FOR Children Technology

Project Connect: Bridging the Digital Divide

Final Evaluation Report

CCT REPORTS July 2000

Andrés Henríquez Harouna Ba

Prepared for The Boys & Girls Club of America

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Introduction

This report summarizes the findings of the Center for Children and Technology's evaluation of the pilot version of the Boys and Girls Club of America Project Connect, funded by Microsoft/ Shaquille O'Neal. Site visits and telephone interviews revealed that the Project is clearly having a positive impact on Club members. The Project has given children access to technology, educational software, and the Internet, all critical to bridging the digital divide. Children have developed a variety of basic computer literacy skills, including word processing, using spreadsheets, file management, Internet navigation, and conducting research. Additionally some have learned to use software and the Internet for creative and expressive purposes. Club staff felt that the technology made the Clubs a "more fun" place to be. Technology Coordinators reported that technology labs were used for homework help during Power Hour and members learned to work collaboratively with their peers. Some Coordinators further reported an increase in the number of members attending the Clubs because of the new labs.

The evaluation identified factors that foster successful technology implementation at the Project Connect pilot sites:

- Prior experience of Technology Coordinators and Technology Directors has a significant impact on the speed at which technology is adopted in most Clubs. Tech Coordinators adept with technology are better able to share their computer expertise with other staff members.
- Professional development is key to a solid program. Technology Coordinators working together to mentor staff on a weekly basis can accelerate the development of a coherent and well-integrated technology program.
- The presence of effective leadership that supports the technology staff and program is another key to the successful implementation of the technology.

Bridging the Digital Divide

National attention is increasingly being focused on the growing disparities between those who have and do not have access to computer-based information and communication technologies. The Commerce Department's 1999 study found that between 1994 and 1997, the gap between the technology-haves and have-nots increased, with African American and Hispanics lagging behind whites in home computer access. For individuals living below the poverty line, this gap is even more pronounced. Babb (1998), conducting a similar policy study, looked across seven different data sets and found that even after adjusting for income, African Americans and Hispanics were still less likely to own computers. Hoffman and Novak (1998), policy researchers at Vanderbilt University's School of Management, examined racial differences in Internet access and found, as did the Commerce Department's 1999 study, that whites were significantly more likely to have access to a computer at home and at work than were African Americans. They also found that whites were significantly more likely to have used the Web at home, and to own and use a computer than were African Americans even when controlling for educational differences. Furthermore, the Children's Partnership (March 2000) conducted the first national study to focus on the expressed needs of underserved communities and to systematically examine the ways in which existing Web resources are and are not meeting these needs. Based on focus groups with low-income Internet users, interviews with community technology leaders, and a content analysis of 1,000 websites, comparing online content with the needs and requirements of underserved populations, the study found four significant barriers that affect use: lack of local information; literacy barriers; language barriers; and lack of cultural diversity in Internet resources. Based on the above research, it seems that the consequences of the digital divide on underserved communities encompass basic hardware and software access, as well as access to meaningful and relevant content.

One Strategy to Bridge the Gap

Boys & Girls Clubs programs and services promote and enhance the development of boys and girls by instilling a sense of competence, usefulness, belonging, and influence. The Boys & Girls Clubs' mission is to inspire and enable all young people, especially those from disadvantaged circumstances, to realize their full potential as productive, responsible, and caring citizens.

It is within the context of current research that the Boys & Girls Clubs of America (B&GCA) has received tremendous attention for its innovative technology program to address the digital divide equation. In the spring of 1999, a public-private partnership between B&GCA National, Microsoft Corporation, and basketball star Shaquille O'Neal was formed. The partnership designed a pilot technology program in a small number of clubs to test the feasibility of installing computer centers in Clubs nationwide. Through a request-for-proposal process, fourteen Clubs from across the country were chosen for the Project Connect pilot program. The goals were for participants at the pilot sites to:

- Understand how computers work and the types of opportunities they provide
- Utilize technology to support and advance intellectual development (using the Internet as a research tool)
- Use basic productivity applications (Microsoft suite of applications)
- Be able to use the Internet safely to access information and communicate electronically
- Use multimedia applications to create projects and communicate complex ideas
- Develop the interests, skills, and motivation to explore technology-related careers
- Understand that mastering technology would be integral to their economic success.

B&GCA considered it essential to offer these opportunities to enable Club members to compete academically and economically in an increasingly technology-based society.

Status of Implementation Process

To achieve the program goals listed above, each of the fourteen selected sites received the following resources:

- Computers with NT operating system software
- Internet access
- Laser printers
- Digital videocamera
- Scanner
- Software (CD-ROM)
- Technical support and training

Other resources included a *Librarian's Desk Reference* and copies of a *User Education Guide* developed by the Gates Center for Technology Access. In addition, each site was provided with a cash grant to help defray the cost of site preparation as well as additional local technical support and training. Moreover, B&GCA established a National Youth Technology Advisory Committee to provide direction, guidance, and leadership to this technology program initiative. At the beginning of Project Connect implementation, all Technology Coordinators were provided with one week of training designed to familiarize them with the NT software system and various software packages as well as a training session on evaluation.

Through Project Connect, most Clubs' staff and members gained connectivity to the World Wide Web. ThirteenTechnology Centers have been operating since September 1999 (one site is not yet operational because of construction delays), and are open for 30 to 40 hours per week with a daily average attendance of 50 members. These centers are often staffed with a full-time technology coordinator, part-time technology teachers, and volunteers. Conversations with some site coordinators, however, indicated that the need for well-trained, full-time technology teachers seemed to be increasing. In a few of the centers, technical support is provided by volunteers and/or private consultants.

