, AK						
Tutors	+7.2	(± 2.5)				
Controls	+4.6	(± 3.8)				
Ft. Lauderdale, FL						
Tutees			+2.3	(± 0.6)	+1.4	(± 0.6)
Columbus, MS						
Tutee-proteges			-3.0	(± 1.7)	+3.9	(± 1.8)
Deer Park, WA						
Tutees, proteges, tutee-proteges	+4.8	(± 2.6)				
Fall-Spring Test Cycle						
Decatur, IL						
Tutors			+6.2	(± 2.3)	+8.5	(± 2.3)
Tutee-proteges			+5.0	(± 1.8)	+6.5	(± 1.8)

The brief profiles below describe the relationship between the assessment and the tutoring and related tasks in which the target populations were engaged:

- *Fairbanks, Alaska*: The project tutors represented in Table 17 were Chapter 1-eligible 9th graders enrolled in an English course entitled Writer's Workshop. (Two additional cohorts of tutors participated, but the assessments did not meet our criteria for inclusion in this analysis of test scores.) Aside from the tutoring component, the course focused exclusively on writing instruction and met three to four times a week in 80-minute blocks of time. Once a week, the tutors worked with primary grade students in two elementary schools for about 60 minutes on language arts activities and, occasionally, math. A group of 9th graders, also enrolled in Writer's Workshop but who did not tutor, comprised the control group for the project evaluation. Gain

scores shown in Table 17 are from the Iowa Test of Basic Skills (ITBS) and the Test of Achievement and Proficiency.*

- *Fort Lauderdale, Florida*: The tutees were low achieving 7th grade students who received tutoring from 8th grade peer tutors one hour a day, two days a week after school, plus two hours on Saturday. The tutors helped their tutees complete homework assignments, and showed them how to use the school library and the district's Homework Hotline. The test scores reported in Table 17 are from the ITBS.

- *Columbus, Mississippi*: Tutee-proteges in grades 6-8 received both tutoring and mentoring assistance for roughly 2-4 hours a week each, although mentoring services were much more irregularly available than tutoring. The project mentors attended to the students' academic and psycho-social needs. The peer tutors, also in grades 6-8, helped their tutees complete homework and improve their study skills. The test scores reported in Table 17 are from the Stanford Achievement Test.

- *Deer Park, Washington*: The learners were students enrolled in an alternative school for at-risk youth. They received tutoring, mentoring, or both. Tutoring was provided by 12th graders enrolled in the regular high school's talented and gifted program. Tutors spent one hour each day with their tutee in English, math, or social studies class. Adult mentors from the community worked with their proteges individually at job sites. Scores reported here are from the Metropolitan Achievement Test (MAT-6).

- *Decatur, Illinois*: This project provided both peer tutoring and mentoring services to a group of students in grades 7-12 who were achieving below the 5th grade level. Peer tutors provided two hours of help in basic skills each day; the mentors provided weekly assistance, in some cases at a job site. The peer tutors were average or below-average achieving, economically disadvantaged students in grades 10-11 who had proved to be responsible. The standardized test used to assess student progress was the Test of Adult Basic Education (TABE).

GPAs and course pass rates. Grade point averages (GPAs) and course pass rates are another indicator of academic achievement. On the face of it, they may be considered a better reflection of students' day-to-day classroom performance than standardized test scores in that they may be more closely tied to completion of daily assignments, scores on subject-specific tests, participation in class discussions, and general effort. We do not, however have any information about the grading practices of the teachers who participated in the demonstration program--whether, in fact, they assigned grades on these bases or others. Again, we advise caution when attributing positive or

* A common expanded standard score for the total language skills subtest of the ITBS and the subtest of written expression on the TAP makes calculation of a gain score theoretically sound.

negative outcomes to the demonstration program in the absence of data on non-project comparison groups or pre-intervention data on the target population.

Presented here are data on GPAs and course pass rates that were reported in individual project evaluations. From the 11 projects that reported GPAs and/or course pass rates, we eliminated two from the analysis because they did not provide comparative information (e.g., control group data, preintervention and postintervention data) or information about the representativeness of their findings. The remaining nine projects reported reasonably representative data (based on at least two-thirds of the target population) and comparative data for project participants receiving services during the 1991 winter-spring semester.

Tutees and proteges. Four projects (Richmond, CA; Decatur, IL; Deer Park, WA; Brooklyn, NY) reported positive effects on GPA or course pass rates for tutee-proteges. Two projects (Farmington, UT; Philadelphia, PA) reported positive effects on GPA/course pass rates for tutees; two projects reported positive effects on GPA or course pass rates for proteges.

- *Richmond, California*: Comparing GPAs from the spring of 1990 to the spring of 1991, 20 percent of the 9th grade and re-entry dropout tutee-proteges improved, compared to 14 percent of a non-project control group. Tutoring services, from peers in grades 10-12 as well as college students, were available five days a week to help the tutee-proteges complete English or math assignments and to work in the computer lab. In addition, the learners met twice a month with their business mentors to receive additional tutoring in academic skills and learn about the work world.

- *Decatur, Illinois*: Tutee-proteges, in grades 7-12, showed an average +1.3 point gain from 1989-90 to 1990-91.

- *Romulus, Michigan*: For the first term of project implementation (winter-spring 1991), proteges in grades 9-12 maintained their fall average GPA of 2.41 which, according to the project director, is a positive result, given the deleterious effects of "spring fever" on most students' second semester grades.

- *Farmington, Utah*: Average GPA for tutees, in grades 10-12, dropped slightly, -0.04 points, from fall 1990 to spring 1991. The tutees received regular daily tutoring (one hour) and had access to a drop-in tutoring center, a homework hotline, and a voucher system whereby they could obtain individual tutoring services with a voucher.

- *Deer Park, Washington*: Tutee-proteges showed an average annual gain, from 1989-90 to 1990-91, of +2.5 points in math and +2.0 points in both reading and language. The tutee-proteges were enrolled in an alternative school for at-risk youth. They received tutoring, mentoring, or both. Academic tutoring was provided by 12th graders enrolled in the regular high school's talented and gifted program for one hour

each day in English, math, or social studies. Adult mentors from the community provided the tutee-proteges with job experience and schoolwork assistance.

- *Brooklyn, New York*: Forty-two percent of the tutee-proteges, in grades 9-10, passed a greater proportion of their courses in the spring of 1991 with tutoring assistance than in the spring of 1990 before the project began. They received roughly 1 1/2 hours of combined academic tutoring and peer counseling from their peer tutor-mentors in grades 11-12.

- *Philadelphia, Pennsylvania*: Sixty-eight percent of the tutees and proteges, in grades 9-10, passed 4 to 5 (of 5) major courses with tutoring or mentoring services, compared to 43 percent of their non-project classmates. The learners received either tutoring from peers in grades 11-12 or mentoring from a community adult. In addition, they participated in a variety of project events including family involvement activities and community service.

Peer tutors. Two projects (Golden, CO; Decatur, IL) reported positive effects on tutors' GPAs; one (Fairbanks, AK) on course pass rates. Farmington, UT, showed a slight decline in tutors' GPA, possibly attributable to "spring fever," commonly reported as a problem among older high school students.

- *Golden, Colorado*: The average GPA for tutors in grades 9-11 climbed from 0.96 in the third quarter (beginning of the project) to 1.37 in the second quarter, for a gain of +0.41. The tutors worked with elementary grade students one hour a day four days a week.

- *Decatur, Illinois*: The peer tutors' annual average GPA rose +0.9 points from 1989-90 to 1990-91. The tutors were economically disadvantaged students in grades 10-11 with average or below-average school performance but who had proved to be responsible. They worked with students in grades 7-11 for two hours each day.

- *Farmington, Utah*: The average GPA for tutors dropped slightly, -0.05, from fall 1990 to spring 1991. Tutors in grades 10-12 provided tutoring services during the school day, during afterschool hours at the school's drop-in tutor lab, and in exchange for a voucher, as part of the district's voucher tutoring system.

- *Fairbanks, Alaska*: Eighty-two percent of the 9th grade tutors passed their writing course (the focus of the project), compared to 55 percent of the control group. Both sets of students were Chapter 1 eligible and enrolled in the Writer's Workshop, which included the tutoring component. The tutors spent roughly 60 minutes a week tutoring primary-grade students in language arts and, occasionally, math.

Observations, surveys, and interview data related to academic achievement. Analysis of interview data, case study reports, and findings from locally administered surveys provides some insight into how and why peer tutoring and mentoring may be instrumental in improving participants' academic achievement. Extending beyond simple instruction in basic skills, peer tutoring and mentoring have the potential to alter the low achiever's perception of him/herself as an incompetent learner. Working with their tutor or mentor, students learn in a nonthreatening way how to set and accomplish goals, reason through dilemmas, and solve problems. In this way, peer tutoring and mentoring can break the isolation that characterizes much classroom work and demystify the learning process by making public the effort that accompanies achievement (but is so often invisible to the low achiever).

