APPENDIX A
A FOCUSED LOOK AT THREE TYPES OF SERVICES: PROVIDING ACADEMIC ASSISTANCE, USING TECHNOLOGY, AND SERVING MIDDLE SCHOOL STUDENTS

As mentioned in chapter 1, a major objective of the case studies was to gather detailed information on a few topics of widespread interest to the Talent Search community. The topics selected for their likely interest were the provision of academic assistance, the use of technology in serving students, and serving middle school students. We settled on these topics—and identified appropriate candidate sites—after considering several sources of information: interviews conducted with Talent Search staff during the first round of site visits; informal interviews with Talent Search staff serving as officers of the regional organizations for TRIO staff;[1] responses to a 1998 survey of Talent Search programs about services to middle school students as conducted by the Council for Opportunity in Education (COE); responses to a fax sent by COE to virtually all Talent Search projects asking about topics of interest; and telephone calls to several individuals knowledgeable about the Talent Search community.

Site selection was based solely on our initial understanding of the degree to which projects emphasized one or more of the three service areas; we did not consider type of host institution or location. However, given that such factors may be of interest, some basic characteristics of the six grantees selected for this part of our study follow:

- Two public 4-year colleges in small cities

[1]There are 10 such organizations: Association for Equality and Excellence in Education (AEEE); Association of Special Programs in Region Eight (ASPIRE); Caribbean Association of TRIO Programs (CATP); Mid-America Association of Educational Opportunity Program Personnel (MAEOPP); Mideastern Association of Educational Opportunity Program Personnel (MEAEOPP); Northwest Association of Special Programs (NASP); New England Educational Opportunity Association (NEOA); Southern Association of Educational Opportunity Program Personnel (SAEOPP); Southwest Association of Student Assistance Programs (SWASAP); and Western Association of Educational Opportunity Personnel (WESTOP).

- Two public 4-year colleges in large cities
- One private 4-year college in a large city
- One nonprofit community organization in a large city

Coincidentally, some of the eight randomly selected projects were also strong in one or more of the three service areas of interest; therefore, this appendix also draws on relevant examples from those projects.

Before turning to the three special topics, we describe the objectives and limits of our qualitative research. To begin, the practices discussed here are meant to be illustrative of how projects could, if they so desired, provide certain services. By focusing only on selected topics, we do not mean to imply that Talent Search personnel should be paying particular attention to these matters relative to other issues or concerns. We recognize that opinions differ on how best to use program resources and that projects operate under widely different circumstances. Furthermore, we cannot present the activities described below as exemplary or promising practices. We are not in a position to judge the effectiveness of the approaches we have chosen to highlight. Undoubtedly, we could have identified and studied many other Talent Search projects that use different but equally interesting service approaches in the three topic areas. In summary, we make no judgments as to whether other Talent Search projects would benefit from adopting similar service approaches. Rather, we simply believe that the information will be of interest to a substantial portion of Talent Search personnel around the country.

PROVIDING ACADEMIC ASSISTANCE

In considering academic assistance as a topic to focus on in this report, we discerned among Talent Search staff two markedly different viewpoints about providing academic assistance through Talent Search. Many people we spoke with felt that academic assistance was an important service that Talent Search projects could provide, perhaps even *should* provide, and were interested in learning about how projects around the country provide such support. Some project directors, however, felt that their limited resources made it imprudent to implement an academic assistance component. One director said, for example, that with local middle schools spending $4,700 per student per year and "failing miserably," his Talent Search project could not expect to have any impact on academic outcomes with funding of $190 per participant per year. While we do not know the extent to which these two opposing viewpoints prevail, the contrast was nonetheless striking. By focusing on academic assistance in this chapter, we are not taking sides in the debate but instead are simply providing information that will be of interest to many Talent Search personnel around the country.

Although a wide variety of services could be considered as falling under the rubric of academic assistance, we focused particularly on services designed to help students to perform better in their regular school work and on school examinations. In practice, academic assistance as defined here can take the form of tutoring or other types of subject-specific instruction whether provided by a person or through self-paced computer programs. It excludes teaching or reinforcing general study skills as well as preparing students for college entrance examinations such as the SAT and ACT.

Below we focus on academic support services at four of the projects we visited.

AFTER-SCHOOL TUTORING FOR HIGH SCHOOL STUDENTS: PROJECT H

Project H is based at a 4-year college in a large city. It serves nine target schools, some in the inner city and some in surrounding urban communities. Academic assistance is provided primarily to participants in the four target high schools; services to middle school students focus mainly on personal development and career exploration, not on improving academic performance.

The project's academic support services take two forms, tutoring and classroom instruction, with tutoring the predominant mode of assistance. Tutoring services vary somewhat from school to school, but the basic plan calls for offering one or two hours of tutoring after school four days a week throughout the school year. At a couple of target schools, tutoring is also available for up to an hour before school. The before-school option was often helpful to students who participated in sports or other after-school activities. Project data for 1998–99 indicate that tutoring was available an average of 128 days out of a 174-day school year in each of the four target high schools.

Tutoring sessions function like voluntary study-hall periods—students can either work independently or seek help from the tutors as needed. Students typically ask for help with particular homework assignments, although they sometimes seek more general assistance with academic subjects. In most cases, tutors work with students on a one-on-one basis, but sometimes two or more students who need similar assistance work together with one tutor. The tutors take an active role in determining whether and in what ways students need assistance. Tutors provided a wide range of assistance in the sessions we observed, from talking with one student about a book she was reading for a social studies class to helping a small group of students understand and solve trigonometry problems.

At one of Project H's target high schools, the Talent Search program provides academic assistance through traditional classroom instruction. In one high school we visited, for example, the Talent Search project sponsored a basic mathematics class designed primarily for seniors at risk of not graduating due to their poor performance in their regular mathematics classes. The class was held after school four times a week for one hour during the fall semester. Led by one teacher, it

had an enrollment of about 20 students. During the session we observed, the instructor was teaching about relationships between overlapping sets and subsets, including the use of Venn diagrams.

Project H recruits regular classroom teachers to provide tutoring or instruction or both on a part-time basis. They receive $10.30 per hour and typically work eight hours per week for Talent Search. (Project H's 1998–99 budget included $25,600 for tutors' and instructors' wages.) Tutors and instructors who work with Project H appeared not to be motivated by the money. In fact, we learned that many of them could easily work after school as private tutors for $25.00 per hour. The project director has been successful in recruiting school staff with a special interest in helping disadvantaged students.

Although this project's academic support services were optional, students struggling in one or more classes are encouraged to attend the Talent Search tutoring sessions. Several of the students who attended tutoring sessions on a regular basis told us that they used the assistance to keep their grades high enough to maintain their eligibility for participation in school athletics. A minority of official program participants in the target high schools took advantage of tutoring sessions during 1998–99, according to project records, but they are the students whom program staff know best and are considered the project's core participants.

Why and how did Project H come to place a major emphasis on academic support, and what led to the service structure described above? Fundamentally, the focus on academic assistance reflects the vision of the original director and chief officials at the host institution. That vision has been central to the project since its inception. The officials saw a need for precollege services for students "in the middle" in their high schools—those students who were not already performing at a high academic level. They felt, for example, that the local Upward Bound projects, one of which reportedly requires its participants to maintain at least a 3.0 grade point average, were serving only the best and brightest of the city's low-income and minority students, those who were "pretty much assured of succeeding" even without special assistance. The people behind Project H said that they wanted to reach down below the top 10 percent of students and that they knew that such students would need help with academics. Other tutoring options are available in some target high schools but typically are not available as often or as reliably as is Talent Search. "If you want to improve your grades and get college advice," said one high school student, "this is the program to join."

The focus on high school as opposed to middle school students reflects a belief that the former understand the importance of academic success and thus can be motivated to improve their school performance. In contrast, key project and target school staff believe that middle school students generally are not developmentally ready to focus seriously on academics. As a counselor from one target middle school explained, right after puberty middle school students are

thinking much more about relationships than life after high school, which seems a long way off. In addition, middle school students often operate with the belief that if they fail a class, they "can always go to summer school" to make it up, whereas high school students understand that failing a class may prevent them from graduating or participating in interscholastic sports.

The reliance on target school staff as Talent Search staff reflects a belief that teacher involvement is critical to the success of any school-based program. Project H's former director said that during her 22 years as a teacher in local schools, she had seen many programs fall short of their potential because of a lack of buy-in by school staff and students and limited relations between program staff and students. She felt strongly that visits to a school once or twice a week by outsiders would not lead to long-term impacts. The school and its students need to have a sense of ownership. "Kids are territorial about their schools," she said. "They don't necessarily accept people popping into and out of that territory. You have to be *of* the school, not just in it."

Using full-time target school staff as Talent Search tutors and instructors, the current director elaborated, means that adults affiliated with the program see the students "all the time," not just an hour or so each week, as is common in other Talent Search projects. The Talent Search tutors talk to program participants in the hallways between class periods and so on—not just when they are "on the clock" during their official tutoring hours—demonstrating to students that they care and building closer relationships. Finally, Talent Search staff who are drawn from within a target school may be especially effective at communicating with other school staff about individual student needs, curriculum, and other matters.