Most Club Technology Coordinators have been developing curriculum modules for basic computer skills instruction through computer classes, Internet access, media literacy classes, and project-based classes. Although the Technology Centers' programs began as a pilot project, several programs evolved over the year through the use of curriculum materials drawn from the *Librarian's Desk Reference* and the *User Education Guide*. To build a standardized technology curriculum that works for the local club, Technology Coordinators responded to the needs of their members and volunteers needs. Depending on the season, the curriculum rotates and thus requires different types of focus and resources throughout the year (example: summer vs. regular school year).

The use of technology is beginning to be integral to the Clubs' other educational programs. Technology is being integrated into the general education programs including "Power Hour" and various youth clubs within the B&GCA. All of the

activities described below afford Technology Centers' staff the opportunity to integrate the technology into everyday instructional practices.

Some of the Technology Centers' curriculum include testing tools and reward systems. Members are encouraged to use the computers for typing practice, doing their weekly projects, writing, playing educational games, learning new software, doing their homework, and demonstrating creative as well as exploratory attitudes. They earn technology usage points for their participation, and are awarded more computer time. For example, one of the Technology Centers is collaborating with a public elementary school to offer fun activities, including the use of the computers, to students who complete all their homework assignments, are well-behaved, and do an "overall" good job at school.

The Use of Technology

By making available hardware, software, staffing, and space, Project Connect has provided B&GCA members with a wide range of significant technology experiences. In these Technology Centers, access is provided equally to girls and boys, as well as among all age groups. Young members (6 to 12), who are the most numerous membership cohort, seem to be the biggest user group in most Technology Centers.

Thus far Project Connect has resulted in the following outcomes across sites:

- It has begun to bridge the digital divide, especially in the area of hardware and software access.
- Members have the opportunity to learn basic computer literacy skills, including word processing, spreadsheets, file management, Internet navigation and research, as well as to develop collaborative skills with peers and mentoring relationships among members.
- Members are using technology for homework help and Power Hour sessions.
- Members' motivation to participate in overall Club activities has increased in recent months.
- Attendance also has increased since the implementation of Project Connect.
- Young members are engaging in more creative activities.
- Clubs are being perceived more and more as fun, safe, as well as learning settings.
- Clubs are being perceived as supporting school activities

Overall, members come to the Technology Centers to do their work and learn computer skills. They are also occasionally using the technology for recreational purposes. Members' daily activities include doing their homework, learning to type, Web browsing, and preparing the Club's newsletter. Members use a variety of software tools including word-processing and spreadsheet software packages as well as the Encarta Africana and Encarta Encyclopedia CD-ROMs. In general, members engage in the following specific activities:

• Using word-processing, spreadsheet, database, and presentation software for projects

- Using CD-ROMs to access information for research and increased cultural awareness
- Using the Internet for communications and research
- Creating webpages
- Producing newsletters and their autobiographies
- Videotaping events and creating multimedia presentations
- Taking and scanning pictures of special events for newsletters, multimedia presentations, and webpages.

B&GCA staff are using the computers for administrative purposes such as tracking budgets and programming information. Staff are also using communications tools such as the Internet and email through Microsoft Outlook.

The pilot program has affected regular members, parents, community businesses, volunteers, as well as the educational community. As the main free access point for technology in the communities being served by the Clubs, the Technology Centers have become integral parts of the learning environment in these communities.

According to one of the technology coordinators, "The computer lab has met and exceeded all objectives and goals! The impact has been astounding! We have provided a learning opportunity to hundreds of inner-city youth who had little or no computer experience."

Interviews with program coordinators revealed that the presence of adequate technology programs in various B&GCA, has increased the Club's total membership. In addition, some coordinators reported that participation in Club activities has increased because of the recreational and learning activities being offered in the Technology Centers. Members are energized in their overall participation in other educational programs. The Clubs' computer instructors and educational tutors are helping reinforce what's taught in the formal school system and are creating new educational opportunities for members. Furthermore, a much needed line of communication is open when children are able to share their computer-generated work with their parents. According to some of the site coordinators, a few parents are buying home computers as a result of their children's participation in the project.

Factors Influencing Successful Technology Integration

Through this evaluation, the Center for Children & Technology (CCT) has identified specific factors influencing successful technology implementation and integration in a B&GCA environment:

• Technology Coordinators' and technology teachers' prior experience with technology and curriculum design had a significant impact on the speed at which technology was adopted in some Centers. When Technology Coordinators were adept with technology, they often were able to share their computer expertise with other staff members, helping them learn more proficiently.

- Technology Coordinators working together with staff on weekly basis can accelerate the development of coherent and well-integrated technology programs.
- The presence of effective leadership that supported the technology staff and program was key to the successful implementation of the technology.

Challenges to Further Use

Although the technology has begun to have a positive impact on members, difficulties that make meaningful access a challenge remain. Some of the major hurdles facing the technology program are as follows:

- Reliable and sustainable Internet connectivity is an issue. One problem is the lack of ongoing financial support to pay for Internet service. Little thought is given to maintaining the Internet connection beyond the life of the grant. Members have difficulty accessing email because of the presence of firewalls.
- The popularity of technology means that a large variety of software packages is necessary to keep members engaged. Many of the Clubs have made extensive use of the pre-installed software available with their setup. However, because the program provided only a small number of CD-ROM titles, Coordinators reported that children soon became bored with the programs after multiple uses.
- Club education departments need to continue developing and implementing a program that keeps members aligned with educational requirements. As standards and high-stakes testing become more demanding in the schools that club members attend, demand is increasing that youth-serving institutions "step up to the plate" and contribute its share of rigorous educational programs that will help children succeed in schools.
- Well-trained, full-time information technology staff is needed at most Technology Centers. The week of training offered by the project was not sufficient to prepare the Technology Coordinators for the complexities of the NT system configuration. Given this challenge, Coordinators reported a desire for a heavier emphasis on network configuration and administration, as well as technical assistance.
- Although some sites have developed instruments to measure program effectiveness, keeping attendance records, designing pre- and post-tests, ongoing comprehensive evaluation and program assessment are needed in many sites.