Tutees and proteges. Testimony about the benefits of tutoring on tutees came from tutees and tutors alike. The study team's field notes and responses to project-administered surveys contain numerous specific references to tutoring as the cause for improved grades and better study skills. For example, nearly three-fourths of the tutees in the Farmington, Utah, project said that tutoring had helped their academic skills "a great deal." Their tutors confirmed this claim with comments such as, "My tutee has come a long way. Jerome [pseudonym] learned how to do integers, exponents, fractions, and order of operations. He can go far."

Other tutees indicated that working with a peer has beneficial effects beyond learning content and completing assignments. They learn study skills that are transferrable to other classes, subjects, and learning environments. In Richmond, Vermont, one tutor began a session with his tutee by helping him sort out his book bag, inventory his assignments, and plan a study schedule to ensure the successful and timely completion of all his schoolwork. It appears that, for many high school students, organizational and study skills are not intuitive and hearing about study strategies from a peer seems to afford them particular influence. Expressing her enthusiasm for having learned from her tutor the key to completing schoolwork under pressure and less than ideal conditions, one tutee in Romulus, Michigan, wrote on the final survey, "The tutor I worked with taught me how to concentrate when there's a lot of noise and also when there's a lot of work."

On-site interviews with tutees also suggest that in some instances they find their peers more approachable than teachers when it comes to asking for extra assistance. True or not, many tutees perceive that their teachers are too busy to provide the individual attention they need. One sophomore put it like this: "My teacher is good, but he don't (sic) have time to go over and over [the lesson], and I figure tutors can talk on my level. My grades have come up [since tutoring began]." It seems that peer tutoring may help reduce confusion because the participants share a

common language, and the tutee may be more comfortable asking questions of a peer. Of this, Webb reports (1988, p. 36):

> School children learn by observing their adult teacher, but observation of peer models may better enhance children's self-efficacy. In particular, an adult teacher flawlessly modeling cognitive skills may not promote high self-efficacy in children who have encountered previous difficulties with the subject matter and who view the teacher as superior in competence.

Tutors. Webb's (1988) study of peer helping relationships in urban schools also offers an explanation for the positive effects that accrue to tutors who participate in peer tutoring programs. He reported that tutors may experience increased understanding of the subject matter as a result of the reinforcement gained from teaching the material themselves. Self-report data from the study bear this out with numerous specific examples. One bilingual tutor who tutored as part of a writing workshop class in Fairbanks, Alaska, wrote, "Because of tutoring my [own] English skills improved. I didn't know much about writing and punctuation, but in this class I learned important grammar." A fellow tutor wrote, "My writing has changed since I worked with [the tutees] because now I like to write more than I did before." One student, serving as a tutor-mentor in Brooklyn, New York, told us that she is re-learning algebra as a result of helping a tutee with that subject. A survey of tutor-proteges in Golden, Colorado, suggests similar growth in feelings of academic competence. Almost two-thirds of the survey respondents rated their experience in Project Stay as "very helpful" in making them feel more successful as students.

Common among these three projects was intensive, ongoing support for the peer tutors. This support took a variety of forms, but was always focused on boosting the tutors' efficacy by enhancing their artistry as teacher-learners:

- In Fairbanks, the two project teachers modeled preferred techniques for teaching language arts skills during daily classroom instruction for the tutors who in turn applied them, when possible, during tutoring sessions. The tutors kept journals in which they documented and reflected upon their tutoring experiences; the journals also formed the basis of a written dialogue with their project teachers and indirect communication with the teachers in whose classrooms they worked.

- In Brooklyn, the tutor-mentors participated in weekly debriefing/training sessions with their teacher-coordinator. During these meetings, the tutors discussed among themselves their tutoring experiences, sharing tutoring and mentoring techniques and helping one another solve problems that had arisen in tutoring sessions during the week. The teacher-coordinator facilitated the discussion.

- In Golden, the peer tutoring project began with a three-day retreat complete with trust-building activities (e.g., a ROPES course), tutor training workshops, and support group sessions. Once tutoring began, the tutors met twice weekly in a group with

their coordinators to plan lessons and discuss problems, always with an emphasis on tutoring skills.

Social Integration

Schools are more than just places where academic learning occurs. They are also complex social environments that can be inviting or alienating to different students, depending on a wide range of factors. Arguing that schools must address much more than students' academic skills if they hope to have any long-term impact on their lives, one principal said, "You don't become a failure at 16 because you can't read at the 11th grade level. If we don't improve their self-confidence and attitudes toward school, it is unlikely many of [the tutees] will ever graduate." In different words, Wehlage, Rutter, Smith, Lesko, and Fernandez (1989) echo this belief that students' detachment from school is something secondary schools must be concerned about. In their study of 14 schools with programs aimed at reducing dropout rates, Wehlage et al. found that successful programs for at-risk students attempt to create an environment that helps students develop a sense of commitment to the school community and, through that commitment, a sense of "school membership." This study looked at the potential of peer tutoring and mentoring activities for helping students develop a commitment to school by linking them with peers and adults--integrating them into the school community--through structured relationships.

To analyze the effects of the demonstration program on social integration, we looked at attendance and other indicators of attitudinal changes such as dropout rates, incidence of disciplinary referrals, and responses to specific survey questions. We screened these data for representativeness and comparative information and eliminated from the analysis two attendance reports and two surveys. By presenting these findings here under a separate section, we do not wish to imply that social integration is unrelated to academic achievement. To the contrary, social integration may be a very powerful key to increased academic achievement and, without a sense of school membership, students may consider academics irrelevant to their lives.

Overall, our findings suggest that peer tutoring and mentoring services may be useful strategies for increasing students' feelings of belonging to the school community when:

- project managers recognize that strong tutor-tutee and mentor-protege relationships are based on interpersonal bonding, and pair learners with tutors/mentors accordingly, not just by vocational interests or academic skill levels;
- students in very large schools are matched one-to-one with their mentors or tutors;

- tutoring and mentoring services include counseling or problem-solving sessions to help learners constructively address their conflicts with teachers, other school staff, or students.

Tutees and proteges. Of the nine projects that reported attendance data for tutees and proteges, six reported positive effects compared to a non-project control group or preintervention attendance rates for the same population. Two showed modest declines and one reported no effect on tutee attendance.

- *Richmond, California*: The average numbers of unexcused (class) absences for the fourth quarter of 1990-91, during which project services were fully implemented, were as follows: 62 for tutees, 83 for a non-project comparison group.

- *Fort Lauderdale, Florida* (site 2): Tutees' average attendance rose 3.1 days, from 154.0 days in 1989-90 to 157.1 days in 1990-91, during which project services were fully implemented in the winter-spring semester.

- *Romulus, Michigan*: Attendance for proteges showed a 39 percent increase. The average number of days absent in the fall of 1990, before project services were implemented, was 10.5, compared to 6.0 during the winter-spring semester of 1991.

- *Philadelphia, Pennsylvania*: The average daily attendance for the 1990-91 school year was 74 percent for tutee-proteges, compared to 59 percent for their non-project classmates.

- *Sweetwater, Texas*: Tutees' average daily attendance showed a steady increase over the 1990-91 school year, from 77 percent to 92 percent. However, the most dramatic increases (77 percent to 91 percent) occurred during the first semester before project services were fully implemented.

- *Deer Park, Washington*: The tutee-proteges increased their average daily attendance by 15 percent between 1989-90 before project services and 1990-91, when the project began during the second semester.

- *Decatur, Illinois*: The tutees' average attendance dropped 1.3 days from 1989-90 to 1990-91.

- *Farmington, Utah*: The tutees showed a 3 percent decline in average daily attendance from fall 1990 to winter-spring 1991, when project services began.

- *San Antonio, Texas*: This project reported that services had no effect on tutees' attendance.

For many teachers and students, recognizing and structuring in-school learning as a social and cooperative endeavor represents a fundamental shift in instructional approach. Such a shift may

require a conscious decision and concerted effort to break the conventional teaching-learning mold, in which students listen to teachers or study quietly in isolation. To validate and promote the cooperative and social aspects of peer tutoring and mentoring, the project in Richmond, California, adopted and publicized this philosophy:

> Teaching and learning are not solitary pursuits; they are participatory social activities. Structured team teaching and team learning provide immense benefits over conventional schooling methods.

The observations of one teacher who supervised a tutor in her classroom suggest that the social bonding associated with peer tutoring may indeed have contributed to increased attendance rates. She said, "The kids come to class more when they know there's a tutor there waiting to help them."

Only two of the 31 projects reported effects on dropout rates and disciplinary referrals for tutees or proteges. However, they merit reporting here because they were accompanied, in both cases, by corroborating evidence. Philadelphia reported that for the 1990-91 school year, the dropout rate for participating tutee-proteges was 11 percent, compared to 18 percent for their non-project classmates. Coupled with this project's course pass rate and figures that show an average daily attendance rate of 74 percent for tutee-proteges compared to 59 percent for their non-project classmates, it appears that the Philadelphia project favorably influenced the tutee-proteges attitudes about attending and excelling in school.