One challenge we heard about at Project H concerned the ability of some tutors to assist students in subjects outside their area of expertise. In response, the project tried to schedule teachers with different backgrounds—such as an English teacher and a mathematics teacher—to be on duty at the same time. That way, a tutor could, if needed, refer a student to her colleague for more-specialized assistance. Another strategy we observed at one target school was to use primarily special education teachers as tutors. These teachers told us that they were trained to diagnose students' learning issues and adapt their instructional approach accordingly. In addition, the special education teachers were experienced in juggling many students and subjects at one time, were generally familiar with all the key curricula in the school, and were adept in helping students individually.

AFTER-SCHOOL TUTORING FOR MIDDLE SCHOOL STUDENTS: PROJECT M

Project M is based at a 4-year college in a large city, although most of its nine target high schools and five target middle schools are located in surrounding suburban school districts. Project M's academic support services are similar in many respects to those of Project H. For example, services consist mainly of after-school tutoring, and the tutors are teachers from the target schools. An

important difference, however, is that academic assistance in Project M is provided to middle school students, not to high school students, for whom services focus on college information and assistance with college and financial aid applications. Four of the five target middle schools offer tutoring services.

Since its inception, Project M, which first received funding around the time that the Talent Search program increased its emphasis on serving middle school students, has focused on academic support for middle school students. Project staff polled school principals and found substantial interest in supplemental services that would help raise middle school students' standardized test scores and improve their academic performance in general. The perceived need for higher testing and academic performance meshed with the perspective and philosophy of the Talent Search staff. Project staff believe that early academic intervention is an important way to get students on the right track, reducing the likelihood that they will drop out in later years. They also feel that the target schools are not able to give students all the academic help they need. The host institution's TRIO director, who also oversees an Upward Bound project, looked to that program as a model for designing a new Talent Search project. She recognized from the outset that, given its funding level, Talent Search could not offer academic support services for all participants or with the same intensity as Upward Bound, but she chose to emphasize academics to the extent possible among middle school students.

Academic assistance is typically available two to three hours a day four days a week through most of the school year. One of the target middle schools offered tutoring services on three weekday afternoons and from 10:00 a.m. to 4:00 p.m. on Saturdays. Students can receive help with homework in any subject, but the program emphasizes English, mathematics, and science. Academic support is provided through two components—tutoring sessions and computer labs. Group counseling sessions—on topics such as conflict resolution and careers—sometimes make up a third component in a typical day's Talent Search programming.

Project M relies on 12 part-time tutors, all of them regular teachers in the target middle schools. One advantage of using the target schools' regular classroom teachers as tutors for the Talent Search program, staff explained, was that the teachers were familiar with the types of homework and assignments the students were working on. Tutors work six to eight hours per week and are paid $12.50 per hour. As was the case with Project H, teachers in Project M's target schools could earn substantially more for private tutoring—reportedly over $30 per hour. The teachers undergo training in tutoring skills and counseling techniques as well as in the instructional software that students use in the computer labs. The project director oversees the tutors' work by reviewing the forms on which they keep track of students' needs and the services provided and by occasionally visiting the schools and observing tutoring sessions.

Students who are struggling academically are scheduled and expected to participate in tutoring; students who are doing sufficiently well in school are excused from tutoring but are generally expected to participate in the other program activities—computer labs and counseling. In reality, however, there are no mandatory participation requirements for struggling students. Those who participate infrequently are not automatically dropped from the program rolls. For example, students who participate in other extracurricular activities, such as cheerleading or sports, are routinely allowed to skip Talent Search. Of the 75 program participants at one middle school we visited, 25 regularly attended tutoring sessions.

To determine the academic areas in which students most need help, the project relies not only on student self-reports and teacher or counselor assessments but also on frequent diagnostic testing, including teacher-made tests; standardized tests such as the Iowa Test of Basic Skills®, which is used in all the target schools; and other assessments such as the Coopersmith Inventory and the Mooney Problem Checklist. Tutors are expected to consult with students' regular teachers to discuss deficiencies and areas of need and to review students' grades. To track student progress, tutors keep weekly records indicating how many hours students spent in tutoring, in what areas they needed assistance, and how those needs were addressed.

Students cited the opportunity for tutoring as a major reason for joining the Talent Search program. Even students who were performing well in school said that they wanted to bring their grades up higher. Middle school participants offered lots of positive comments about their Talent Search tutors.

At one middle school we visited, all 30 students in attendance at the tutoring session started out in one classroom where they did their homework. The three tutors in the classroom helped students as needed, but some students who had the same assignments worked alone or in pairs or small groups without asking for assistance. After tutors verified that students had completed their homework and checked it for errors,[2] the students were released to work in the computer lab, taking advantage of educational software. The opportunity to use the computers was clearly a major motivation for students to complete their homework. In the school's computer lab, which featured 34 desktop computers, sixth graders worked on a lesson about onomatopoeia, seventh graders on a variety of spelling, vocabulary, and reading comprehension exercises, and eighth graders on a lesson about prefixes and suffixes.

At a second middle school we visited, students were divided into three groups—one in tutoring, one using computers, and one in group counseling—and rotated

[2]All Talent Search participants in this school carry a daily planner, provided by the program, in which they list their homework assignments and other short-term objectives. Tutors sign the planners when the students have completed their homework during the after-school tutoring session, helping some parents feel more confident that their children are keeping up with their school work.

between these activities at set intervals. During the computer session, students worked in pairs on a program that focused on mathematics topics such as fractions, decimals, percentages, and ratios.

One challenge Project M has faced with its after-school tutoring component is transportation. Some students cannot participate to the extent they desire because reliable transportation home is not available when the program ends each day. In at least one of the target schools, however, project staff arrived at a creative solution by teaming up with another after-school program that does have funds for transportation. The other program's participants are allowed to use the Talent Search project's computer resources and, in exchange, Talent Search participants receive rides home on the other program's bus.

AFTER-SCHOOL TUTORING AND SATURDAY TEST PREPARATION SESSIONS: PROJECT N

Project N is hosted by a 4-year college in a large city. It covers four target middle schools and eight target high schools, all located relatively close by in the inner city. Students in the schools have historically scored much lower than their peers across the state on required standardized tests.[3] More generally, students in the target schools are struggling with their regular classes. At one target school, guidance counselors estimated that 80 percent of students receive an F in any given grading period. Performance issues were a key factor behind Project N's decision to make academic assistance a major element of its program offerings. Interestingly, some of the target schools are served by more than one Talent Search project, but Project N was distinguished from the others by its focus on academics.

Project N's academic support services consist primarily of tutoring and test preparation classes provided on weekday afternoons and Saturdays during the school year, although in some years when funds are available, the project offers a two- to three-week summer session focused mainly on academics.

Project N uses college students from the host institution as tutors and test preparation course instructors. They receive about $7.00 per hour and work from five to 15 hours per week. Several tutors on the roster were themselves former Talent Search participants. Tutors do not specialize in particular subjects but instead try to provide whatever assistance is needed.

Tutoring is provided at the host college campus, in office space devoted to several precollege programs. It is available Monday through Thursday from 3:00 p.m. to

[3]For example, in 1997–98, 24 percent of 11th graders in the target schools passed a statewide examination in mathematics compared with 86 percent of students in the state; 28 percent passed the examination in reading compared with 84 percent at large; and 34 percent passed the examination in writing compared with 88 percent at large. In addition, of those students who took the SAT that year, the average score in the target high schools was 735 compared with a statewide average of 1,006.

6:00 p.m. and on Saturdays from 9:00 a.m. to noon. All students, regardless of grade level, can drop in whenever they need individualized help from one of the tutors on duty. On the day we observed the program, two tutors were on duty; on another day, one tutor was on duty. The project has no attendance requirements, but some students we met with told us that their parents made them attend tutoring sessions.

Students can receive specific help with particular homework assignments or more general tutoring on course material. Sometimes they bring in papers or other completed assignments for tutors to review before turning them in at school. At the time of our visit, plans were underway to introduce two forms to guide and monitor tutoring services: an academic improvement plan would focus on needed areas of improvement and a tutoring report form would record services provided.

The second major academic support service available at Project N is test preparation. Although services are offered to help students prepare for the SAT, we focus on the project's efforts to improve student performance on statewide middle school and high school proficiency tests. These are high-stakes examinations. For example, if eighth graders fail an examination, they must take remedial classes in mathematics or English during ninth grade, which can prevent them from taking the other courses they need to be ready for college. High school seniors must pass the examination as a condition of graduation.

Test preparation classes are held on Saturday mornings from 9:00 to noon at the host college campus. Classes last for 10 weeks. Separate sections are held for middle school and high school students. The classes, offered twice a year, typically operate at capacity, with 20 to 30 students. Instructors administer a pre-test at the beginning of the class and a post-test at the end to gauge student improvement. Results are sent home by mail to each student's parents. Each class has a lead instructor for English and mathematics and two teaching assistants. Instruction focuses primarily on subject matter content and secondarily on test- taking skills and strategies.

In addition to tutoring and test preparation, one senior staff member leads an algebra enrichment pilot program. She works with a small group of ninth graders who are earning a C or lower in their regular algebra class. Students go to the host campus twice a week for after-school sessions aimed at improving their understanding of key concepts and enhancing their ability to solve algebra problems.