The Role of the Center for Children & Technology

CCT's task is to conduct an evaluation of Project Connect to help B&GCA determine the impact of the Technology Centers on members, and to describe the circumstances and practices that best facilitated positive outcomes. In this pilot evaluation program, CCT has been focusing on the following goals:

- To identify the circumstances that make certain projects thrive and factors that impede the success of others
- To examine how technology education programs take shape in each of their clubs
- To identify those projects that exemplify promising practices (promising practices in this case refers both to the ability to achieve self-identified project goals as well as to establish a model that other Clubs can replicate).

To conduct a preliminary needs assessment and program impact study, data were collected through different research methods: telephone interviews; site visits (Newark, Philadelphia, Taunton); and informal meetings. CCT also reviewed all of the proposals submitted by the fourteen selected sites.

In addition, CCT held an evaluation workshop at the National B&GCA in Atlanta. The purpose of the workshop was to give an overview of the evaluation guidelines. Among the topics addressed were: ways to assess the impact of technology; general protocol for site visits; critical components of both formative and summative evaluations. The evaluation workshop outline is attached in the Appendix.

This report summarizes the preliminary findings and recommendations that can provide a foundation for more extended technology planning, integration, and professional development that Project Connect might undertake in the future. The data were analyzed to address the following themes:

- The implementation process (e.g., infrastructure, space, staffing, training, etc.)
- Patterns of technology use by members
- The impact of the technology on members
- The challenges facing each technology program
- The next steps for program expansion.

Each of the above themes is discussed within each site. Summary findings and recommendations for future directions B&GCA's Project Connect might take are highlighted in the conclusion section.

Preliminary Results by Site

Philadelphia, Pennsylvania

- More than half of its members are white and 38% are African American.
- Ninety-six percent of its members come from families with income levels in the range of \$5,000-\$22,000.
- Most members have no home access to computers or the Internet.
- The overall technological goal of the Philadelphia B&GCA is to provide computer literacy, to all its members and partners.

Located throughout the Philadelphia metropolitan area, the Crime Prevention Association (CPA) program has three clubs, each affiliated with a Boys & Girls Club of America as well as United Way. Three of these clubs participated Boys & Girls in Project Connect. In addition to sponsoring afterschool and summer camp programs, which are the main activities of these clubs, CPA has managed to weave together a comprehensive community-based program that conducts community service programs and activities for over 5,000 residents in Philadelphia each year.

CCT staff visited the Technology Centers located at the Winnet and Fels South Philadelphia Community Center, the West Philadelphia Community Center, and

the RW Brown Community Center. During this one-day visit, we spoke with the Executive Director of CPA, the Technology Director, who also was the temporary technology teacher for the West Philadelphia Community Center and the RW Brown Community Center, and the technology teacher of the Winnet and Fels South Philadelphia Community Center.

The CPA Executive Director is enthusiastic about technology. She believes that "technology is not a burden" to her organization, and that some risk-taking is necessary to bring about social change. She has had to juggle her budgets around to produce extra pay for a Technology Director and has a commitment to hire technology teachers that could help the technology effort. She demonstrates clear leadership and clear objectives in the areas of technology education for her underserved community. Her willingness to "go the extra mile" to make it work is a significant factor in the success of this Boys & Girls Club technology program. One of the recurring themes throughout this initiative has been that a Club or Center leader's interest in technology makes a major difference in smooth program infusion into a Center's daily workings.

Reporting directly to the Executive Director of CPA, the Technology Director supervises three computer teachers directly in charge of each Project Connect community center. According to the Executive Director, developing the technology program in all three sites would have been very difficult without the Technology Director. Tired of doing double duty on most functions, the Technology Director realized that she needed extra help with the Microsoft/Shaquille O'Neal grant. The Executive Director responded by helping to put together resources for additional staff to assist the Technology Director. Across all three sites, the Tech Director easily set up and configured the labs using the resources provided by the Gates Library Foundation. She praised the manuals for their excellent step-by-step instructions on how to install the hardware. When they ran into difficulties during installation, the Tech Director called the Gates Library's 800 number for technical assistance. Unlike at other pilot sites, the installation of the technical infrastructure and the actual access issues seemed to have been tackled and solved rapidly by the Philadelphia sites. The labs are open weekly for 40 hours. However, staffing has been an issue since the inception of the technology initiative. Staff are often overworked and worn out. They have recently hired new teachers who seem to fit the following desirable profile: charismatic and creative college graduates interested in kids and computers. An extensive planning effort to do major outreach for volunteers is under way.

The computer program provides various instructional classes (e.g., hardware identification, desktop publishing, Internet browsing, etc.) to members of all age groups and is tailored to the following programs: After-School Program, Senior Program, Evening Program, New Life Program, Day Care, Pregnancy, and CPA staff. Although an attempt has been made to standardize the curriculum across all sites, each site is different. Moreover, each site's yearly program supply and maintenance cost is different because of the number of machines and number of users: \$2,680.00 at the West Philadelphia Community Center, \$2,980.00 at the R.W. Brown Community Center, and \$500.00 at the Winnet South Philadelphia Community Center. The agency-wide budget is estimated at \$8,940.00. As a way of thinking about how to sustain the program the Technology Director figured an average cost of \$25.70 per person for a year of service from the Computer Lab. This would include supply and maintenance costs for the program. While these figures do not include the cost of three full-time staff. The Technology Director is already making plans to raise more money to maintain the program.