In Romulus, Michigan, participating tutees showed a 9 percent decrease in incidence of disciplinary referral, and 89 percent reported on a survey that tutoring had "helped them improve their relationships with their instructors." Additional survey responses suggest that receiving assistance from a peer also helped the tutees raise their own expectations for themselves. Ninety percent said that tutoring had "increased their desire to pursue higher levels of education."

There is also evidence to suggest that reciprocal tutoring (i.e., tutors and tutees change roles) multiplies its beneficial effects. Some of the most promising projects (Fairbanks, AK; Golden, CO; Brooklyn, NY) were intentionally organized so that those students receiving services also had opportunities to tutor other students. Project staff took special care to convey to tutees that they are not "dummies" because they need help, nor are they alone in their need for specialized assistance. To the contrary, most individuals need assistance at some time for something, and a student receiving tutoring services today can tutor someone else tomorrow. The critical message was: you are a competent learner capable of teaching difficult concepts to your peers when they need help, as you do now.

Tutors. The attendance figures reported by projects show no substantial effect of tutoring on the tutors' school attendance patterns. Of the six that reported attendance data for tutors, two reported modest positive results, two reported no effect, and two showed modest declines:

- *Richmond, California*: The average number of unexcused (class) absences for the fourth quarter of 1990-91, during which project services were fully implemented, was 66 for tutors, and 83 for a non-project comparison group.

- *Fort Lauderdale, Florida*: The tutors' average attendance rose 2.4 days, from 163.2 in 1989-90 to 165.6 in 1990-91.

- *Golden, Colorado*: Attendance figures for tutors showed a slight decline (2 percent) from the third to the fourth quarter of the 1990-91 school year. However, the tutor-proteges' average daily attendance rate for their peer tutoring class was 5 to 7 percent higher than for all other classes.

- *Decatur, Illinois*: The tutors' average attendance dropped 1.3 days from 1989-90 to 1990-91.

- *San Antonio, Texas*: This project reported that services had no effect on tutors' attendance.

- *Farmington, Utah*: The project reported no change in tutors' attendance, from the fall semester of 1990 to the winter-spring semester, 1991.

Webb (1988) and others (see, for example, Cotton, 1988) have found that important benefits related to self-concept and attitudes toward school accrue to tutors participating in organized peer tutoring programs. Turkel and Abramson (1986) point out that being selected to serve as a tutor communicates three important messages to tutors: you are knowledgeable about something, you can help someone, and you are trusted enough to be put in a responsible position. Although this study provides little quantitative data to support their findings, interviews with tutors during case study site visits hint in that direction. In Sugar Land, Texas, most of the student tutors said that their grades had improved and that they had begun to behave in a more responsible manner since they started tutoring. For instance, when asked why he thought his grades had improved, one tutor started to answer when a friend chimed in, "Well, for one, you come to school now." The most poignant example of attitudinal transformation comes from the Fairbanks, Alaska, project. Reprinted here is an abridged version of a "Case Study of a Ninth Grade Tutor," written by the project director/teacher, who tells the story of one student tutor.

Case Study of a Ninth Grade Tutor

John slinks into my Writer's Workshop classroom. Eyes downcast, he slouches in his seat, hands in his jacket pockets. When I ask his name, he speaks so softly and sullenly that I can't make out what he says. During my explanation of the course and its peer tutoring component he never looks up. One week later John still hasn't returned his parent permission slip, although he needs it to leave the building to go to tutoring. John missed the interview session with the receiving elementary school teachers; they don't know who he is or how he might fit into their classrooms.

John is present for the training session conducted by the Literacy Council director; he slumps in his desk, passive, until the trainer asks the students to complete interest inventories on one another, just as they will with their tutees prior to selecting a book to read. Mary, an attractive and kind young woman doesn't have a partner, so I suggest that she work with John. John answers her questions quietly, and Mary selects a book for him. He asks her the same questions, writes down the answers, and selects a book for Mary, smiling, apparently enjoying himself.

The next week, John brings his permission slip the day we go tutoring. Since he hasn't interviewed with the teachers, the facilitator and I select Mr. James' room because Mary is there and because, like John, the teacher is Native Alaskan. Mr. James graciously agrees to having two tutors, although he'd planned on only one. During the first month, John is very quiet at the tutoring sessions. He sits in a chair at the edge of the classroom until the teacher pulls him into an activity. Because Mary has transferred to another school, John is left in Mr. James' room as the lone tutor.

In the beginning of the semester, John writes long fluent journal entries about his comings and goings after school. He begins to wear his glasses in class so he can see what is on the overhead projector and blackboard. He never balks at a writing assignment, but his writing is nearly always a canned response, as if he has written this idea for someone else before. My job is to make his voice come through, but it is hard for me to judge when he needs help because he never asks for assistance. I make a point to circulate around the room, checking the students' daily work without putting them on the spot.

Midsemester John's tutoring logs show that he has moved from observing what the kids are doing to working with some kids on spelling, writing, and reading. Some kids are shy at first, and that surprises him. They warm up to him, and he finds that they are exciting to work with. "I found out that whenever they learn something they get very happy; when they are happy, I am happy too. The cause is to teach them some new ways."

After finishing the first major writing assignment for Writer's Workshop, John's narrative and descriptive writing has taken a turn for the better; it is more personal, lively, and natural. He accepts my written comments and questions on his work and revises his papers more and more willingly.

The last month of school John shocks me when he calls out my name from across the room one day in class. He needs help. He regularly raises his hand to get help now. He smiles a lot, especially when something humorous happens. John completes the final writing assessment diligently. He has found an interesting topic and is working very hard on his brainstorming and final drafts. He even asks to type his final paper so that he can take a copy home. He comes in a couple days at lunch time and after school to finish it up.

Two weeks before school lets out, John collaborates in writing a story with his third grade tutee about a trip the elementary school student took to Florida. It is a half page, typed, with some detailed black and white illustrations. The week before final exams, John and his tutee sit with Mr. James at the Author's Tea, eating lunch, reading their anthologies, and their story in particular. While at the Author's Tea, Mr. James writes on the project survey, "I saw positive growth in John, from an angry introvert to a sharing, caring, smiling, and even a bit more assertive young man." Answering a question on the tutor's survey, John tells what he learned about himself from tutoring: "Yes, I learned that I could change myself and change other people (sic) lives, too."

-- Patricia Carlson

Job Skills and Career Interests

The demonstration program was not specifically designed to address students' job skills or career interests, nor was this study intended to assess the effects of tutoring and mentoring on them. However, discussions with students during site visits, coupled with survey results reported by individual projects, suggest that both services may be avenues for secondary school students to explore career interests: proteges in a job mentoring program learn firsthand the daily routine of a particular vocation, and tutors in a peer tutoring program begin to understand the intricacies of teaching and the skills needed to do it well.

Career exploration through job mentoring programs. Site visitors witnessed only the early stages of work on establishing mentoring relationships between students and adults from the community. We found that mentoring services were either slow to begin or never fully implemented in some projects for two reasons: (1) recruiting, screening, training, and matching mentors with proteges took more time and effort than was available; and (2) the federal requirement of academic emphasis dissuaded some prospective mentors who would have preferred to act more as counselors, attending to the proteges' psycho-social needs rather than their academic ones. Nonetheless, many of the projects attempted to implement mentoring services. The principal lesson learned was that mentoring holds tremendous promise for at-risk youth, but designing and implementing a robust program to reap the potential benefits requires time, skill, and persistence. A recent study by Hamilton and Hamilton (1992) offers a perspective on these related issues. The researchers concur that while expending resources to develop mentoring relationships is a worthy endeavor, establishing them through a school program can be difficult. They assert that mentoring programs are rooted in a paradox:

> Mentoring programs are intended to synthesize a natural human process that has undeniable power. There is no doubt that a close, nurturing relationship between a wise and caring adult and a youth is beneficial to both. However, the "natural" way for this to happen is that an adult and a youth gradually become close through contact in their daily lives. It is not clear that a program can replicate this process (p. 550).

These barriers notwithstanding, two of the more successful projects arranged for proteges to spend regularly scheduled blocks of time with their mentors in a local business or community agency. In Deer Park, Washington, the proteges met their mentors one or two times a week at the mentor's place of business. The mentor and school worked closely to coordinate job-site activities with academic work in order to help students recognize the link between schoolwork and the real world. To facilitate this coordination, the Deer Park project had a full-time director, four full-time instructional aides, and the cooperation of the school counselor. Romulus, Michigan, based its mentoring project on the belief that mentorship must be rooted in experiential learning. Project staff

members paired proteges with mentors based on the former's career interests and the latter's profession. The proteges spent at least 16 hours each month at their mentors' places of employment engaged in job shadowing and applying their academic skills in the workplace.