Project N's summer program reportedly resembles its Saturday test preparation sessions. Four days a week the participants spend 90 minutes each on mathematics and language arts, followed by group counseling and skills development sessions. (Fridays are devoted to cultural and fun-filled field trips.) When held, the summer program has been able to accommodate virtually all interested students, an average of about 60.

As with Projects H and M, a relatively small number of participants in Project N take advantage of tutoring and other academic support services. For those students interested in Project N's various types of academic support, one potential barrier is transportation; students must find their own way to and from the host campus. Another issue is some students' reluctance to travel out of their own neighborhoods, which one person described as "balkanized." Project staff would like to have funding to provide transportation or subsidize bus fares.

AFTER-SCHOOL CLASSES AND TUTORING: PROJECT S

Project S is operated by a community-based organization in the heart of a large city. The organization, which has a long history in the city, operates several other programs in addition to Talent Search, including Early Head Start, an after-school program, and a child care program; Talent Search is the organization's only precollege program. The project covers five target high schools[4] and five target middle schools, all located in the inner city.

This project's focus on academics has mainly been a response to a perception that the city schools provide a generally weak education and that students therefore need supplemental support if they are to be well prepared for college. But the academic focus took on additional importance in recent years when the state implemented a policy requiring all students to pass examinations in English and mathematics as condition of receiving a high school diploma. In fact, the large majority of Talent Search participants at Project S receive little in the way of academic support services; their exposure to the program comes mainly in the form of one-on-one college advisory sessions and career and financial aid workshops delivered at target high schools and program headquarters. A small number of highly motivated students, however, participate in an academically intensive program track that we call "Aim High."

Aim High involves an extensive schedule of academic services Monday through Thursday.[5] From 4:00 p.m. to 6:00 p.m., students can attend an independent study hall session. Alternatively, they may participate in a wide range of recreational or cultural enrichment activities, some of which, such as poetry and computers, could help them with their regular school work. From 6:00 p.m. to 8:00 p.m., the project offers structured academic courses designed to help students pass the state's standardized examinations in particular subjects. During the 1999-2000 school year, course offerings were as follows: Monday, U.S. history and English; Tuesday, global studies; Wednesday, math I, II, and III; Thursday,

[4]The project also serves students from a number of other high schools, but provides only provides services at the five designated target schools.

[5]Aim High also operates from 4:00 p.m. to 8:00 p.m. on Fridays, but the only academic-oriented activity is a structured class to prepare students for the verbal portion of the SAT; a class focused on the mathematics portion is held on Tuesday nights.

biology, chemistry, and physics. Simultaneously, for students not taking a class, one-on-one tutoring is available. Tutoring sessions allow participants to receive individualized help with their school work. Project staff design a schedule for each participant based on the student's needs and interests (and, of course, in consideration of experience in the program and activity enrollment limits). All Aim High participants must take at least one of the structured classes. To help gauge Aim High participants' academic needs, project staff send a form to all the participants' regular school teachers twice a year, asking them to list all the major assignments that will be due during the semester and to describe the specific skills or concepts the student will need to improve on in order to excel in the course.

Project S draws on a large pool of volunteers to serve as tutors for Aim High; about 80 volunteers were on the project rolls when we visited. Some tutors are working professionals or other adults, but the vast majority are students at a nearby university. The students were part of a large community service effort promoted by the university's president. Project S's host organization was one of eight community-based organizations where volunteers could work. No matter how many hours per week they volunteered, tutors at Project S were expected to commit to a fixed schedule, which enabled the full-time staff to try to match tutors to particular students based on subject interest and expertise, gender, and race or ethnicity.

Aim High is designed primarily for high school students. It serves 100 to 120 students and usually has a waiting list of about 25 students. Participants in Aim High must sign a "contract" that acknowledges their commitment to remain in the program and to abide by certain behavioral rules while in the program, such as acting respectfully and not "hanging out" in program offices. Aim High activities are held at the host institution's headquarters and at a nearby public housing community center. Students must get to and from the program on their own; virtually all of them walk, ride bicycles, or use public transportation, and some travel 30 minutes or longer from school to Project S headquarters.

Project S would not be able to offer the Aim High program without outside funding from charitable foundations. One use of outside funds is to provide monthly stipends of $50, $100, or $150 to Aim High participants—a rare practice in Talent Search. The stipend amounts are linked to the number of academic classes the students are taking, their performance and behavior in the program, and the length of time they have participated in the program. A program brochure describes the stipends as both an incentive to inspire participation and learning and a reward for demonstrating commitment. The stipends, together with the instructional focus, make the Aim High component of Project S look more like an Upward Bound program than most Talent Search programs.

One challenge that Project S faces in providing academic assistance services relates to its reliance on a volunteer tutoring corps, particularly students from a fairly prestigious university. As volunteers, some tutors feel less committed to the

program than would paid staff. During their college examination periods or between-term breaks, for example, some tutors may not show up. And tutors from more economically advantaged families than the Talent Search participants occasionally have difficulty in both understanding the context of students' lives and relating to the daily challenges students face in and out of school. Project S staff said, however, that most student-tutor matches succeed—some develop close relationships, in fact—and that there is little they can do about tutors sometimes needing to skip tutoring sessions, except to encourage them to be responsible and give as much notice as possible.

USING TECHNOLOGY IN SERVING STUDENTS

As technological advances lead to the introduction of new and more powerful devices at an almost dizzying rate and more and more educational software enters the market, some observers have argued that technology—in particular, computers and the Internet—have the power to revolutionize education. Whether such a revolution will ever truly occur is impossible to say, but it is clear that computers and related technology are already enabling Talent Search staff to change the way they provide services to program participants. As more and more students gain access to computers in their homes and schools, it may seem odd to them that an education-related program such as Talent Search would *not* be using computers to the full extent possible.

This section focuses on using technology to serve Talent Search students—in particular, communicating with students and giving them information and experiences intended to help them complete high school and pursue a postsecondary education. This focus excludes purely administrative uses of technology, such as computerized databases that support program operations.

We did not identify any Talent Search projects where computer use was as important or extensive as academic assistance was at the four projects described in the preceding section. But we did, however, study a few projects that made substantially greater use of computers than did the "typical" project—projects in which technology figured prominently in program objectives and activities. Even in projects that made relatively little use of computers in serving students, we occasionally learned of one or two interesting practices involving technology. Below we highlight a variety of ways in which the Talent Search projects we studied were using technology in serving program participants.[6]

AFTER-SCHOOL COMPUTER CLUB: PROJECT P

Project P is hosted by a 4-year college in a large city. It covers 15 target schools, 10 within the city limits and five in a suburban community located 20 miles away.

[6]Appendix C presents survey data on the extent to which projects used computers in serving and communicating with participants.

All the target schools have operated computer labs for several years; in fact, the long-time existence of the labs was one of the key factors that enabled Project P to make computer use a notable program feature. Talent Search participants' exposure to computers varied by target school, grade level, degree of interest, and other factors, but opportunities existed for a wide range of activities, from file management to word processing, from Internet research to Web page construction, and from desktop publishing to e-mail.

The primary opportunity for students to use computers under the auspices of Project P is through an after-school computer club that meets once a week at most of the target schools, particularly the high schools. All official program participants are invited to attend, but participation in the computer club is voluntary, and a relatively small group of students typically shows up—for example, eight to 12 students out of about 75 students on the program rolls at one target high school we visited. The full-time project staff member assigned to work with the target school directs the computer club activities. Most of the time, staff members give basic guidance to the group as a whole and then assist students as needed on an individual basis. Occasionally, staff use group instruction, such as when teaching students how to design a Web page.

On the day we observed an after-school computer club in progress, students were accessing their personal accounts on a Website that provides information about postsecondary education (*guidance.collegeedge.com*, which subsequently changed to *ecos.embark.com*). Project P had purchased 700 accounts—enough to cover all program participants—at a cost of $1.75 each, plus a $1,500 flat license fee. Students entered a user-ID and password to gain access to their accounts. They filled out on-line profiles about themselves, entering information about their backgrounds, subjects they might like to study in college, regions of the country where they might like to attend college, and so on. The site then provided lists of colleges that might meet a student's interests—say, public universities in the Midwest that offer degrees in veterinary science—and links to all kinds of additional, related information.

One group of Project P middle school students we met with had used computers at their school during the school day for a special project on careers. They researched information about careers that interested them and then developed PowerPoint® slide shows, with integrated text and graphics, for presentation to a meeting of their peers. Afterward, project staff posted all the slide shows on the project Website, along with pictures of the students who created them, so that students, parents, and others could view the presentations any time. Project P's Website also contains a wide range of information that is useful to program participants. In addition to listing scheduled activities, such as workshops and field trips, the Website provides links to target school home pages, to other programs that students might want to participate in during the summer, and to resources that can help students in school and as they look ahead to college.

All Project P participants were also permitted to use a small computer lab, shared with Upward Bound, at Project P's main office. Finally, the project had purchased a scanner and a digital camera to enable students and staff to incorporate photographs and other graphic material into various applications.