Population	Average Monthly Attendance	Average Yearly Attendance
Youth 3-18	14,880	178,560
Adults 18+	4,320	51,840
Total	19,200	230,400

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The clean, light, and airy West Philadelphia Community Center building is relatively new (built within the last ten years) and seems to be a welcoming beacon in a blighted community. It houses both a Boys & Girls Club and a K-4 charter school, a familyoriented school where parents are required to volunteer time once a month. The school has 10 small classrooms, each with its own computers, and serves students from underserved communities. Students from the school are also given access to the B&GCA computer lab.

Although the lab is not a Project Connect site it shares the digital camera provided by the grant with the other two sites. The computer lab attracts more than 150 visitors per week from the charter school and the afterschool program. Its walls display student work and a variety of software packages. The computer lab has 13 non-networked computers (8 new and 5 old computers), and 4 printers. Two of these computers have dial-up connections to the Internet using NetZero. This Technology Center operates between 9:30am and 8:00pm to service the daycare center students, charter school classes, afterschool programs, as well as adult and teen classes .

Population	Average Monthly Attendance	Average Yearly Attendance
Youth 3-18	480	5,760
Adults 18 +	80	960
Total	560	6,720

 Table 2: Attendance by Age Group - West Philadelphia Community Center

Although the CPA technology program does not have a fully developed curriculum, one major focus is to provide basic access to computers and computer skills curriculum through a standardized curriculum which provides typing lessons, use of arts software (e.g., drawing, color matching, color mixing, color creativity, animated storybook), and other fun activities such as "Sing around the computer."

During our visit, we observed a preschool class (2 boys and 6 girls) learning basic computer skills. The students demonstrated their knowledge about the different components of a computer (e.g., CPU, mouse, disk drive, etc.) and their ability to operate the computer (e.g., booting, controlling the mouse, opening the CD drive, etc.). They used the following CD-ROMs: "A Color Clown Comes to Town," which provides coloring activities; and "Dragon in a Wagon" which offers vehicle construction, storybook, quiz show, and path-construction activities. The Technology Director indicated that finding appropriate educational software for members is difficult.

The Tech Director shared with us her students' word-processing and computer drawing works as well as the assessment tools used to evaluate their knowledge of computer components and basic computer skills. The students have been using the Encarta series and using the digital camera to take pictures of themselves. The Technology Director has been meticulously collecting students' works over the year. She is also planning to remove the pre-packaged software (e.g., Barney, Magic School

Bus) which came with the computers, in order to install more education-oriented software for the summer camp program.

,	Mon	Tue	Wed	Thu	Fri
9:30 - 10:15a	Seniors	Seniors	Staff Open Lab	—	Seniors
10:15 - 11:15a	Day Care	Day Care	_	—	Day Care
11:30a - 12:30p	Staff Open Lab	Staff Open Lab	Charter Schl. Kindergarten	Charter Schl. Kindergarten	Charter Schl. Grades 3 & 4
1:00 - 2:00p	Charter Schl. Grade 2	Charter Schl. Grade 1	Charter Schl. Kindergarten	Charter Schl. Kindergarten	Charter Schl. Grades 3 & 4
2:00 - 3:00p	Charter Schl. Kindergarten	Charter Schl. Grade 1	_	—	_
3:15 - 4:15p			-Lab Closed / Lun	ch————	· — — — —
4:50 - 6:00p			— After School—		
6:30 - 8:00p	_	_	Adult Class Quiet Time Teen Time	Adult Class Quiet Time Teen Time	_

Table 3: (Computer	Lab Sched	dule at West	Philadelphia	Community (Center

Located in the RW Brown North Philadelphia Community Center, the second technology site was the smallest of the three labs and the first to be networked with the NT machines, routers, and high-speed lines. Only 5 computers are connected to the Internet. Securing the services of a full-time technology teacher to help integrate these new resources into the community center's educational programs has been a challenge. Because of limited resources, the lab can accommodate only a few users (6 to 9) at a time. The lab serves a mix of young people and adult users. It is opened from 1-9 pm Monday through Friday and 9:30 am-6 pm on Saturdays.

Population	Average Monthly Attendance	Average Yearly Attendance
Youth 3-18	540	6,480
Adults 18+	140	1,680
Total	680	8,160

Table 4: Attendance by Age Group - R.W. Brown North Philadelphia Center

Young members like using the Magic School Bus, PowerPoint, animation features, publishing software, and they enjoy surfing the Web. The young members have already tired of some of the software (e.g., Barney) pre-installed in the computers. As the adolescent students' skills improve, they are beginning to use more sophisticated tool-based software (e.g., Microsoft Publisher, Adobe, PhotoShop).

The technology teacher in this facility worked with a poetry club which took a few students to the Power 99 radio station to discuss their computers and the poetry program. He often creates activities and contributes to the curriculum as well, teaches a kindergarten class, and conducts one-on-one staff and adult computer training during the afternoon. The daycare staff-training program, developed in the last six months, has been the main focus at this Technology Center. According to the Tech Director, intensive training with daycare staff has been very successful. The daycare staff who already have computers in their classrooms are having a positive impact on their students' technology experience. As a consequence of these efforts, the technology lab is going to be expanded.

Located in the Winnet and Fels South Philadelphia Community Center, the last lab we saw was run by an energetic full-time technology teacher. The largest of the three labs, this CPA Club has a more working middle-class clientele, and its young members benefit from a more economically stable home environment. Moreover, most of them have computers at home and school. This Technology Center serves more young people than adults and seniors. It has one scanner, 2 printers, and 10 networked computers. All computers are connected to the Internet through a T1 line. This lab is open from 1-9 on Mondays through Friday and 9:30-6 on Saturdays. Approximately 120 people per week use this center. There are 10 people per class. The minimal charge is \$40.00 for some of the adult classes and \$25.00 for seniors (for a total of 12.5 hours per 5-week sessions), which helps pay for printing paper and ink cartridges. The technology teacher is managing the lab well and working on integrating technology into some of the Boys & Girls Club programs. She provides training on how to do research on the Internet, graphic design, etc. She is working with the Keystone Club to develop a community website. Several of the students are researching and developing a site which will list local not-for-profit organizations providing community service; they will also create flyers. The teacher shares each week's lesson plan and instructional materials with the Technology Director. The program is well known in the community and is publicized through community newspapers and the Club's website: crimeprevent.com/crimeprevassoc.org. There are 200 people on the South Philadelphia Community Center's waiting list for access to the computers. .