While our data do not provide firm conclusions about the value of these workplace experiences, they do suggest that job shadowing may spur secondary school students to assess their own skills and plans for postsecondary education. One of the mentors in Romulus suggested that arranging for students to spend extended time at one business and identify a position they might one day like to hold can inspire students to pursue a college education. He wrote in the final project evaluation:

> At General Motors the salaried employees are mostly college graduates. Kids that do not pursue college will find that they are not qualified for these jobs. The days of getting out of high school and getting a job in the big three [car companies] are gone. People have to come into the work force with a college degree or specialized skill. Schools need to make students aware of this situation.

Introduction to the teaching profession. A well-structured peer tutoring program can be similar to a job shadowing experience or an apprenticeship. Many of the tutors interviewed during the site visits pointed to important lessons they were learning about the teaching and learning process as a result of watching their own teachers and tutoring their peers. When interviewing tutors in Fairbanks, Alaska, members of the study team sensed that the tutors had internalized some of the teaching strategies they learned during training and from their own Writing Workshop or Cross-age Tutoring Course teacher. One tutor in particular demonstrated her personal understanding of the value of taking cues from learners about how and what to teach and acknowledging a child's preferred learning mode. Without using any of the well-worn jargon, she explained how she knows what to do with her tutee: "You do it the way the kid knows how to do it. You walk over to the child and watch how he learns. Some kids figure out words by sounds, others go by syllables."

For some, the tutoring experience ignited or fanned a spark of interest in teaching as a career path. For others, it reaffirmed a self-assessment that their interests and skills would ultimately limit their success as a teacher. In either case, the tutors gained valuable insight into the teaching profession. Asked whether she had learned anything about herself from tutoring, one tutor responded, "I learned that I have good patience with younger kids and, for the profession I want to go into, that's good."

Effects of the Demonstration Program on Teachers and School-Community Relations

While this study was not designed to assess the demonstration program's impact beyond its effects on student participants, we would be remiss if we did not share some additional observations. The demonstration program reached beyond the student participants and touched those teachers who helped plan the project and supervise a peer tutor or two in their classrooms. The response was primarily positive, but through their comments and actions, the teachers reminded us that they are busy professionals who don't appreciate extra paperwork, especially if the purpose is unclear or the result potentially harmful to students.

In addition, some grantee districts reported that the demonstration program affected school-community relations in positive and sometimes surprising ways. While any school-sponsored service that engages students in studious or otherwise responsible behavior will be popular with parents; some project schools found that a mentoring project has other spin-off effects. Adults who enjoy their mentoring experience may gain greater appreciation for the school's mission and become committed ambassadors for the school in the community.

Teachers

From most accounts, teachers looked favorably upon peer tutoring and mentoring as avenues for attending to the academic and social needs of at-risk youth. Most teachers reported enthusiastically that tutees and tutors alike had improved their attitudes toward school and, in many cases, their academic performance as well. Teachers expressed their support by attending project training sessions, supervising student tutors in their classrooms, and offering suggestions for improving project services.

The most favorable responses to the demonstration program seems to have come from teachers who were involved in a meaningful way in a local project's design and implementation. For example, in Fairbanks, Alaska, to help make the project attractive, classroom teachers were encouraged to interview potential tutors and select the one best suited to their classrooms. Project staff believed that the interview process would accomplish two important goals. First, it would convey to teachers that their opinions were a vital component of the matching process, and second, it would help the tutors view their tutoring task as a job for which they must convince someone (the classroom teacher) of their qualifications.

However, some classroom teachers expressed ambivalent feelings about their role in the program, particularly when paperwork requirements seemed unnecessary, burdensome, or counterproductive to the cause of helping students become more responsible. For example, one project had designed a system for coordinating tutoring assistance with classroom instruction. The system required the tutors to meet regularly with the tutees' classroom teachers to obtain a list of the tutees' homework assignments. While the intent to coordinate tutoring with classroom instruction was a good idea, the system became dysfunctional when classroom teachers rebelled, refusing to spend time listing homework assignments for the tutors of students who, the teachers believed, should learn to keep track of their own assignments.

Community Relations

Both the peer tutoring and mentoring components of the demonstration program had positive effects on school-community relations, but in somewhat different ways. The parents whom we interviewed saw peer tutoring as having an immediate and beneficial impact on their children's feelings about both the social and academic aspects of school. In Sugar Land, Texas, parents of some of the tutors claimed that their children studied more after becoming tutors. The parents attributed the studious behavior to the fact that tutoring requires preparation and it has made school more enjoyable for their children. One parent said that her daughter and the daughter's tutee sit together every Sunday at church and often do schoolwork together after the service. According to the parent, the tutee's average math grade rose from the 50s to an 85, while her own daughter's grades have improved from mostly C's to A's and B's.

Mentoring can have a different, perhaps, wider sphere of influence within the community. Community members who mentor secondary school students often gain an appreciation of the magnitude of the social pressures facing today's youth, the ways in which those pressures become manifest in students' behaviors and attitudes, and how the school's job is complicated as a result. One project reported that its mentoring program had enhanced the school's image in the community because of the high caliber of individuals who had been recruited to serve as mentors. In addition to helping students, the mentors took on a natural public relations role for the school, talking to friends and community leaders about their experiences at the school and recommending the mentoring program to other adults.

In Deer Park, Washington, the project director reported that parents were impressed with the mentoring program because for the first time since they could remember, their children were enthusiastic about school. Many proteges stayed home during their free time to complete homework

One boy reportedly rode his bike seven miles back to school so as not to miss his mentoring appointment.

IV. FEATURES OF EFFECTIVE PEER TUTORING AND MENTORING PROGRAMS

The design and implementation of the peer tutoring and mentoring projects under study were influenced by many factors: federal mandates, relevant research on peer tutoring and mentoring, state and local initiatives and previous experience, the needs of the populations served, project leadership, and available resources. Once under way, many projects modified their original plan to capitalize on practices that worked well or were popular among students, staff, and parents. Other changes were made in response to unforeseen obstacles that hindered project success. Drawing on outcome data, survey responses, and case studies, this chapter identifies the most successful of the 31 projects, describes promising project features, and discusses the most common administrative problems and ways to overcome them.

Successful Projects

Using the student outcome data reported to us, we identified eight projects that appear to have been the most successful at achieving positive outcomes for participating tutors and learners. Among the eight (see Table 18), five reported three indicators of success that met the screening criteria for representativeness and comparative value. Three of the projects reported two indicators. Although other projects may have achieved comparable levels of success, we limited our identification of successful projects to those that reported outcomes to us.

The eight projects listed in Table 18 represent a wide array of basic designs, administrative practices, and daily operations. Nonetheless, crosscutting all of the variation are five commonalities that we discuss below as promising practices. We relied on the eight most successful projects during our effort to *identify* promising project features. However, we did not limit ourselves to these eight when describing examples of how such promising features can be operationalized in local projects. This approach acknowledges that some of the less successful or less well documented projects embody certain sound and promising practices from which others can benefit. Finally, we note that the term promising practice is used advisedly in this chapter, given that the demonstration program operated for only about 18 months, and the student outcomes that projects reported covered only one term of project services.

Table 18

Peer Tutoring and Mentoring Projects Reporting Multiple Indicators of Success

Project	Success Indicators				
	Test Scores	GPA/ Course Pass Rate	Attendance	Dropout Rate/ Disciplinary Referrals	Attitudinal Surveys
Fairbanks, AK	X	X			X
Richmond, CA		X	X		
Golden, CO		X	X		X
Ft. Lauderdale, FL	X		X		
Decatur, IL	X	X			
Romulus, MI			X	X	X
Philadelphia, PA		X	X	X	
Deer Park, WA	X	X	X		

Promising Practices

The promising practices distilled from an analysis of practices among the eight most successful projects fall into five general categories:

- efforts to reduce the stigma associated with receiving help;
- provision of incentives when necessary to help tutors see their tutoring responsibilities as important and productive work;
- training for tutors and supervising classroom teachers;
- one-to-one matching based on interpersonal bonds;
- collaboration with local colleges, universities, and other professional organizations.

Reducing the Stigma Associated with Receiving Help

Receiving tutoring help can present a difficult dilemma for students who need extra assistance in order to progress through high school and graduate. This dilemma may, in fact, be one of the key obstacles to engaging large numbers of secondary school youth in supplemental remedial programs such as Chapter 1. A number of peer tutoring and mentoring projects adopted creative strategies for reducing the stigma associated with receiving help from others, among them: (a) recruiting at-risk students to serve as tutors and (b) focusing project services on the development of positive and reciprocal relationships between tutors and tutees.

At-risk youth serve as tutors. The design plan for some peer tutoring and mentoring projects called for at-risk students to serve as peer tutors. For the most part, these projects were founded on the belief that "he who teaches learns," and that helping others would deliver a much-needed boost to the academic skills and self-concepts of many low achieving students who are themselves traditionally the recipients of helping programs. Project designers hoped that instead of seeing themselves as always deficient, always needing assistance from someone more knowledgeable or skillful, the tutors would begin to see themselves as competent and capable of assisting others in need. Our data suggest that some projects achieved this goal by addressing a basic design issue that faces projects such as these.