Given that computer use was such a significant aspect of Project P's Talent Search program offerings, the director formally established program outcome objectives concerning participants' experiences with computer-related skills. For example, by the time they graduated from eighth grade, 75 percent of middle school students were supposed to have completed the following in the area of multimedia: (1) prepare a PowerPoint® presentation, (2) transfer data or graphics from the Internet to PowerPoint®, (3) use photograph editing software, (4) use a multimedia encyclopedia for research, and (5) use desktop publishing software. Similarly, by the time they finished tenth grade, 75 percent of high school students were supposed to have completed the following in the area of Internet research: (1) go to any specified URL (Web page), (2) use a search engine to find a Website, (3) use Boolean terminology to search for Websites, (4) save a Web document, (5) copy Internet text into a word processing document, (6) cite a Web source using style guides of the Modern Language Association or the American Psychological Association, and (7) use HTML editor to construct a Web page containing graphics, background, text, tables, and links. Other skills pertained to operating system and file management, word processing, and e-mail.

What accounted for Project P's emphasis on technology? In part, it was the project's recognition that computers and the Internet are excellent resources for learning about college and career opportunities. It was also partly a response to a perception that students need to develop good computer skills. Project staff, however, tried not to overstate the importance of computers in serving Talent Search students. The director said that computers are, to a certain degree, "bells and whistles," a program feature that can attract and excite students, but not a feature as important as meeting more fundamental precollege needs. And students seemed to get this message. Some told us that gaining Internet research skills was valuable and that computer experience would "help a lot" with future schooling and jobs "because technology is the future," but they recognized that the ability to design a Web page, for example, was not critical for gaining admission to college.

Another major factor behind Project P's focus on computers and related technology was that the project had a substantial source of support in addition to its federal Talent Search grant. Project P's host institution was one of several dozen TRIO grantees in a partnership with Microsoft® Corporation. During the 1998–99 school year alone, Project P received from Microsoft® in-kind donations valued at $97,000—specifically, software and site licenses to install and operate the software. Project P staff installed the software, such as Microsoft Office, not only on the computers in its own offices but also on computers in all of its target schools. School officials were, of course, delighted to receive the free software,

which could be used by all students, not just Talent Search participants. In turn, schools readily agreed to grant the Talent Search program exclusive access to their computer labs for an hour or so each week. The project's software donation also helped make schools more receptive to its service needs, such as the ability to pull students from classes for short meetings.

DISTANCE TUTORING AND SUMMER TECHNOLOGY CAMPS: PROJECT R

Project R, based at a 4-year college in a small city, covers 27 target schools, most located in smaller surrounding towns and rural communities. In recent years, the project has initiated efforts to integrate technology into as many facets of its operations as possible, including its own record-keeping functions, communication with participants, and various services and activities. The project director believes that participants must become technology-literate in order to succeed in college. In addition, she saw expanding the use of technology as a way to engage students and to challenge and energize the staff. Here we focus primarily on two of Project R's major technology initiatives: distance tutoring and summer technology camps.

Project R provides most of its tutoring in face-to-face settings, such as at target schools; however, given that the target area is fairly large (it includes three counties) and that some tutors (who are college students) do not have cars, it is not always easy for tutors to connect with students in need of academic assistance. In response, the project adopted an innovative approach: distance tutoring through Microsoft's® NetMeeting® software. The system uses personal computers outfitted with Internet connections and cameras while participants wear microphone and headphone sets so that people in two different locations can see and hear one another in real time. Project R also incorporated electronic writing pads or "white boards" that function like a shared, virtual chalkboard. The pads allows each person to see what the other is writing, such as mathematical equations. The information written on the pads can be saved or printed for future reference.

At the time of our visit, distance tutoring was fairly new and in use to only a limited extent. The tutors used the technology at the project's office on the host institution campus. Interested students, who typically could participate in a distance tutoring session once a week, could go to one of four remote facilities established to accommodate distance tutoring: two at community colleges, one at a target high school, and the fourth at a community center. The computer lab at the one high school outfitted with distance tutoring technology closed at 4:00 p.m. each day, which provided a fairly limited time frame for distance tutoring—but even the limited time was an improvement over arranging for tutors and students to meet in person. Overall, project staff were enthusiastic about the potential of distance tutoring. It not only saved the costs associated with transportation, but the greater convenience made it easier to recruit tutors.

We observed a distance tutoring session for a student needing help with chemistry homework. The tutor had a copy of the textbook used in the student's class, which helped provide a common frame of reference. The student asked the tutor questions about information in the text and about specific homework problems. They discussed the issues and used the white board to work through solutions, and so on. Initially, they set up the screen so that they saw one another and the white board, but after a while they minimized the picture screen and concentrated on the white board. Overall, the session seemed to be particularly productive.

A second important way in which Project R uses technology in serving Talent Search students is through summer technology camps. Each summer, the project offers several one-week technology camps at the host institution and a nearby high school. The camps can accommodate up to 200 students per week. Registration is on a first-come, first-served basis. Students may enroll in more than one camp per summer, but staff members ensure that all interested students get to participate in at least one session before registering them for a second or third camp. Each day's activities last run 9:00 a.m. to 4:00 p.m. Bus service is available to students from some areas. Courses are designed for beginner, intermediate, and advanced levels. Topics and applications include how a computer works, how to use the Internet, Web page creation, programming in C and C++, programming in Java, using Unix, using Microsoft® Office, and creating multimedia presentations. Talent Search project staff and computer science students from the host institution are the primary staff for the camps. Several students we interviewed especially enjoyed the technology camps, and some described that experience as the most interesting part of the program.

Project R also featured a number of other interesting technology-related activities:

- It supports a Website with features similar to those of Project P's, plus it has program applications, tutoring request forms, and college visit forms that students and parents can print or download.

- A computer lab in the project office on the host institution campus provides Internet access for college searches or other uses, tutorial software in various academic subjects, ACT and SAT preparation software, and even videos on self-esteem and other subjects.

- Parents also enjoy access to the lab, particularly e-mail accounts if they are interested. The project has offered some technology workshops for parents, focusing on topics such as using the Internet, multimedia tools, and Microsoft® Office software. Access top the lab is most beneficial to parents living relatively close to the host college, and a computer workshop that attracted about 20 parents proved a success.

- Some students participate in a nationwide competition called ThinkQuest, in which small groups create informative Websites. Winners receive college scholarships.

- Graduating seniors are encouraged to compile an "electronic portfolio" on a CD to showcase their achievements and leadership abilities. Students create a personal transcript outlining the types of courses they have taken, the extracurricular activitites they have participated in, their college entrance examination scores, awards they have received, and so on. Using digital cameras and scanners, students also can save copies of important documents, such as award certificates and letters of recommendation. The electronic portfolios are intended for potential use in students' college entrance endeavors.

- The project asks all participants to complete a technology assessment form that addresses issues such as whether they are interested in attending a summer technology camp; the extent to which they use computers at school and at home; the ways in which they use computers; the type of processor they have in their home computer; the extent to which they and their parents use e-mail; their interest in receiving e-mail messages about Talent Search activities and other useful information; their self-assessment of their computer skills; their familiarity with various operating systems; their interest in participating in ThinkQuest; and any requests or suggestions about technology-related services.

It should be noted that Project R has been able to implement these service approaches *without* the assistance of major outside sources of financial or in-kind support. The introduction and integration of technology at Project R was accomplished through a pooling of resources between Talent Search and Upward Bound and with resources from the host college. (At this institution, the Talent Search project director also oversees the Upward Bound program.) The computer lab in the main office, for example, was developed with funds from both programs and is used by participants and staff from both programs. In addition, some of the technology is not as expensive as some readers might assume. For distance tutoring, for example, information collected by Project R indicated that digitized writing pads and video cameras can each be obtained for about $100 or less and microphone and headphone sets for under $20 while the Microsoft® NetMeeting® software comes free with Internet Explorer.

One important step in developing and implementing technology-intensive services was the recruitment of a qualified staff. It can be somewhat of a challenge, the director explained, to find and retain staff who are both familiar with computers and related technology and able to work well with program participants. In addition, the project took the pivotal step of hiring a full-time staff member to fill the position of technology coordinator. The coordinator is responsible for fostering technology integration. Another factor in Project R's favor was the prevalence of computers in target schools. Virtually all participating schools have taken advantage of generous corporate and foundation support to provide in-school computers. Thus, the program is operating in an environment that supports and is conducive to the use of technology in education.

DIVERSE USES OF COMPUTERS AND TECHNOLOGY: THREE OTHER PROJECTS

Project C is based at a 2-year college in the suburbs of a large city. It serves four high schools and three middle schools, all in the city. The project has found several ways of using computers and related technology to serve program participants, aided in part by support from the Microsoft®-TRIO partnership program.

- Project C, like Project P, has received a substantial amount of free software from Microsoft®—valued at about $50,000 in 1998–99—which it has loaded onto several computers at each target school. The software—including Word, Excel, PowerPoint®, Access, Virtual Globe, Bookshelf®, Encarta®, and FrontPage—is available for all students and staff at the target schools. To help ensure that the software would be used effectively, the project sponsored in-service training for interested target school staff. Project staff reported that school officials were highly appreciative of both the software and the training opportunity.

- The project operates a laptop computer loan program for its participants. Students can check out and take home a laptop computer loaded with software to help them prepare for the ACT.