Population	Average Monthly Attendance	Average Yearly Attendance
Youth 3-18	220	2,640
Adults 18+	140	1,680
Total	360	4,320

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Table 5:	Attendance	by Age Group	- South P	hiladelph	hia Comm	unity Ce	nter

To sustain the program, the Executive Director is pursuing a variety of initiatives: grant writing; collaboration and partnership with the local school district and other community organizations. For example, she is working hard to build bridges to the local school district. She is continually recruiting instructors and underscores the importance of getting more staff in the centers.

The goals of the Executive Director are to keep the technology program going; have well-trained staff; and meet the increasing demand for technology access. To expand the program, she is reaching out to schools, foundations, and the corporate community.

Newark, New Jersey

- The Boys and Girls Clubs of Newark have 4,118 members and an average daily attendance of 634 members.
- Eighty-eight percent of its members are African American and 10% are Hispanic.
- Seventy percent of its members come from families with income ranging from \$5,000 to \$22,000.

Before joining the B&GCA Technology Center program, the Club had 50 computers and 2 printers. The Club has been using computers since 1996 with a special focus on the following areas: teaching basic computer terminology; Windows 95; Microsoft Word; and Internet applications.

With the funds offered through Project Connect, the Technology Centers at the West Side Club as well as the Central Ward Club acquired powerful computers and Internet access. Each of the Centers are equipped with 15 workstations, 1 scanner, 1 color printer, 1 laser printer, 1 digital camera, and 1 digital videocamera.

The digital videocamera is available only at the West Side Club. The Centers' Internet connection is via a DSL service, 56K modem. According to the Technology Director, the Board of the B&GCN (Boys & Girls Clubs Newark) is committed to the long-term sustainability of the technology project. This is due in part to the Club members' great need for access to computer technology as well as to the project's becoming the program of choice in the Clubs.

The Technology Director is very happy with the design of the new technology at the West Side Club and is looking forward to the completion of the new Technology Center at the Central Ward Club. One of the things he made sure of was that the computers were used as soon as the Clubs got their hands on them, not waiting for the completion of the design and construction of the new Technology Centers. Although Project Connect trained him in April 1999, and Club members were using the computers by October 1999, the official opening of the initiative occurred months later, in February 2000, with Shaquille O'Neal and other well-known supporters of Project Connect in attendance in Newark. The project is benefiting substantially from the economic revitalization of Newark and seems to fit into the overall purpose of the grant to providea well-trained technology-literate workforce.

The two Technology Centers have begun to provide Newark-area youth and adults access to computers and training. Overall, the goal of the program is to provide members with the technological literacy necessary to support and enhance educational opportunities at the Clubs, including the safe use of the Internet. To this end the B&GCN has drafted a comprehensive Internet acceptable-use policy for its Technology Centers (see Appendix) to ensure that students surf the web responsibly.

The Newark technology program is spearheaded by the Technology Director and managed daily by two part-time technology teachers. The dynamic and dedicated Technology Director has been at the B&GC of Newark for seven years. He is Microsoft-certified and has developed a very well-organized curriculum around the use of the technology for different age groups. He also provides additional technical support to the technology teachers. The technology staff meet once a week for two hours, during which time one staff member gives in-service training to his colleagues. Inservice training can cover a range of topics from uncovering the secrets of a new operating system to the best ways of teaching a web-based scavenger hunt. They also work on planning the program and share their teaching experiences.

The technology curriculum is adapted from the *Librarian's Desk Reference* (especially "Getting the Most Out of Your Public Access Computers") and the *Gates Center User Education Guide*. These curriculum materials are currently being used for the Gates Foundation's U.S. Library Program, which works in partnership with public libraries to provide access to computers and the Internet to low-income communities in the United States. The computer training materials are in over two thousand public libraries throughout the country. The materials focus on computer basics such as computer components, file systems, the tree-file system in Windows Explorer, Windows NT desktop, and mouse basics. For word processing and desktop publishing, members receive instruction on Creative Writer and Microsoft Word. Members are taught how to use the scanner and the digital camera in order to include photos in their personal profiles. Other lessons are Computer Care; Microsoft Virtual Globe; Microsoft Encarta Encyclopedia; etc. These instructional modules are followed by appropriate assignments and student work (see Appendix).

Adapting the curriculum required the Technology Director to focus on allocating appropriate instruction time based on member profiles. After his analysis, for example, one class will be taught in a one-hour time slot instead of one and a half hours. Since most of the students come on different days, each lesson is offered over the period of a week instead of one day.

In using the technologies made available to them, members are always encouraged to devise products every day and the Technology Director keeps a file cabinet for portfolios of members' work. Last summer, for example, members used mapping software called "Neighborhood Map Machine," which allows children to easily make maps of their own real or imaginary neighborhoods. Graphics include roads, trees, grass, water, a variety of buildings, traffic lights, and more. Several different map-related activities

include placing objects on a grid or solving mysteries — following directions that relate to north, south, east, and west or to grid coordinates until you reach your destination. According to the Tech Director, members organized in groups of four toured their communities and gathered information about the neighborhood. Through this process, they produced maps which were reproduced on T-shirts. They also developed their technology and mapping skills. Other product-oriented projects include the production of a newsletter, a Virtual Globe project, etc.