Projects that place low achieving students in the role of tutor must adequately address a fundamental question during the project's planning phase: How will the project design ensure that the tutors' substantive knowledge is not lacking in the areas in which they will tutor? This is critical for both the tutor, who needs to feel confident that he is truly helping the tutee, and the tutee, who deserves to get accurate information and capable assistance. One answer to this concern is cross-age tutoring. Working with students who are much younger (e.g., elementary grades) has some important benefits for tutors who have a history of poor school performance. This arrangement places them in a role in which they are indeed competent, thus permitting them to enjoy the confidence, prestige, pride, and positive feedback from students and teachers that typically accompanies charitable work. At some of the project sites visited for this study, the secondary school tutors even found themselves to be idolized by their primary-grade tutees, a dramatic departure from their normal status as the low achievers. According to Riessman (1990), an important by-product of this change in roles is that the tutors themselves find it easier to accept help when they have opportunities to help others. The positive experiences and achievement gains of tutors in peer tutoring projects designed in this way are consistent with Riessman's finding and suggest a new model for compensatory programs in secondary schools.

Ongoing support was a prominent feature of the projects that recruited and trained disadvantaged students to serve as tutors. This support was configured differently across sites but almost always included:

- *Preservice training* that focused on topics of relevance to the tutors' own academic career as well as the tutoring activities they were to perform, for example, in Fairbanks, the tutors learned about the writing process during preservice training, which they found applicable to their own schoolwork as well as tutoring sessions.

- *Debriefing sessions* that were part of a regularly scheduled class and revolved around tutors sharing their tutoring experiences, identifying instructional and interpersonal problems, and solving one another's tutoring dilemmas through group discussion, for example, in Golden, Colorado, the tutors met twice weekly during the school day with their coordinators to plan lessons and discuss problems that had arisen during the intervening period. The discussions always focused primarily on developing more effective tutoring skills.

- *Journals* as a structure for reflection, a way to engage student tutors in thinking about and learning from their tutoring experiences, in Fairbanks and Decatur, the journals also formed a written dialogue between the tutors and the project teacher.

Teaching peer tutors to mentor. A number of projects selected tutors from a wide range of achievement levels because the project designers believed that average or low achieving students would be better able to empathize with their tutees. Feeling empathy and recognizing their tutees as peers, not "dummies," is a critical trait among effective tutors according to some project staff. Staff at several schools in the Brooklyn project even interviewed candidate tutors in order to assess their ability to identify and communicate with tutees. That ability, the staff said, enables tutors to "mentor" their learners as well as help them learn academic content and skills.

Establishing a tutor-mentor position and training students to fill it is, according to the researchers who helped design the Brooklyn project, an effective way to equalize the relationship between helpers and the helped. Tutor-mentors should learn through initial and ongoing training to think of their learners as colleagues. They must understand that, while they are the helpers (tutors) today, they can easily become learners in another context. In Brooklyn, the tutor-mentors and learners are encouraged to spend some of their time together discussing personal and social issues: these types of discussions tend to put both participants on equal footing, again adding some counterbalance to the inherently lopsided helper-helped relationship. The tutor-mentors are also trained to consult with their learners to identify and assist with the learners' most pressing needs. This approach stands in stark contrast to project designs that require the tutors to find out what the tutees need to work on by talking directly to the teacher and bypassing the tutees. The unspoken and potentially damaging message for tutees who participate in this latter type of program may be "You

are incapable of learning without extra tutoring, and you are also unable to find out or remember what you need to learn.

The Power of Incentives for Tutors

Many activities compete for the time secondary school students spend outside of their regularly scheduled classes. Some students participate in extracurricular activities or other social events. Others either have to, or choose to, seek gainful employment. Many at-risk youth, frequently the ones who could most benefit from extra help with schoolwork, shy away from any school-related activities that are optional and many that aren't. For these and other reasons, many special programs consider the use of incentives to recruit students and sustain their participation.

The provision of incentives for public school students is not, however, without controversy. Perhaps the most controversial are (a) offering course credit for work that is typically regarded as compensatory in nature; and (b) providing monetary compensation for completion of schoolwork, which is traditionally seen as both a benefit for and obligation of young people. Nonetheless, well over half of the projects offered either course credit or monetary compensation to tutors and/or learners. Virtually all the staff we interviewed had overcome any misgivings they might have had and argued that such incentives are both necessary and effective. The widespread provision of these incentives is perhaps related to the high levels of poverty among peer tutors participating in the demonstration program. However, our findings suggest that program planners should carefully consider whether offering such incentives is necessary and wise before providing them.

All of the most successful projects offered either a stipend or course credit to tutors. Indeed, most project staff felt certain that offering course credit or monetary compensation was a useful key to gain and maintain student participation. A few projects found a reasonably comfortable way to attract students without undermining the compulsory nature of public education: They offered course credit to peer tutors for tutoring services performed during school hours and a stipend for any services performed before or after school and on the weekends.

Stipends and wages. Many project administrators hoped that receiving a stipend or hourly wage would motivate the tutors to view their tutoring activities as a job and thus encourage them to join and remain committed to the project. In a number of the projects we visited, the monetary compensation did achieve this result. In Oaks, Oklahoma, for example, where the median annual family income is $5,000, many tutors used their stipends to help with family living expenses. During interviews, most referred to their tutoring responsibilities as their "job." However, we found that

across case study sites, tutors in different projects assigned different levels of importance to the financial incentives. This suggests that while the stipends and wages can be effective incentives, they are not always necessary. For example, administrators in Richmond, Vermont, had originally planned to pay tutors, but said that enough students had responded to the call to help their peers that payment was unnecessary. Tutors in Sugar Land, Texas, who were all students at risk, were paid a stipend of $150, but when asked why they became tutors, most said it was to help middle school students with problems similar to those they had experienced at that age. None mentioned the financial incentive.

Academic course credit. Offering students academic credit for tutoring can also serve as an incentive for participation. Allowing students to earn credit lets them tutor during school hours, thus avoiding scheduling problems inherent in after-school projects. Without proper planning, however, there can be unwanted fallout from this strategy. While visiting a project that offered elective credit for students serving as tutors, we learned from the tutors themselves that some had volunteered for the project in order to avoid taking more difficult classes such as Algebra II and Modern European History, which were both classified as electives at the school. This finding may be more a commentary on how the school system classifies its courses than it is on the administration of the tutoring project. However, it highlights the need to carefully assess during project planning all the possible consequences of providing strong incentives for tutoring.

Training of Participants

Since training for tutors and mentors was a grant requirement and researchers agree that it is a key ingredient of effective programs, it is not surprising that training in general was such a pivotal feature of many project designs. Nonetheless, our investigation turned up some promising practices that may be useful to program planners. Specifically we found that:

- Training for tutors should be frequent, intensive, and should focus on both instructional and problem-solving strategies.
- The content of tutor training should be congruent with the actual tutoring activities the students will be expected to perform.
- Classroom teachers who plan to supervise a peer tutor can benefit from learning how to let tutors assume more responsibility than they are typically allowed.

Comprehensive and ongoing tutor training. Our investigation suggests that frequent and intensive tutor training that focuses on instructional and problem-solving strategies is essential for

building effective tutor-tutee relationships and, consequently, producing positive academic and social outcomes. Enthusiasm typically runs high among peer tutors at the beginning of the term; however, it can wain precipitously if tutees begin to miss sessions, perform poorly on assignments, and exhibit behavioral problems. In addition, secondary school students can forget what it feels like to be corrected, especially by a peer; they can be very critical of one another. Declines in tutor motivation and feelings of inferiority among tutees can very quickly sabotage a peer tutoring relationship. For these reasons, training is especially important for tutors.

All of the most effective projects conducted preservice training for tutors, and almost all conducted in-service training or debriefing sessions for tutors at least weekly. Preservice sessions tended to focus on three main topics: the role of a peer tutor, interpersonal skills (e.g., how to communicate clearly, give corrective feedback without being critical), and record-keeping or management responsibilities. Surprisingly, our case studies showed mixed sentiments among tutors about the value of their preservice training sessions. In many cases, the tutors could not recall what they had learned. However, we frequently saw them applying a principle or using a skill that had been covered during the preservice training. We conclude that the training was beneficial because the students had apparently internalized many concepts and skills even though they did not always attribute them to the preservice training.