- High school juniors and seniors have accounts on embark.com (the same Internet-based company mentioned in the description of Project P), which enables them to conduct customized searches for information on colleges and financial aid.

- At one of the target middle schools, Project C and school staff co-sponsor an after-school computer club whose participants meet once a week to pursue a variety of computer-based projects.

- Each of the project's three full-time advisors has a laptop computer that they take with them whenever they visit target schools. Loaded on the computer is an Access database with extensive information on program applicants and participants, including students' grades, the program activities students have participated in, and students' "Education Career Plans." This information, which is updated weekly, enables staff to see how students are progressing toward their goals and can serve as a basis for discussions about what additional services students should receive.

- Finally, Project C uses an automated telephone messaging system to remind students and their parents of upcoming program activities. The system automatically dials participants' home telephone numbers and plays a message recorded by project staff. The project director described the system as a cost-effective way to communicate with program participants.

In recent years, Project H has also been increasing its use of computers to serve Talent Search participants. Some examples of its activities follow:

- Students in at least two target high schools can use computer-based individual tutorial software to prepare for the ACT.

- We observed a Talent Search staff member at one target high school helping participants use a new computer lab to access personal accounts at ecos.embark.com.

- In fall 1999, the project offered an Internet research course that met on a few successive Saturdays in a computer lab at the host institution campus. About 100 high school seniors took the class and—an interesting feature—earned one college credit from the host institution. Project officials intended to repeat the course in subsequent years, offering it to younger students as well.

- Middle school students who attended a summer enrichment program were exposed to computers in a variety of ways. During summer 1998, for example, students learned to navigate the Internet for research, used Microsoft® Word to prepare a scientific manual, made labels for science fair displays, created a Web page about mathematics, and prepared a PowerPoint® presentation, complete with sound and animation, on African-Americans who had made major contributions to society. All students used computers during at least one of 10 structured activity periods each week, and those who were involved in a "computer science track" used computers during at least half of the activity periods. A high school freshman who had participated in the summer session said that after learning about the Internet through Talent Search, he was able to help his parents when they eventually connected with a home computer.

Project I is operated by a community organization and serves 36 target schools spread over an expansive, mainly rural area. This project, like Project C described above, obtained laptop computers for all of its full-time field staff, plus portable printers. Loaded onto the computers was a database, provided by the state government, that contained extensive, detailed information on postsecondary institutions and careers. We observed the staff's use of this equipment in two different ways with high school students. In one case, students filled out a short questionnaire that asked about college interests, such as field of study and region, size, and type of institution (public or private 2- or 4-year institution). The staff member quickly entered this information in her computer and was able immediately to generate and print out a list of colleges that met the student's criteria. In another case, students were asked to name an occupation that interested them. The staff member was then able to print out two types of information about that occupation: (1) a general profile that included information on required aptitudes; typical working conditions; minimal educational entry requirements; training and education; advancement; employment hints; and national and in-state data on average earnings, employment outlook and current

employment; and (2) a "career pathway" report, including descriptions of the number and type of courses that students should take in high school and college to prepare for a particular occupation.

SERVING MIDDLE SCHOOL STUDENTS

When Talent Search was created in 1965, it focused on high school juniors and seniors, but subsequent legislation in 1989 directed projects to place an increased emphasis on middle school students.[7] In our discussions with Talent Search personnel around the country, however, we perceived varying levels of interest in, and emphasis on, serving middle school students. Some project directors described different orientations toward middle school services as a function of project longevity. Projects that were in existence for many years before the middle school initiative, they said, have tended to maintain their longstanding focus on serving high school students, whereas projects established more recently adopted a sharper focus on middle school students from the outset.

Regardless of project age, Talent Search staff still have questions about how best to serve middle school students.[8] Several services that have long been considered central to Talent Search's mission, such as sharing information about financial aid and helping students complete college admission and financial aid applications, are most relevant and salient to students nearing the end of high school. At the same time, though, deciding what types of precollege services are most appropriate and interesting for students as young as 12 or 13 years old and then implementing those services has evidently posed a challenge for some Talent Search projects.

Our goal in studying middle school services was not to prescribe how Talent Search projects should serve students in sixth through eighth grade but simply to describe a range of interesting examples of the approaches taken by a handful of projects. The descriptions include projects offering frequent and diverse services throughout the school year as well as projects offering intensive services provided over a short period, including summer programs. We also highlight some projects that serve middle school students in their regular classrooms.

BIWEEKLY WORKSHOPS AND SUMMER PROGRAM ON TRANSITION TO HIGH SCHOOL: PROJECT O

Project O is hosted by a 4-year college in a small city. Its 11 target middle schools and 13 target high schools are spread over a mainly rural area twice the

[7]Through its GEAR-UP program, the federal government has more recently shown a continuing interest in early intervention. The program is designed to follow students from the seventh grade through to college entry.

[8]General interest in this area led COE to conduct a survey of Talent Search projects' practices in 1998, although the results were not published.

size of Connecticut. Since the program was first funded about 11 years ago, it has been premised on the philosophy that to make a difference in students' lives, "you have to start young." The project not only provides early intervention services beginning in the sixth grade but also pays special attention to transition points, including the transition from middle school to high school.

The core services provided to virtually all middle school students are workshops and field trips. These same services comprise the basic program offerings for high school students, although the focus differs for the two groups. For example, workshops offered to sixth-graders deal with basic issues, such as What is college? As the students get older, the focus shifts toward life skills and decision-making. By the eighth grade, the workshops and activities focus more on course selection as the students start to plan for the transition to high school. Although project staff ("counselors") do address issues such as financial aid with middle school students, they simply try to make the students aware of financial matters so that they will start thinking about such issues.

Project O offers workshops at each target middle school approximately every two weeks. The sessions run for one class period (typically 50 minutes), with students pulled from their regular classes. Workshops are usually conducted on a grade-level basis; therefore, a Talent Search counselor delivers the same workshop three times in a row when she visits a middle school. The counselors follow a general curriculum—that is, a standard set of topics to be covered during the year—but enjoy considerable flexibility as to both the order of topics and how materials and activities are designed and presented. In working with middle school students, especially, counselors strive to be creative and to keep students interested, entertained, and engaged. One commonly used technique is a game format. For an example of a game for middle school students, see the accompanying box.

Using a Game to Teach Middle School Students about College

Project O's four counselors jointly developed a "board game" to focus middle school students' attention on several issues central to the Talent Search program. We observed the workshop at two middle schools.

The game consisted of 24 posterboard "tiles" arranged into a square with six tiles per side and placed on the floor of a large open area. Each side of the oversized game board dealt with a different theme such as financial aid, course selection, life skills and decision-making, and college dilemmas. A question or short vignette written on each tile related to the theme on that side. Students were divided into teams, each assigned to a different side of the board. They spent five to 10 minutes on a side before rotating to the next side. Each team had a "die"—a large, cubed-shaped cardboard box with one, two, or three large dots per side—that they rolled to determine their movement along the tiles on their side of the board. When they landed on a tile, they had to answer the question or address the situation described. For each correct answer, the team received a colored "key" (cut out of cardboard) with different point values, depending on the difficulty of the question and the quality of their answer—green keys were worth one point, silver keys two points, and gold keys three points. The team with the most points at the end of the game would win.

Following are examples of the challenges presented on each side of the board:

- *Financial aid.* The tiles on the financial aid side of the board included true-and-false, multiple-choice, and short-answer questions. In most cases, the students could pick the difficulty level of the question (one, two, or three points) they wanted to answer. One of the true-false questions asked, "True or false: In college, you have to maintain a 2.0 grade point average (a 'C' average) or higher to maintain your financial aid." One of the multiple-choice questions asked, "Which degree program does financial aid not cover—a) associate's degree, b) certificate program, or c) bachelor's degree?" One of the short-answer questions asked, "Name up to three types of financial aid." Answers included grants, scholarships, loans, and work study.

- *Course selection.* One of the tiles related to course selection said, "Name colleges in this state that are considered 'selective.'" For each correct answer, the students selected one of several high school history courses listed on the posterboard. After the team members had selected their courses, the counselor explained how many points each couse was worth and why. For example, U.S. history was worth one point (a green key) because it is a required class while world history was worth two points because it is an elective that goes beyond U.S. history. Another tile said, "Name types of college

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Using a Game to Teach Middle School Students about College *(continued)*

degrees and define them." Students had to identify degrees by their abbreviations (e.g., A.A., B.A., M.S., Ph.D., M.D.), explain what the abbreviation stood for, and say how many years it takes to earn each degree. For each degree they correctly identified, students selected one of several high school mathematics classes listed on the tile. In this case, higher-level mathematics classes (e.g., calculus, trigonometry) were awarded more points than basic mathematics classes (e.g., algebra).

- *Life skills and decision-making.* Tiles on this side of the board presented a series of scenarios involving some type of barrier or obstacle that could prevent a student from attending or succeeding in college. Teams were told to discuss the issue as a group and come up with three possible solutions. One point was awarded for each acceptable answer. One scenario was as follows: "You are in HS 110 (Modern History of South America) and you were given an assignment to work in a group of five to research, write, and present a paper on the cultural customs of the Yanomamo Indians. Two weeks before the project is due, one of the group members stops showing up for the meetings. If the project falls apart, you all get a bad grade. What should you do?" Other scenarios dealt with family problems, problems with roommates using other roomates' possessions, and mixed signals from parents about attending college versus finding a paying job.