	Mon	Tue	Wed	Thu	Fri	Sat
3-4p	Ages 6-7	Ages 8-9	Ages 10-12	Smart moves	Teens	9-10a IT work
4-5p	Ages 10-12	Torch Club	Ages 6-9	Smart moves	Open time Ages 6-9	10-11a Ages 6-9
5-6p	Ages 6-9	Ages 6-9	Ages 10-12	Smart moves	Open time Girls 10-12	11a-12p Boys 10-12
6-7p	Ages 10-12	Ages 10-12	Keystone Club	Smart moves	Open time Boys 10-12	1-2p Girls 10-12
7-8:30p	Teens	Teens	Open for Community	Smart moves	Open time Teens	2-4p Keystone/Torch Clubs Project Time
8:30-9p	Clean-up	Clean-up	Clean-up	Clean-up	Clean-up	4-4:30p Clean-up

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At present, 250 members use the computers weekly, more than doubling the attendance from the 116 members at the grand opening in February 2000. Overall, the program has great impact on members who attend classes and use the computers on a more frequent basis. The Technology Director's previous experience with technology significantly influenced the speed at which technology was adopted at the Centers. The director was adept with technology and able to share his expertise with other staff members.

As they prepare for the summer program, installing new educational software remains a challenge because the computers are still "locked" by the system configuration that came with the machines. In order to move the technology program to a more sophisticated level, the Technology Director would like to do the following:

- Expand the mapping program
- Provide technology training to B&GC staff, especially those in the higher echelons
- Focus more on technology program integration with B&GC's overall mission
- Develop a training program on computer building by the spring
- Expand the technology teacher position from part-time status to full-time
- Acquire videoconferencing equipment for teaching purposes
- Find time to research new educational software in order to update the Clubs' limited software library
- Acquire adequate software for literacy.

Taunton. Massachusetts

- The B&GC of Taunton, Massachusetts, has 1,200 members, and an average daily attendance of 225.
- Eighty-six percent of its members are white.
- Its members come from families with various income levels, but over half come from families earning between \$5,000 and \$22,000.

Before joining the B&GCA Technology Center program, the Club had 18 old computers, 3 Pentium computers (133MHz), and 2 printers. The new Education and Technology Center in Greater Taunton is to provide adult literacy programs and computer job skills training programs and computer access to its young people, including the following opportunities: basic technology skills, programs to improve educational achievement, and job-skill preparation.

The Technology Center opened on June 24, 1999. A hired technology consultant helped set up the entire Center with the support of the former center technology coordinator. A technology program coordinator with a network administration background has been hired in recent months, and according to the Club's Executive Director, as a result of his technology expertise, the equipment is now working very well.

The Technology Center has drafted a copy of an Internet acceptable-use policy. For example, members are not allowed to bring diskettes to the Center because they may carry a computer virus or other unacceptable computer content. Diskettes are made available to members by the Center's coordinator. Cyberpatrol, an Internet filter, has been installed to keep members from accessing "inappropriate" websites. Members who violate the rules are restricted for a brief period of time from accessing the computers. If members continue to violate the rules, they are restricted from access to the entire Club for a period of time. The most serious punishment (which has yet to be imposed) for repeat offenders is a permanent ban on Internet access for non-educational use. However, the coordinator acknowledges that preventing members from accessing "undesirable" websites or using inappropriate language in chat rooms is extremely difficult.

At present, the center has a total of 74 new workstations connected to the Internet through a T1 line: 15 computers from Project Connect as well as 16 Dell PCs and 43 Wyse terminals. The center is 5,000 square feet partitioned into three rooms assigned to different age levels: 6-8, 9-12, 13-18. Each room has at least 24 computers, which are used by an average of 75 to 125 members daily. The center is used 4 to 5 times per week by theyoung people, who remain there an average of 1 to 2 hours per visit.

According to data from the first one and half months of school-year operations, at least 40 to 50 youths use the Technology Center daily. The users are 44% female and 56% male. Usage by age in the early months of school-year operations shows that the center was mainly used by young members, aged between 6 and 12. Since the Technology Center opened, 75% of the Club members have used it at least once.

	Mon	Tue	Wed	Thu	Fri	Sat
3-5:30p		– — —Homew	ork Help/Free	e Period— — -		10:30a-2:30p IT work
5:30-6:30p	Computers for Homework	Girls Computer Club	Fun with Internet and Email	HTML/Web Design	How Computers Work	_
6:30-7p		C	Closed for Dir	nner———		—
7-8:45p			–Free Period			_

Table	7:	Technol	logv (Center	CI	lass !	Scl	hed	ule
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Table 8: Daily Use of Computer by Gender

Population	1.5 Months of School Year Operations	10 Months of School Year Operations	Total
Girls	70	114	184
Boys	100	156	256
Total	170	270	

In late spring, the former technology coordinator provided training sessions to staff on the use of the new computers, email, and the resources available to them and Club members. A contest was held for youth to design the invitation card for the grand opening of the Technology Center, and members were encouraged to use a computer for their design. The winning design, created by a twelve-year-old girl on Creative Writer, was mailed to parents and supporters in the community.

Table 9: Daily Use of Computer by Age

Population	1.5 Months of School Year Operations	10 Months of School Year Operations	Total
6-9	30	45	75
10-12	80	130	210
13-15	50	75	125
16-18	10	20	30
Total	170	270	

Members use the following Microsoft products in order of frequency: Internet Explorer, Creative Writer, Magic School Bus, Barney, and Encarta Encyclopedia for homework. Internet Explorer is by far the most used Microsoft product in the Center. Through purchase and donation, the Center is now in the process of acquiring an increasing number of software packages, including Adobe PhotoShop and PageMaker, some games and sports titles, the Discovery Series, and Interactive Workbook. This software is to be added to the network.