The most effective type of training for tutors once they have begun to tutor on a regular basis appears to be debriefing sessions, during which tutors stretch their own cognitive abilities by reflecting upon and analyzing their own behavior in the tutoring sessions. Our interviews with tutors suggest that frequent analytic sessions were instrumental in motivating them to be persistent with their tutees, even in the face of major frustration. In Brooklyn, we witnessed a practiced teacher helping a tutor-mentor during the weekly debriefing session by mirroring back to him his own behavior, so that he could see from a different perspective the effect he might be having on his tutee. The tutor was ready to give up on his tutee who had missed several tutoring sessions. By asking the right questions, the teacher helped the tutor--and the other tutors who witnessed the exchange--understand that sometimes the most resistant tutees are those who most need help and empathy. The tutor decided on his own to call the delinquent tutee at home that evening.

Our investigation also identified a new concern that is not addressed by the research literature on tutor training, specifically that training sometimes did not correspond to the tutor's responsibilities. It is not clear that the disparity in what the tutors were trained to do and were actually allowed to do while tutoring greatly hindered any advances in achievement. However, the tutors at one site were clearly frustrated at the disparity between their training and actual tutoring activities. While project staff at this site were committed to an integrated, "whole language" approach to language instruction.

the majority of classroom teachers continued to use basal readers and skill worksheets. The tutors who had attended extensive training on teaching tutees to read for comprehension found themselves tutoring in regular classrooms under the supervision of teachers who still used traditional phonics-oriented instructional strategies. Under these circumstances, the training was largely wasted on the students. Additional coordination before and during project implementation between project staff and classroom teachers could have avoided this scenario.

Helping teachers learn to relinquish control. Teachers can be very autocratic in the way they structure learning activities in their classrooms. They don't always want assistance from someone like a student tutor, and even those teachers who agree to sponsor a tutor may not know how to arrange instruction, student grouping, and even the physical layout of the classroom to reap maximum benefit from such assistance. Appropriate training can help teachers work with tutors more effectively. One principal observed that the teachers at his school who were involved with the peer tutoring and mentoring project were beginning to see their relationship to all students in a different light. They were beginning to behave more like coaches and managers rather than as dispensers of knowledge.

At another site, our impression of the interaction between student tutors and their supervising classroom teachers matched that of both the project coordinator and trainer: that the student tutors were capable of much more than the teachers allowed them to do. This suggests some important implications for the type of training that may benefit classroom teachers who supervise tutors in their classrooms. Teacher training programs should:

- Recognize that supervising classroom teachers are influential role models for tutors.
- Make teachers aware of the project goals, specifically those that relate to improving the academic achievement and social integration of the tutors.
- Make teachers aware of the content of the tutor training program--joint training may be the optimal way to ensure that teachers know what their tutors have been trained to do.
- Help teachers think of ways to *develop* their tutors' teaching skills, not just manage their behavior.

One-to-One Matching Builds Strong Bonds

Although more than half of the projects used tutors or mentors as roving classroom aides, the most effective projects arranged for tutors to work with tutees on a one-to-one basis. In addition, half

the projects that responded to the survey said that the initial screening and matching of tutors/mentors with learners has the greatest effect on the longevity of the tutoring/mentoring relationship. We found overwhelmingly that the preferred method of matching tutors with tutees was on the basis of personal compatibility. This practice seems to be both pragmatically and theoretically sound. Most research on this topic concludes that specific tutors should be matched with specific tutees (and mentors with proteges) to enable an extended and meaningful relationship to develop between the two people. A number of the teachers we interviewed added that if the two don't get along, either the tutor/mentor or learner will end the relationship by withdrawing from the sessions, physically or mentally.

When we consider the question of matching in light of the concept of "school membership," advanced by Wehlage et al. (1989), and the need for at-risk youth to feel part of the school community, it seems that one-to-one matching may be particularly important in large urban schools or other schools where students can easily feel isolated or lost in the crowd. Our case study findings suggest that, in very small school districts, the roving homework helper may be sufficient and appropriate. In Oaks, for example, the tutees reported that they liked having multiple tutors available to assist them during the afterschool study session. Everyone recognized the different expertise each tutor brought to the group. The tutees freely sought out the best tutor for a particular homework assignment, and the tutors themselves referred tutees to other tutors depending on the subject area being studied. Oaks, however, is a very small community school where literally every teacher knows every student and the students all know one another. In Oaks, the social bonding, while still important, seemed to be less of an issue than getting substantive help on schoolwork.

Most projects were unable to match mentors with proteges due to a shortage of available mentors. For example, one project tried assigning each mentor to a group of proteges, but an end-of-semester comparison of their peer tutoring and mentoring programs revealed that tutoring was popular because of the one-to-one matching arrangements. The staff decided to try one-to-one matching for mentors and proteges during the second semester. In contrast, Project Success in Deer Park, Washington, was able to match mentors and proteges one-to-one according to career interests and interpersonal bonding. The project director began the matching process by administering a career interest survey to each protege, and then canvassed firms in each industry identified in the protege survey for volunteers willing to be mentors. Mentors, who were recruited based on their work in careers of interest to proteges, conducted sessions in their offices, which enabled them to show their proteges how their vocation requires the basic and advanced skills taught in school.

Collaboration with Local Colleges, Universities, and Professional Organizations

Most of the successful projects recruited the expertise of another educational agency or institution to provide state-of-the-art training for project participants. In addition to infusing new ideas and current research into the districts and strengthening relationships among agencies with similar missions in the same community, such collaboration appears to have another benefit. It can lend credibility to innovations that have not yet gained a foothold in the public schools. A project coordinator in Brooklyn, New York, remarked that for public school staff members to work closely with university faculty, such as the researchers at the CUNY Peer Research Lab, "confers a great deal of prestige to those of us in the field. I know I had backing [for the peer tutoring/mentoring project]." Among the projects that collaborated with other education agencies were the following:

- *Fairbanks, Alaska*: Project Outreach benefitted from the district's close association with the State Literacy Council of Alaska. The council's executive director served as the trainer of Project Outreach, providing training sessions for the student tutors, receiving classroom teachers, and mentors. The Fairbanks affiliate of the council is a nationally recognized community organization with a long history of establishing peer tutoring programs to assist illiterate and limited English proficient youth and adults. The council helped Fairbanks develop other peer tutoring programs in addition to Project Outreach.

- *Richmond, California*: All of T-TEAM's instructional staff--project teachers and counselor, peer tutors, college tutors, and mentors--received training from a consultant in the San Francisco School District, who is a specialist in tutor/mentor programs.

- *Brooklyn, New York*: The ConCurrent Options Tutoring/Mentoring Model was developed by a research team at CUNY in collaboration with a team of educators from the New York City Division of High Schools. The researchers have also played a pivotal role in the implementation and evaluation of the new model. They helped the teacher-coordinators develop strategies for coaching the tutor-mentors and matching them with tutees. The CUNY researchers also advised project staff on management concerns and met twice a month with the teacher-coordinators to discuss and solve specific problems.

- *Reidsville, North Carolina*: Six professors of education from the University of North Carolina-Greensboro developed the course curriculum for Project ACHIEVE. The professors trained the project teachers and developed daily lesson plans for each of four modules that comprise the curriculum.

- *Philadelphia, Pennsylvania*: A professor from Villanova University provided training for new mentors at each of the project schools. An expert trainer on the topic of mentoring, he conducted a two-hour session to orient mentors to the needs of inner-city youth and provide insights and strategies for working effectively with students on

school, career, and personal issues. One of the project schools also drew mentors from the students at Temple University.

Common Problems and Ways to Overcome Them

Obstacles or barriers to participation in a tutoring or mentoring project are inevitable and some cannot be eliminated. For example, adult mentors go on vacation or transfer to new jobs out of town, tutors are sometimes absent or involved in studying for major exams. However, other barriers are avoidable if they are anticipated and carefully considered during the project planning stages. In this section we discuss the three most common problems that plagued the grantee projects: maintaining high levels of participation among tutees, recruiting adult mentors, and establishing a schedule of project services that is convenient and maximizes coordination with the regular school program. We also offer lessons from other projects that suggest strategies for overcoming or avoiding these problems.

Maintaining High Levels of Participation Among Tutees

If the demonstration program is typical, tutee attrition is a common problem for peer tutoring programs. Incentives notwithstanding, two-thirds of the survey respondents said that retaining learners was a problem; 10 percent identified it as a serious problem. Nonetheless, one project, Brooklyn's ConCurrent Options Tutoring/Mentoring Model, developed a promising way of achieving regular and sustained tutee participation. While tutee attrition remains a concern, the project developers and staff believe they are on the right track to combat it. As part of their training, tutor-mentors are sensitized to the problems that result from placing too much emphasis on a tutee's inadequacies. Instead, tutor-mentors are taught to develop positive and reciprocal relationships with their tutees. The goal is to help tutees improve their sense of efficacy and self-esteem because, according to one staff member, "That is the most contagious thing we can do."