- *College dilemmas.* This category presented students with a series of scenarios that could occur in college. Each posterboard showed a picture of a young adult and included a vignette about a problem facing the student. The players were told to work as a group to come up with three possible actions or solutions to the problem. One scenario was as follows: "Tameka struggled in high school to get good grades. She went to college and worked hard, but her grades started slipping around mid-terms. She feels like a failure...she knew she wasn't going to make it in college. What should she do?" Other scenarios dealt with struggling to pay for college, partying too much, and responding to racial jokes.

At the end of the game, after the points were tallied, members of the winning team each received a token prize—a fancy-looking ballpoint pen. Then the counselor recapped the key message from each of the game themes. "The classes you take in high school are very important. Colleges don't only look at your grades, they want to see that you took challenging classes as well." "Effective decision-making is really important—you need to start thinking about how everything you do from now on affects you." "Start thinking about financial aid—the earlier the better. Use your Talent Search counselor as a resource." He said he would be there to guide and help the students all the way through high school and that they would have plenty of time to learn more about the issues they covered in the game. Finally, he said that when students got to college they would find several resources available, such as the financial aid office.

Ideally, participants at each of Project O's target middle school should have the chance to go on one field trip per semester, although that was not always the case. The trips, designed to provide both educational and cultural experiences, are typically open to all Talent Search participants and filled on a first-come, first-served basis. Participation is often limited to 14 or 28 students because the program uses 15-passenger vans for transportation. Examples of some recent field trips for middle school students include a basketball game at the host college, an interactive exhibit on oceanography at a different college, a weather research center at a third nearby college, a national sports training facility, a museum of natural history, and a geological research site.

One of the signature pieces of Project O's middle school component is the High School Transition (HST) program, which is designed to help eighth-graders make the transition to high school. Project staff describe HST as an "intensive education experience" designed to make a lasting impression on students' lives. The week-long program takes place in the summer on the campus of the host institution, with students spending some nights in the dormitories. Approximately 35 to 40 students participate, overseen by all four of the project's full-time counselors. Students are asked to contribute about $30 to help defray the cost of a major outdoor activity (with scholarships available to those who need them), but otherwise the program is free.

When the HST program was created, a contribution from a local bank funded the program. When the bank decided not to fund the effort any longer, the project's host institution stepped in to cover program costs. For the summer of 2000, however, the host institution dropped the program because of general budget cutbacks. As a result, Project O staff were forced to shorten the program from eight to five days, with only three nights in the dormitories instead of seven.

Highlights of the 1999 HST program included the following:

- *Opening night family dinner.* The evening included a review of the previous year's program and a question-and-answer session about the HST program and Talent Search in general. Parents received advice on how to help their children succeed in high school and how to plan for the college application process.

- *Community service.* A major goal of the HST program is to help participants develop a sense of leadership by giving back to the community and to the program. Students performed community service at a local elementary school and a nearby senior center.

- *Team-building activities.* Students learned about taking positive risks and working as a group through rafting and by completing a ropes course.

- *Career day.* In an activity focused on higher education, participants were engaged in an interactive scavenger hunt on careers. Students conducted

research and site visits related to a number of different occupations and interviewed local professionals ranging from lawyers to computer programmers.

- *Ethics discussions.* Students were presented with scenarios such as skipping class, preparing for a test, confronting a racist or sexist teacher, partying, and facing academic and family problems. Afterwards, they discussed their reactions to the hypothetical situations to help them prepare for real-life experiences.

- *Career workshop.* Using the Internet, students participated in a workshop on careers and career searches and used information to prepare projects on careers of interest to them.

- *Study session, journals, and seminars.* As part of a nightly study session, students wrote in their journals, which staff later reviewed. In addition, college and community professionals conducted seminars on topics such as goal setting, learning styles, and preparing for higher education through course selection.

- *Activities with current high school students.* Current high school students talked with program participants about matters such as what to expect, what to do, what to avoid, course selection, grades, policies, and studying.

- *Exposition and awards dinner.* The program ended with a celebration of students' accomplishments, with parents, other family members, and guests invited to attend. Students exhibited their projects on the career they researched. Participants and guests enjoyed a buffet dinner and a slide show of pictures from the program. All students received a certificate for their participation in the program, and five students received special recognition for their outstanding exhibits.

Another major event sponsored for middle school students is the Knowledge Bowl, featuring a combination of academic challenges and fun-filled activities and contests. All 11 target middle schools participate in this once-a-year event, which is held from 9:00 a.m. to 3:00 p.m. on a Saturday in the gym of one of the participating middle schools. The team quiz competition is a major activity. Students try to answer questions on a wide range of topics, from subjects they covered in Talent Search, such as college admissions and financial aid, to subjects they may have covered in school, such as science and astronomy (e.g., listing the order of the planets in the solar system). Students also participate in timed debates on topics such as dress codes, gang membership, and economic issues, with project staff judging the presentations and awarding points. Recreational and fun-filled activities might include, for example, an obstacle course relay and a game in which teams try to put as much "trash" (newspaper) as possible in other teams' designated areas while keeping their own areas as trash-free as possible. At the end of the day, prizes are awarded to the teams based on their cumulative point totals.

Project O staff offered several thoughts on what it takes to ensure the success of a middle school Talent Search component in Talent Search. First, they concluded that it is important to recruit staff who can relate to children 12 to 15 years old. Second, they said that services must be age-appropriate. A lecture on course selection, for example, is not likely to hold the attention of middle school students. Activities need to incorporate an element of fun and be structured for a high level of interaction (e.g., games) while delivering information at the appropriate level of detail. Third, relationships are extremely important. At the middle school level, it is more important to focus on the process of establishing bonds than on outcomes. A long-term relationship built on a solid foundation of trust and support will pay off in the long run.

SUMMER ENRICHMENT PROGRAM: PROJECT H

Project H offers a modest amount of tutoring for students at some of its target middle schools (for example, one or two hours a week) but focuses primarily on providing other types of services during the school year, such as personal development and career exploration. Like Project O, Project H has developed a summer program as one of its major offerings for middle school students. In particular, for the past few years, the project has offered middle school students the chance to attend a summer enrichment program. Participation in the summer session is based on a first-apply, first-served policy, but so far the project has been able to accommodate all applicants. In 1999, 65 students participated. Students can participate up to three times—in the summers following sixth, seventh, and eighth grade.

Summer session participants sign up for one of five subject area tracks. In 1998, for example, the tracks were social studies, biology, mathematics, computer science, and school organization. Each track has a special theme or focus. In 1998, the mathematics group focused on the stock market, the computer science group learned how to develop PowerPoint® presentations, the biology group focused on nutrition, the social studies group studied the Harlem Renaissance, and the school organization group read *Chicken Soup for the Teenage Soul* and focused on developing a "personal framework." If the same general track is offered in consecutive years, the focus will change so that returning students will have new experiences. Groups sometimes take educational field trips, such as to the zoo or local businesses.

The program meets Monday through Friday for three weeks. From 9:00 a.m. to 10:30 a.m., students take the main class for their chosen track; from 10:45 a.m. to noon, they attend a different class each day. For example, students in the social studies track would all attend the biology class on Monday, the mathematics class on Tuesday, the computer science class on Wednesday, the school organization class on Thursday, and the biology class again on Friday. The program concludes each day with lunch, which is provided free to all participants. At the end of the

three-week session, students make presentations about the projects they worked on, such as computerized slide shows or science experiments, which are judged by college faculty. The session also includes a Quiz Bowl and an awards ceremony luncheon, which parents are invited to attend. Finally, the program takes the students on a full-day trip by bus to a major city several hours away. The students visit museums, shop, and participate in other recreational activities.

The summer program engages one teacher per subject, or track, hired from a target middle school or high school. The instructors receive $750 per week. Some of the summer program instructors are drawn from the pool of part-time tutors who work with Talent Search during the school year.

Classes meet in regular college classrooms on the host institution campus. Use of the college facilities makes college seem more real to the middle school students, the director said, not distant or unknown. Students also learn a bit about college from guest speakers such as the vice president for enrollment management and the director of admissions. These officials talk to the students about college admissions on a general basis—not about the details of GPA requirements, test scores, and so on but rather about what the students can start doing now to be prepared to apply to college when the time comes, such as getting involved in extracurricular activities that will look good on their applications.

Students receive a temporary college ID card and a Talent Search T-shirt, both of which must be worn at all times during the summer session. A set of rules governs student behavior both in and out of class. The rules and other issues are discussed in an orientation session for students and parents before the session begins. To get to and from the program, students take public transportation (with program-provided bus tickets), are transported by their parents, or ride on a college-provided bus that makes a couple of stops near target middle schools.

While Project H officials hope that the summer enrichment program will help students perform well in school, they agree that the program is aimed at making learning enjoyable and interesting, giving students some early exposure to college, and providing them with a positive summer experience that is academically, socially, and culturally enriching. The summer session serves as a "carrot" of sorts for middle school students to motivate them during the school year. Given that students who earn less than a C average in school must attend summer school, only the better-performing students are able to participate in the Talent Search summer session. Summer session participants reportedly see their involvement as prestigious; according to the director, the students love to be able to tell their friends they were in a summer program at a college.[9]

[9]The project director felt that a summer program like this would probably not succeed with high school students. Many high school students work or must attend summer school; for those with free time, there are no incentives that the program can offer to participate, such as school credit or the stipend that Upward Bound students often receive in the summer. Middle school students, the director said, are more open to this type of experience.