The use of technology is linked to the summer program and school-year program. The Center Coordinator started the program during the summer with group orientations, which included an overview of the use policy, general use of the computer, navigating the Internet, and available programs. The summer program is very structured, with small, same-age groups visiting throughout the day, which facilitates group orientation. Early on the activities in the summer program focused on Encarta and email activities.

For the school year and at the beginning of the implementation process, the program was unstructured, with youths of all different ages coming in throughout the day. This necessitated individual orientation. At present, however, the program is much more structured (see Table 9). The Center provides the following activities: computer access for homework, fun with the Internet, and email. Moreover, members are encouraged to join the email pen-pal program in which they can communicate with other B&GC members. Members are also joining chat rooms.

The technology is being integrated into the Club's other programs such as character and leadership development; education and career development; health and life skills; the arts; as well as sports, fitness, and recreation. For example, "the Technology Center has allowed us to make improvements in one of our CORE Programs: Education and Career Development," according to the Technology Director. Moreover, homework help is available every afternoon in the computer center during Power Hour and beyond. The Body-works program uses the computer center to search for first-aid sites and to type the results of a mock newspaper interview. The Arts and Crafts Director brings in her group to design colorful signs and banners. The newly established Mile Club made a huge chart recording member-miles run, and also used the computer graphics program to create a wall hanging of a track and runners to move around the track. The Aquatics Director uses the computer to manage the swim team. In addition, various new computer activities are being proposed: the creation of agendas and budgets for the Keystone and Torch Clubs; a visit by women in the computer fields to the Girls Computer Club; and printing on fabric to create wall hangings in the Arts and Crafts program. Furthermore, the computers have been used to promote other Club programs through the production of attractive banners and flyers.

The Center's Technology Coordinator of the overall technology program is very positive: "The Technology Center has been a wonderful addition to our Club. We

have been able to give the youth that we serve access to all that technology has to offer. We have helped the youth we serve to gain and improve key computer skills. Since the Technology Center was put in place, we have experienced fewer behavior problems Club-wide because members have access to a program that gets them involved in constructive activities. We have also experienced an increase in daily attendance and an increase in daily usage of the Club."

Before the establishment of the Technology Center, only 38% of the Club members used email. Most were unaware of the existence and uses of the Internet. Now members are becoming more and more familiar with computers and the Internet. Using email and chat rooms has become very popular at the Club. Over 80 members are using the Internet to communicate with each other and friends outside the Club. In the summer program, children as young as 6 who had never used a computer before are designing greeting cards and doing puzzles by the end of the summer. However, the use of the Internet by young members (6-7 year olds) has been a challenge due to their low reading level. They have difficulties browsing the Web and require constant training. But more and more Club members are being trained on how to use the Internet every day.

The environment created by the Technology Center is fostering social interaction, and the anonymity of the computer is helping members communicate more freely. Their participation in these communication activities is lifting their self-esteem. Furthermore, members are encouraged to bring their parents into the Technology Center to show them what they have learned.

One challenge in the implementation process was increasing the number of computers. Much of this difficulty stemmed from unfamiliarity with the design of the NT network, particularly the security details. "We have had some problems adding additional computers into the existing Technology Center afforded by the Microsoft/ Shaquille O'Neal grant award. Furthermore, nearly all of the headsets received with the Gateway computers were broken. The manufacturer replaced about six heavy-duty pairs of headsets."

In September 2000, the Club will be receiving two grants for more efficient operation of the Technology Center and to improve the mentoring side of the program. In addition, they will purchase a data projector to facilitate computer and Internet teaching lessons. The Club also plans to expand the program to bring in parents to use the technology.

Laredo, Texas

- The Roberto & Beatriz Benavides B&GC of Laredo has 2,116 members, of whom 99% are Hispanic and 94% are economically disadvantaged.
- More than half of its members (56%) come from families with income levels in the range of \$0-\$12,000.
- It has an average daily attendance of 210 members.
- Of these 210 members, 45% are girls.

Before their participation in the B&GCP's technology program, the Roberto & Beatriz Benavides B&GC of Laredo had six outdated computers. Based on the technology and educational needs of its members, the Club developed a technology plan to ensure them access to the most challenging and relevant educational programs and technology tools. Its 1999-2001 plan focuses on four objectives:

- To provide equitable technology access to all members
- To support members in their creative use of advanced computer technologies
- To increase technological opportunities for all members to ensure success at school
- To provide Internet access to all members to enhance learning and research opportunities.

With these advanced computer and telecommunications technologies in place, the Club outlined how members will engage in the following specific activities:

- Use word-processing, spreadsheet, database, and presentation software for projects, presentations, research, etc.
- Use CD-ROMs to access information for research, increased cultural awareness, etc.
- Use the Internet for communications and research
- Create webpages
- Produce newsletters, write short biographies, etc.
- Videotape events and create multimedia presentation
- Take pictures of special events for newsletters, multimedia presentations, and webpages
- Scan pictures to use in education projects, newsletter, etc.

The Club's Technology Center, open from 3 to 8 pm every day, has a daily attendance of 50 members, who are provided educational and technological instruction by one educational tutor and one computer instructor. The Club's library is located in the Technology Center. Members have also been using the technology for recreational purposes.

The availability of technology has energized these members in their overall participation in the Club's program. Through the fun and learning activities delivered by technology, attendance at and participation in Club activities have increased. According to the Club's Executive Director, the Technology Center fits nicely with other programs. Furthermore, the computer instructor and educational tutor reinforce what's being taught at school and are implementing new educational activities for members. The Club has noticed an increase in its total membership. The Club's Executive Director believes this is due to their promotion of the Technology

Center in their membership drive. The increase in membership also points to how much people in underserved communities need and want to access advanced computer and telecommunications technologies.