Riessman (1990), one of the designers of the Brooklyn project, calls for a new paradigm for human services that restructures helping relationships in order to bypass this "help paradox" (the student helped is deprived of the benefits that accrue to the helper) so that those who ordinarily receive help will have authentic opportunities to help others. This role shift, Riessman says, not only broadens the "help-giving resources" in a school but also makes it easier for the tutees to accept the help they need because their status as tutees (the one in need of help) is balanced by the time they serve as tutors. The status of the players in the tutoring relationship becomes more equal and thus less stigmatizing for the tutee

One summer project adopted a more straightforward and incentive-based approach to ensuring tutees' consistent and sustained attendance at tutoring sessions. Tutees who did not attend morning instruction were prohibited from going to their afternoon internship where they earned a paycheck.

Recruiting and Retaining Adult Mentors

Recruiting and retaining mentors was a problem for half the projects that offered mentoring services. Many reported that a full-time staff member is required to recruit effectively and retain a steady supply of mentors by coordinating activities and schedules, communicating with every mentor on a regular basis, facilitating communication with classroom teachers, and monitoring problems. Suggestions for overcoming associated problems include the following:

- Contact local colleges and universities to recruit mentors from among those students who must perform community services as a requirement for graduation or for a specific course. Teachers-in-training and nurses are likely candidates. However, community service is the new trend-setter on many college and university campuses, and the pool of potential mentors may be much broader.

- Recruit a local business that is interested in adopting a school and will provide released time for employees to serve as mentors for secondary school youth. Try to avoid recruiting individuals who are likely to be transferred.

- Establish a network among local community agencies such as the Chamber of Commerce, Kiwanis, Rotary Club, Ruritan, and the like. It may take time, but once such organizations know the school district has a stable and well-run program that provides positive experiences for volunteer mentors, they can become a steady source of candidates to mentor students.

- Ask participating mentors to help recruit others.

Coordination and Scheduling

Scheduling is a perennial problem for supplemental educational programs; peer tutoring and mentoring projects are no exception. Our survey results showed that almost two-thirds of the projects experienced problems coordinating peer tutoring and mentoring services with regular classroom activities. Project schedules varied as widely as the project designs: tutoring activities occurred at different times during the day and at a variety of locations. Brooklyn incorporated tutoring into pre-existing afterschool classes for at-risk students and during afterschool study sessions for students enrolled in independent study courses. Oaks, Oklahoma, transported some tutors and tutees to a computer lab located on a nearby college campus to expose tutees to college life and facilities. Other

projects scheduled tutoring during regular classes or pulled both tutors and tutees out of classes for tutoring sessions. While scheduling conflicts will persist and solutions to specific problems must be worked out according to local circumstances, we offer a few simple lessons from our investigation.

We found that the in-class sessions often proved to be the most difficult for teachers and least rewarding for tutors. Teachers found the presence of tutors somewhat disruptive and had difficulty including them in their instruction. Tutors, meanwhile, often found that they had to follow the course curriculum instead of working with tutees on the skills they needed to practice most. In one project, in-class tutoring sessions were supposed to revolve around individualized tutoring plans. These plans included information about students' specific skill deficiencies and instructional strategies to address them. However, classroom teachers felt uncomfortable allowing tutors to spend class time covering material not presented first by the teacher. They also felt that individualized sessions would be disruptive to other students. Tutoring services thus became limited by the objectives of each classroom teacher. One tutor complained, "The first day I tutored I felt...like I'd really accomplished something because I got to help the kid in the area he was having difficulty. But then the next day I couldn't; I had to follow the curriculum of the class."

This and other projects' experiences with in-class tutoring sessions should not compel schools contemplating a peer tutoring project to abandon in-class tutoring as a strategy. However, two considerations should drive their decision-making. First, if the project calls for tutors to work with tutees on material not directly related to classroom instruction, in-class tutoring will almost always result in conflict between tutors and teachers concerned about having their classes disrupted. Second, if the tutors are to work with tutees during class time on material first presented by the teacher, teachers should play a major role in developing meaningful and productive strategies for tutors. This will result in better relationships between teachers and tutors. However, asking peer tutors to serve as roving classroom assistants does not take full advantage of their potential to help disadvantaged students.

V. CONCLUSIONS AND IMPLICATIONS

Nationwide, the demonstration program achieved limited success, due in large part to its short duration and fast track. The award of program grants after the beginning of the 1990-91 school year crippled start-up activities (e.g., hiring and training staff). Most projects did not achieve full implementation until the winter of 1991, for many, just a few months before the end of their last full semester of funding. Consequently, more than half of the grantees requested and were granted project extensions. Some projects never achieved full implementation, foregoing training for tutors or mentors, truncating the period of service delivery, or reducing the scope of coordination activities, tutor recruitment, and mentor programs.

This overall result is not surprising, given the logistical hurdles that faced them, hurdles that block the development of many short-term programs. It is perhaps more surprising that a small cadre of projects (roughly one-fourth) reported modest positive effects on the academic achievement and/or social integration of participating students. This degree of success within the first year of project implementation is heartening. Given the chance to mature, these and similar programs that offer peer tutoring and mentoring services to secondary school youth may yield positive results for more students on a sustained basis. This potential supports the expanded use of peer tutoring and mentoring services in several contexts.

This chapter briefly discusses the implications of using peer tutoring and mentoring to help improve the school experiences and educational achievement of certain secondary school adolescents, the application of peer tutoring and mentoring services to secondary school Chapter 1 programs, and the reasonableness of the design used to implement the demonstration program.

Implications for Certain Secondary School Students

Assistance from peers and mentors can accrue benefits to disadvantaged secondary school students in two important areas, academic achievement and social integration. The experiences of the projects we studied suggest that assistance from their peers may be instrumental in helping disadvantaged youth improve their course grades, grade point averages, standardized test scores, school attendance, study skills, and feelings of belonging at school.

When properly matched, tutees and tutors can develop strong personal bonds. Cross-age tutoring in particular seems to permit tutees and tutors to regard one another as surrogate siblings or

extended family members. This byproduct of cross-age tutoring suggests a useful application for several groups of students: students who are new to a school, including incoming freshmen in high school, and limited English proficient students. These types of students can easily feel lost or overwhelmed at school. This is especially true if the school has a large student population or if school staff do not make a special effort to help students establish close relationships with their peers. In these contexts, pairing new or language minority students with upper classmen who can serve as peer tutors or mentors may: help socialize the younger students into the mainstream school culture; help them negotiate the new and possibly confusing system of rules, schedules, and activities; and accelerate their academic growth.

Implications for Secondary School Chapter 1 Programs

As a result of previous school experiences, many Chapter 1-eligible adolescents have developed ambivalent feelings about seeking and receiving help from others. They learn early on that while independence is highly prized in our society, many well-meaning adults will come to expect less and less of them the more they seek or require assistance. Under certain conditions, peer tutoring may help Chapter 1-eligible students sort out this paradox. This conclusion presents some programmatic issues that require careful consideration.

1. Low self-esteen often accompanies school failure. Certificates, the occasional special trip, or prepackaged self-esteem programs are paltry responses that, at best, raise students' spirits for a brief time. They do not address the core of the problem. Disadvantaged adolescents, like everyone else, need to feel competent; they need to experience success. When they cannot experience feelings of competence in school, many youth turn to out-of-school activities to find a context in which they can see themselves as successful. Cross-age tutoring programs that place disadvantaged students in the role of tutor can create an authentic academic context in which to nurture adolescents' self-esteem.

2. Chapter 1-eligible adolescents typically have many years of experience receiving help from others. They may have virtually no experience being the helper. Providing frequent and intensive training for Chapter 1 adolescents who are serving as tutors can help them learn their new role. In particular, guided discussions can help the tutors reflect upon their own behavior and that of their tutees, learn from their tutoring experiences, and solve problems that can sabotage the tutor-tutee relationship if left unchecked.

3. Low achieving adolescents who are old for their grade are particularly susceptible to dropping out of school. Some secondary schools have unwittingly exacerbated the problem by withholding credit for courses such as Chapter 1 that focus on skills remediation. Peer tutoring programs that allow tutors to demonstrate competence by

helping others and earn graduation credit for their efforts can help alleviate this additional pressure to give up and drop out.

4. Poverty and low school achievement are closely linked. This means that some of the adolescents who could most likely benefit from participation in supplemental programs may be the ones who need to work after school and on weekends. Offering stipends or wages for economically deprived students who serve as tutors can alleviate the pressure to seek employment outside of school. Implemented appropriately, such incentives can also increase the tutors' motivation to attend tutoring sessions by casting the responsibility in terms of a job with obligations and opportunities for accomplishment and growth.

5. Classroom teachers are not always amenable to or skilled at working with a tutor in their classrooms. A common problem is that classroom teachers don't make full use of the tutor's skills, which has negative consequences for tutors and tutees. Peer tutoring programs that acknowledge this openly can avoid major structural problems. Two options are to (a) avoid in-class tutoring arrangements or (b) provide the supervising classroom teachers with appropriate training.