MONTHLY WORKSHOPS AND SATURDAY ENRICHMENT PROGRAM: PROJECT X

Project X is operated by a community-based organization located in a large city. Its three target middle schools and two target high schools, however, are located in outlying suburbs and rural areas 15 to 20 miles from the grantee's office. Project X project offers a wide range of services for middle school students, including a short enrichment program.

The main service for middle school students is a series of monthly "precollege workshops" provided during the school day at the target schools. The workshops are usually organized and delivered by grade level, with students pulled out of their regular classes. Table A.1 provides a sample workshop schedule for one of Project X's target middle schools. In terms of frequency and format, the workshops for middle school students are similar to those for high school students.[10]

Table A.1—Schedule for precollege workshops at one of Project X's target middle schools

	Sixth Grade	Seventh Grade	Eighth Grade
September		Personal Development—Goal Setting	College Awareness—Types of College Majors
October	Personal Development—Self-Esteem	Personal Development—Time Management	College Awareness—Introduction to Admissions and Aid
November	Personal Development—Self-Esteem	College Awareness—Types of Colleges	Career Awareness—Interest Inventory
December	Academic Advising—Study Skills	Academic Advisement—Study Skills	Academic Advising—Study Skills
January	Academic Advising—Study Skills	Academic Advisement—Testing Skills	Personal Development—Leadership Skills
February	Personal Development—Peer Pressure	Personal Development—Conflict Resolution	Career Awareness—Values Inventory
March	Personal Development—Peer Pressure	Personal Development—Problem Solving	Personal Development—High School Transition
April	Personal Development—Communication Skills	Personal Development—Communication Skills	Personal Development—Communication Skills

SOURCE: Project staff.

Other fixtures of the service schedule for middle school participants include two parent nights in the fall; two cultural awareness activities and college tours, one of each in the fall and early spring; a scholarship fundraiser and a community service

[10]The content of workshops for high school students, as might be expected, focuses less on personal development and more on the details of selecting a college and applying for admission and financial aid.

project in late spring; and a session to review the year and a final ceremony in late spring. These activities, too, are generally similar to those provided for high school students.

Like Project H, however, Project X has also developed a special enrichment program for interested middle school students—a service with no parallel for high school students. The enrichment program is offered once in the fall for students from the two smallest target middle schools and once in the spring for students from the largest target middle school. It meets on five consecutive Saturdays at a community college in the large city where the grantee is based. Project X provides students with free bus service between their schools and the college. All middle school participants can apply for the program—with admission on a first-apply, first-served basis—but some preference is given to serving eighth-graders over seventh- or sixth-graders. During the 1998–99 school year, 51 students participated in the Saturday enrichment program, over one-third of the middle school students served by Project X. Students are expected to attend every session and abide by the rules spelled out in the application form that they and their parents must sign.

The chief focus of the program, which operates from 9:00 a.m. to 3:00 p.m., is academics. In the morning, after a 15-minute donut and juice session, all students take a one-hour course in reading and writing and a one-hour course in mathematics. Teachers hired from local schools teach the courses. The course objectives are to build students' skills in an interesting, fun-filled way. In a recent year, the reading and writing class produced a short collection of student literary works to publish in a "magazine." The mathematics class covered topics such as factor trees, graphs dealing with integers, solving equations, and multiplication short-cuts. After a half-hour lunch break, students spend an hour in various recreational or personal development activities led by regular Talent Search staff.

IN-CLASS SERVICES: THREE PROJECTS

As should be clear from the preceding descriptions, most services for middle school students are provided outside of students' regular classes—for example, during pull-out sessions or, in some cases, after school, on weekends, or during the summer. Three projects we visited, however, had each implemented a different approach—serving students in their regular school classrooms, with Talent Search staff essentially taking over for the regular teacher for one class period every week or two. Because of the similarities between the projects' efforts, we discuss them together in this section.

Project P. During the 1998–99 school year, Project P began serving middle school students in their regular classrooms at two of its eight target middle schools. Project P targeted these two schools for in-class services because a high percentage of students enrolled in the schools came from low-income families and were potential first-generation college students; thus, the program could officially

enroll all students in the selected classrooms in the Talent Search program and not worry about taking on too many participants who did not meet the program's eligibility criteria. At one middle school, the project served one sixth grade class; at the other school, it served three of five sixth grade classes. At the latter school, all five of the sixth grade teachers were interested in involving Talent Search in their classrooms, but the project could not afford to serve all the classes. Therefore, the Talent Search staff chose three classes more or less randomly. As a consolation, the program permitted each of the other two teachers to select for participation in the Talent Search services a few students whom they thought would especially benefit from the program. The project stipulated, however, that these students had to meet both the low-income and first-generation eligibility criteria. The students left their regular classes to join the Talent Search classes when activities took place.

One project staff member was responsible for both schools, visiting each classroom once a week throughout the school year; he did not work with any other target schools. In each classroom, the Talent Search "advisor" typically took over for the regular teacher for two consecutive subject or activity periods, for a total of one hour and 40 minutes. Sixth-graders in the classes received many more contact hours of service than their peers in Project P's other target middle schools. The regular classroom teachers could use the time allocated to Talent Search however they liked. For example, they followed along with the Talent Search session, graded tests, planned lessons, and so on. They could even leave the room because the Talent Search advisor was a certified teacher; district policy required a certified teacher to be with students at all times.

Talent Search class sessions were devoted to a variety of activities but placed a good deal of emphasis on career exploration. The Talent Search advisor often led the students through multipart projects that took several weeks to complete. For example, each student researched a country that he or she would like to visit, explored transportation options, estimated vacation costs, and then arrayed all the information on poster boards and delivered an oral presentation in front of the class. The advisor graded these and other Talent Search assignments and the regular classroom teachers factored the grades into the students' overall grades in related subjects, such as social studies. During some sessions, the students visited the school's computer lab, which was reserved for their use during Talent Search sessions. In keeping with the objectives of Project P's in-class services for middle school students, the advisor said that after their first year in Talent Search, participating students should have a sense of who they are, where they want to go in life, and how to get there. They should also demonstrate better knowledge of careers and businesses.

Project P has continued to serve middle school students in their regular classrooms during subsequent school years, although some changes were necessary to enable the same students to participate. Whereas sixth-graders remained with one teacher the whole school day, seventh-graders rotated among

different classes by subject, making it difficult for the adviser to arrange class time with the former sixth-graders. The Talent Search advisor worked with school officials to arrange the schedules of interested students so that most of them would be together in two particular seventh grade classes (e.g., U.S. history during fourth period), permitting Talent Search to meet its service objective. The project also adopted two new sixth grade classrooms. During the 2000–01 school year, a new principal and an increased emphasis on statewide learning standards forced Project P to give up in-class services in this middle school; instead, it began offering services before and after school. However, the project was able to implement in-class services at a couple of its other target middle schools.

Project H. Like Project P, Project H provided in-class services for the first time in the 1998–99 school year. Applying this approach in one of its five target middle schools (an inner-city school), the goal was to have a schoolwide impact. Through an ambitious schedule, the project director herself, who was working on a teaching degree, provided Talent Search services to virtually every student in the school (excluding only those in special education) for one 45-minute class period once every two weeks. She served four classrooms of sixth-graders, four classrooms of seventh-graders, and four classrooms of eighth-graders by using the following two-week rotation:

Week 1
Monday—two classrooms
Thursday—three classrooms
Friday—two classrooms
Week 2
Monday—one classroom
Thursday—two classrooms
Friday—two classrooms

A good deal of the services provided to this middle school revolved around personal or social development activities—partly in response to what the school's guidance counselor said the students needed. For sixth-graders, services focused on activities such as self-assessments of students' strengths and weaknesses. For seventh-graders, the program placed a stronger emphasis on study skills, goal setting, and self-sufficiency. For eighth-graders, the focus turned toward their futures in high school and college. We interviewed a group of seventh-graders who described what they had learned in Talent Search mainly in terms of self-awareness, personal choices, and interpersonal relations:

- "We learn how to be respectful, how to hang out with the right kind of friends, and that we should try to bring our grades up."
- "We talk about having courage, and self-esteem, and how to control our actions."

- "Don't be depressed, and you should be careful not to hurt other people's feelings, and to watch how you behave."
- "Treat people as you want to be treated."
- "Two wrongs don't make a right."
- "Effort is what counts, not winning or losing."
- "How to work together as a team, not just as individuals, and how to be a leader, not a follower."

Across all grade levels, services frequently required students to work together in small groups and to talk to one another and the director. The focus on these types of interactions was partly a response to the district's assistant superintendent's observation that students needed to improve their communication skills. We witnessed the communication strategies in practice in two classroom sessions. During the first 15 minutes, in what the director called an "icebreaker," the director called on students individually to name an event in the 20th century that had a lasting impact on society, explain the event's significance, and then cite a personal goal for the 21st century. (Students frequently cited goals for graduating from high school and going on to college.) During the remaining 30 minutes, students chose to work in small groups on one of two activities. One task was to solve logic and mathematics-related puzzles; the other was to come up with a response to a hypothetical situation, such as overhearing a fellow student talking about suicide or having a friend announce his intention to cheat on a test. At the end of the class, the groups shared their solutions and ideas with the other students.

Project B. Project B is hosted by a 4-year college in a medium-sized city. Its five target middle schools, however, are located in small towns in the surrounding countryside. Project B has been using an in-class approach to serving middle school students for about three or four years. At the time of our visit in spring 1999, one project staff member was providing in-class services at two of the target middle schools. At one small school, he provided services once a week in separate classes for sixth-, seventh-, and eighth-graders, essentially serving all students in the school. At another school, he taught in each of the sixth grade classrooms once a week. During the previous fall semester, he had also worked with students in each of the seventh and eighth grade classes at this school but he had discontinued that practice because (1) the number of classes made the work too time-consuming and (2) some teachers were not sufficiently supporting his efforts—for example, not collecting the homework he had assigned. However, he still taught in seventh and eighth grade classrooms "now and then."

Project B's Talent Search class sessions may touch on a variety of subjects over the year, such as careers, colleges, goal setting, and so on, with the central message that college is the key to achieving one's material goals. The project

staff member sometimes brings in guest speakers to inspire students to achieve. Project B places considerable emphasis on communication skills. At one of the target middle schools we observed two class sessions—one with sixth-graders and one with seventh-graders, both focused on public speaking. All the students had been asked to prepare five-minute presentations on any subject of interest to them. One by one, the project staff member asked the students to step up to the front of the classroom and present their oral reports. He encouraged them to follow recognized tips for successful public speaking such as speaking audibly and making eye contact with the audience. All the students in the "audience" were asked to fill out a short evaluation form on each speaker. Although these in-class services were available to many students who were not official Talent Search participants, all additional program services, such as tutoring and advising, were restricted to official participants.

CONCLUDING OBSERVATIONS

This chapter presented several detailed descriptions of how selected Talent Search projects were operating in three areas of particular interest: providing academic assistance, using technology to serve students, and serving middle school students. Our goal was for these descriptions to provide staff in Talent Search projects throughout the country with examples that might stimulate thinking about new and different ways of serving participants, possibly leading to program improvements. We conclude this chapter with some summary thoughts about the highlighted service approaches, along with a discussion of potential challenges and issues associated with each of the three topics.

ISSUES IN PROVIDING ACADEMIC ASSISTANCE

Four of the selected Talent Search projects had made academic assistance a priority so that students could improve their performance in regular school classes and on important school examinations. All four projects provided tutoring services, but the projects' tutoring efforts differed on several dimensions, including the target audience (middle school students or high school students), the location of services (target schools or the host institution), and who provided the services (target school teachers or college students). Three projects provided classroom-style academic instruction.

The decision to provide tutoring and other types of supplemental academic support reflected a certain vision of the types of students Talent Search should serve (the selected projects did not have minimum GPA requirements, for example) and a belief that Talent Search could address academic needs effectively, even with constrained resources. The manner in which projects provided tutoring sessions reflected both ideal notions of what would work best and the realities of local circumstances, such as student transportation, school officials' preferences, and, of course, the project budget. For example, the

availability of a large pool of nearby college students willing to provide tutoring for free as a form of community service was fortuitous for Project S.

The different approaches to providing academic support undoubtedly have their own advantages and disadvantages. For example, target school teachers must be paid more than college students to work as tutors, but they are able to maintain frequent contact with students and have better knowledge of school curricula. On the other hand, college students can provide students with role models close to their own age and serve as a useful source of current information on the college experience.

A general issue that surfaced concerning Talent Search projects that emphasize academic support was the potential trade-offs necessitated by limited funding. As noted earlier, some Talent Search personnel believe that current funding levels essentially prohibit projects from providing academic support; tutoring and instruction, they said, are relatively costly services. Indeed, at some of the selected projects, key staff acknowledged that their academic assistance components prevented them from providing other services as often as they might have liked. For example, we noted in particular that a couple of the projects infrequently sponsored visits to college campuses—a service that students at these and other projects often mentioned as useful and highly interesting. One project director said that his project was not able to offer as large a cultural enrichment component as he would have preferred.

Nonetheless, key staff at these projects were convinced of the relative value of academic support services and were committed to continue offering such assistance. Even if most of those entitled to the tutoring services did not avail themselves of the services on a regular basis, project officials would rather have the services available than not offer them at all.[11] Projects interested in implementing a resource-intensive service component, such as academic assistance, should be conscious of the trade-offs they may face. They may need to find additional sources of support for other program activities. In Project M, for example, students participate in fundraising activities to help support certain trips and other program activities. In addition, the project applies for grants from corporations, foundations, and government agencies to support new program initiatives and negotiates with target schools and colleges to ensure that Talent Search students can participate in those groups' college visitation trips.

ISSUES IN USING TECHNOLOGY TO SERVE STUDENTS

Computers can make a vast amount of information—about colleges, financial aid, careers, and so on—instantly available. Rather than request a college brochure and wait for it to arrive in the mail, for example, today students can log on to a

[11]Ironically, substantially higher student participation rates in tutoring sessions might have forced projects to hire more tutors, thus driving up costs and potentially necessitating more trade-offs.

college's Web site and get all the information they want, and sometimes even take a "virtual campus tour" literally at the click of a button. But the mere availability of computer-based information does not ensure that students will know how to access it, how to evaluate it, or how to act on it. That is one service that Talent Search staff can offer.

Our exploration of Talent Search projects' use of technology in serving students revealed several important points. First, many students are interested in computers, and the chance to use them in fun-filled and productive ways can be an attractive feature of a program's offerings. One case-study project reported, for example, that daily attendance at its after-school session dropped noticeably during a period in which computers were unavailable. We heard of several Talent Search projects around the country that sometimes help students complete and submit financial aid and college admission applications electronically, but some of the projects we focused on above have gone substantially beyond that, giving program participants appealing opportunities to explore the Internet and to learn how to use various software packages, for example.

Second, adequate resources—financial and otherwise—are obviously essential to implementing a substantial computer component in Talent Search program offerings. Project R's experience, however, shows that Talent Search projects may not necessarily need a large infusion of outside funding or in-kind donations, such as the Microsoft®-TRIO partnership. Projects relying primarily on their federal grant funds, or perhaps pooling resources from another TRIO program such as Upward Bound, may have to "start small" and build in new technology elements slowly over time. Because Talent Search projects often serve a large number of participants spread over a large area, they might find it most logistically sensible to provide some technology-related services at students' target schools. Projects whose target schools are well equipped in terms of computers and related technology may be at an advantage.[12]

Third, it will probably be important to engage staff who not only can relate well to typical Talent Search participants but who also bring with them the technical skills and experience to deal with a wide range of hardware and software issues. Finding and retaining such staff may be a challenge for projects. Using college students on a part-time or volunteer basis may be a promising strategy.

Fourth, computers and other technology hold out the promise of greater efficiency in project operations, as illustrated by the examples of Project R's distance tutoring and Project C's voice messaging system. Cost savings may be of particular interest in a program such as Talent Search, which is commonly described as having a relatively low level of funding per participant.

[12] It should be noted that after we did our case studies, the TRI0 office provided all Talent Search projects with $10,000 in supplemental funds for computer technology.

ISSUES IN SERVING MIDDLE SCHOOL STUDENTS

Several of the selected Talent Search projects had developed interesting services for middle school students. Some projects had what they described as a full middle school curriculum—a systematic structured series of workshops and other activities that reportedly corresponded to middle school students' developmental needs. Indeed, the sample workshop schedule for different grade levels shown in Table A.1 reflects a planned progression from knowledge about self to knowledge about college.

We also highlighted some projects that had developed multiday programs on weekends or during the summer, available to middle school students who were interested and able to participate. The programs were designed to serve both general needs, such as academic enrichment, and more specific needs, such as preparation for high school. It is possible, moreover, that these services may generally hold more appeal for middle school than for high school students, particularly if scheduled during the summer when many high school students prefer to work. We saw that these programs represent one way for projects to provide Talent Search participants with early exposure to a college campus; even the project hosted by a community organization (Project X) found a way to hold its enrichment program on a college campus.

Finally, we described how three projects were serving middle school students in their regular classrooms, taking over for regular teachers every week or two. Projects providing in-class services saw the in-class approach as an ideal way to work with students and would have liked to use that approach more extensively. The in-class approach, though, appears to carry with it some significant challenges. To implement classroom-based services obviously requires a high degree of cooperation from target schools. With high-stakes testing becoming ever more prevalent, it may also become harder for Talent Search projects to initiate and maintain in-class service delivery. For school staff to agree to cede control of their classrooms on a regular basis, they must essentially buy into the proposition that the affected students will benefit more from Talent Search than from regular instruction. Talent Search personnel might be better able to make a case for in-class services if they could demonstrate convincingly the benefits of program participation. Solid data on outcomes for participants and similar nonparticipants could be useful in that regard, but, as we noted in chapter 9, relatively few projects possess such information.