Mentoring services present a different set of benefits, most of which are well documented in the research literature, to Chapter 1-eligible youth. They include the provision of successful role models, personal assistance and support, exposure to new career paths, job shadowing experiences, and even academic support in the form of tutoring. While mentors typically offer their time on a volunteer basis, Chapter 1 projects should not assume that successful mentoring programs are cost free. Our findings suggest that coordinating a smooth mentoring operation can require a full-time staff person. This should not deter schools from pursuing mentoring as a supplement to basic Chapter 1 services, but should alert program planners to some basic considerations.

1. Like most supplemental education programs, mentoring services can confound teachers and students if they are not clearly defined and well coordinated with the regular school program, especially if the goal of the mentoring services is improved academic achievement.

2. Mentors, like anyone else, can suffer from lack of motivation and feelings of isolation if they do not feel part of a planned and well-orchestrated effort. A two-way communication system benefits both the project and the mentors. Furthermore, regularly scheduled personal contact among project staff and the mentors goes a long way in reducing mentor attrition.

A rough analysis suggests that peer tutoring and mentoring may be comparable to Chapter 1 in terms of learner costs. The per learner cost of participation in the demonstration program is just slightly higher than similar figures for Chapter 1 programs. Millsap, Turnbull, Moss, Brigham, Gamse, and Marks (1991) reported that the estimated per pupil expenditures in Chapter 1 for the 1990-91 school year averaged between $875 and $900. The average projected per-learner expenditure

for the demonstration sites was $905. This figure would drop substantially if peer tutors were factored in as learners. In addition, the start-up costs associated with any new program tend to decrease as the program becomes institutionalized. We could reasonably expect this to be true of peer tutoring and mentoring programs as well.

Implementation of the Demonstration Program

One-year demonstration programs are inherently difficult to implement smoothly. They require quick start-up, presume smooth implementation, and anticipate positive outcomes. These constraints were borne out in the peer tutoring and mentoring projects under study, although they appeared to be least problematic for districts with prior experience in delivering one or both services. In fact, the most successful projects had prior experience in the delivery of peer tutoring or mentoring services; although they had their share of first semester start-up issues, by the second semester, they had, for the most part, established a smooth program routine.

Based on the experiences of the projects we examined, we have identified three areas in which improvement in future demonstration programs may be warranted. First, demonstration programs may wish to consider taking greater advantage of grantees with prior experience in the design, provision, and evaluation of similar services. Pairing inexperienced grantees with those that have something of a proven track record could enhance the network among grantee districts and ensure the delivery of technical assistance to fledgling projects at a relatively low cost.

Second, when the demonstration program requires identification of a subpopulation of students such as at-risk youth, districts that are inexperienced in identifying and serving such students may require some guidance. Somewhat surprisingly, some projects expended undue amounts of time and money just identifying students to receive services.

Finally, the practice of awarding one-year demonstration program grants after the beginning of the school year is less than ideal, particularly for programs that require identification, recruitment, and training of appropriate individuals to fit various role groups such as mentors, tutors, and learners. The practical results for the demonstration program grantees were that (a) most projects did not begin serving students until 4-6 months into the 12-month grant period, (b) some never achieved full implementation, and (c) many projects requested no-cost extensions, a cumbersome paperwork exercise for the local districts and ED. The obvious solution is to award multi-year grants well in advance of the first school year during which the funds will be spent. This and other studies suggest that districts need more than one year to design, implement, and institutionalize a successful set of

new services. Such tight control of the grant award process is not always possible, although other ameliorating measures may be. It may be useful to consider building a planning period (e.g., four months) into all relatively short grant periods that would allow time up front for projects to hire staff, recruit, select, and train participants, establish evaluation methods, and the like. This arrangement might also cut down on the number of no-cost extensions that districts request and that ED is obligated to review and process.

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APPENDIX

PEER TUTORING AND MENTORING PROJECTS FUNDED UNDER THE SECONDARY SCHOOLS BASIC SKILLS DEMONSTRATION ASSISTANCE PROGRAM

Peer Tutoring and Mentoring Projects
Funded under the Secondary Schools Basic Skills Demonstration Assistance Program

Project Site	School District	Project Name	Federal Grant Award	Other Contribution	Per Learner	Contact Person
Anchorage, AK	Anchorage	Jump Start Program	$54,474	$21,500	$760	Virginia Juettner (907) 269-2279
Fairbanks, AK	Fairbanks N. Star	Project Outreach	$96,334	$75,026	$1,904	Cynthia Terres (907) 452-2000
Pima County, AZ	Tucson Unified	Pima County PC Edge	$217,753	$148,657	$2,290	Candy Verbrugghen (602) 884-8688
Richmond, CA	Richmond Unified	Team Tutoring in English/Math	$168,158	$34,959	$2,031	Albert Acuna (415) 234-3825, ex. 2300
Chula Vista, CA	Sweetwater Union	Project Peerage	$185,032	$0	$231	Harris Teller (619) 691-5578
Golden, CO	Jefferson County	Project STAY	$241,640	$129,163	$883	Orland Cox (303) 232-4777
Gainesville, FL	Alachua County	Secondary Schools Basic Skills Program	$69,586	$60,250	$2,885	Donna Omer (904) 336-3605
Ft. Lauderdale, FL	Broward County	Students Serving Students	$22,681	$0	$284	Joseph Forman (305) 786-7607
Ft. Lauderdale, FL	Broward County	Secondary Schools Basic Skills Program	$300,000	$6,000	$366	Maude L. Storr (305) 797-4648
Wauchula, FL	Hardee County	Secondary Schools Basic Skills Program	$278,506	$0	$1,451	Mary Sue Clemons (813) 773-4189

Project Site	School District	Project Name	Federal Grant Award	Other Contribution	Per Learner	Contact Person
Decatur, IL	Macon County	Futures Unlimited Basic Skills Program	$134,175	$21,689	$4,102	Mary Atkins (217) 429-1054
Louisville, KY	Jefferson County	Basic Connections	$23,055	$30,925	$2,249	Angelo Vaccaro (502) 581-9155
Boston, MA	Boston	Mentoring/Peer Tuturoing at Boston HS	$297,171	$85,000	$1,911	Marjorie Joyce (617) 445-9408
New Bedford, MA	New Bedford	Basic Skills Peer Tutoring	$178,865	$5,000	$1,226	Mary L. Francis (508) 997-4511, ex. 3214
Romulus, MI	Romulus Comm. Sch	Project Significant Other	$91,409	$28,000	$682	Linda Bowman (313) 941-2170
Columbus, MS	Lowndes County	Keys for Success	$65,703	$19,618	$2,370	Joyce Pendelton (601) 329-5775
Nashua, NH	Nashua	Computer Assisted Compentency Based Program	$216,700	$102,000	$1,138	Diane McDonald (603) 594-4311
Bronx, NY	NY Board of Education--Com. Sch. Dis. #12	Peer Group Tutorial Project	$152,932	$16,820	$1,347	Robert Henry (212) 328-2310
Brooklyn, NY	NY Board of Education -High Sch. Division	ConCurrent Options	$294,303	$40,000	$548	Joseph Salvati (718) 935-5515
Reidsville, NC	Reidsville City	ACHIEVE in Basic Skills	$55,392	$70,498	$4,196	Craig Levinor (919) 349-6361

Project Site	School District	Project Name	Federal Grant Award	Other Contribution	Per Learner	Contact Person
Oaks, OK	Oaks Mission	Secondary Schools Basic Skill Program	$209,662	$25,000	$7,333	Sharon Tarrance (918) 868-3314
Philadelphia, PA	Philadelphia	Secondary Schools Basic Skills Program	$189,933	$150,564	$811	Thomas Rosica (215) 299-7842
Hato Rey, Puerto Rico	Puerto Rico ED	Tetors for Excellence Academic Model (TEAM)	$120,079	$0	$267	Nancy Leiborn Iriarte (809) 754-1160
Sugar Land, TX	Fort Bend ISD	Expect Success	$20,880	$2,000	$254	Karla Kessler (713) 980-1300
San Antonio, TX	San Antonio ISD	Project SURE	$261,851	$45,840	$1,399	Isabel Salas (515) 227-1206
Sweetwater, TX	Sweetwater ISD	Helping Others Become Better Students (HOBBS)	$120,661	$0	$874	Frank A. Davis (915) 235-4371
Monticello, UT	San Juan	Secondary Basic Skills Demonstration Project	$135,970	$42,110	$1,781	Monty Lee (801) 678-2281
Farmington, UT	Davis County	Secondary Schools Basic Skills Program	$144,648	$0	$579	Susan G. Ross (801) 451-1117
Richmond, VT	Chittenden East	Mt. Mansfield Union HS Learning Lab	$100,000	$0	$833	Craig Roskam (802) 434-2128

Project Site	School District	Project Name	Federal Grant Award	Other Contri-bution	Per Learner	Contact Person
Deer Park, WA	Deer Park #414	Project Success	$112,775	$87,431	$5,133	Mike Blair (509) 276-5466
Seattle, WA	Seattle	Secondary Schools Demonstration Assistance Prog.	$139,672	$46,492	$1,095	Susan Byers (206) 587-2015

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