Despite its positive impact on members, the program is still faced with the following difficulties:

- Internet connectivity that is reliable and sustainable
- Maintenance of a functioning Club website

Sacramento, California

- The Thomas P. Raley Unit B&GC of Greater Sacramento is a new club and has 750 members: 40% African American members and 40% Hispanic, as well as 60% girls and 40% boys.
- Members are economically disadvantaged. They come from families with a median income of \$16,000; 46.5% of children under 6 live in poverty.
- The Club has an average daily attendance of 200 members.

Before participating in the B&GCA's technology program, the Club had three computers (two were outdated) and one color printer. When the Club created its computer learning center, its goals were technology literacy, school-to-work skills, comprehensive education, and access to advanced computer and telecommunications technology resources for its members.

The Club had already obtained high-end hardware from Intel to equip some of its facilities. The grant from the Microsoft Corporation and Shaquille O'Neal was used to equip other rooms including the arts rooms, library, teen room, and junior member room. The Club now has approximately 25 computers, which are located in the library (3), teen room (2), and lab (20).

The hardware and software the Club received from the grant is as follows: ten Gateway PCs complete with VX700 monitors, a Gateway ALR 7200 NT server, and eighteen pairs of headphones. Each computer came equipped as an NT workstation, and the server itself is loaded with the following software applications: Stay Safe online; Encarta Africana, Research 99, Virtual Globe 98, Bookshelf 99, and Encarta Encyclopedia; Barney's Circus, Farm, and Sea; Corbis Critical Mass, FDR, and LDV; Creative Writer Expedia Streets 98; Trip Planner 98; Internet Explorer; Microsoft Word; Microsoft Publisher; Microsoft Excel; Microsoft PowerPoint; as well as Magic School Bus Earth, Rainforest, and Dinos.

The technology program started in September 1999. A volunteer, who spends 20 hours a week in the computer center, provides technical support. Members' daily activities center around doing their homework, learning to type, and using word-processing and spreadsheet software. From 3 to 4 pm, members do their homework as well as typing exercises. Members also like to use the Encarta Africana and Encarta Encyclopedia CD-ROMs. Mondays and Wednesdays are dedicated to word-processing; Tuesdays and Thursdays are dedicated to using spreadsheets. Open lab time is scheduled at the end of the day.

The Center gives basic technology classes to see what members know and how to help them. The Technology Center offers computer classes, Internet access, and media literacy classes, and various other educational curricula. The Center is setting up project-based classes in which members are encouraged to use word-processing software and other tools. The Club's Education Director has been developing curriculum modules and sharing them with Intel and the local school district. Overall, members come to the technology center to do their work and learn computer skills.

Although the project coordinators like the technology, the week of training they received did not prepare them for the complexity of the NT system configuration. The training was not sufficient to help them understand how to technically set up the Technology Center. Overall, more emphasis should have been put on the network administration of the program.

The Center is being used in various ways by a daily average of 40 to 50 members. Every member of the Club has used the computer at least once since the Center opened. Members between the ages of 9 to 14 use the computer lab the most on a daily basis.

The first two hours of each day are dedicated to educational uses of the computer for Power Hours. Club members are also provided a quiet place to do homework for two hours if they do not wish to be around a computer. After the initial two-hour educational period, the Center is used for classes, Internet exploring, and preparation of the Club's newsletter. The members are also given free time in the computer lab to surf the net or practice their computer skills.

The impact of the program has touched not only regular members, but has also touched parents, community businesses, and volunteers from the immediately surrounding communities as well as the educational community. Members have benefited by using the Technology Center for tasks ranging from history reports to making special occasion cards for a friend or family member. Just being able to go home and show their parents what they have learned at the Club opens up a new, and much needed line of communication.

The use of technology at the Center is becoming an integral part of the educational program. Through the creation of a newsletter, flyer, the keeping of game statistics, and/or running a tournament, opportunities constantly arise to integrate technology in everyday instructional practices.

The technology program receives support from businesses and community members, who offer a variety of interactions to members. Club members have the chance to interact with highly trained professionals from various fields through these volunteering collaborations. As a consequence, members are becoming strong socially as well as academically.

The main challenges facing the program are twofold. First, the education department needs to continue developing and implementing a program that keeps members current with educational requirements. Second, the rampant growth of technology requires constant updating of the system software.

The future goal of the technology program is to continue providing quality assistance to Club members, including instruction in webpage design, programming, even computer refurbishing skills. The education department would like to keep updating its technology resources, and to give computer design classes for members and their parents.

Cleveland, Ohio

- The Club has 950 members, 95% of whom are African American, and an average daily attendance of 115 members.
- The majority of its members (93%) come from families with income levels below \$22,000.

The main goals of this technology program is to provide Internet and computer access to its members, as well as to open up career opportunities. The Club had little computer technology (3 computers and 1 printer) before the implementation of the Technology Center program.

Now they have 15 networked computers, which are

not connected to the Internet. The Technology Center, run by one education instructor and one program coordinator, has developed its own computer literacy manual. The center is open from 2:30 to 8:30 pm Monday through Friday, and from 12 to 7 pm on Saturday.

The Technology Center provides daily basic computer literacy to 65 members, ranging in age from 6 to 18. Access is provided equally to girls and boys. Members are encouraged to use the computers through a point system. Each time they earn technology usage points, they are awarded with more computer time to use the computer for entertainment. Members are provided homework assistance and they like to use Encarta, word processing, etc.

The program has real impact in the community for the following reasons:

- It constitutes one of the main free access point to technology in the area.
- It provides basic computer literacy.
- It has attracted more teenagers to the Club.
- It is attempting to integrate the Club's education programs with technology.

Despite the positive impact of the Club, certain difficulties are making meaningful access a challenge. The reliability and sustainability of the Internet connection are uncertain because of the lack of ongoing financial support to pay for the Internet service. No thought was given to the maintenance of the Internet connection beyond the life of the grant. In addition, staff trained in information technology is needed at this Technology Center. The program coordinator feels that the week-long training did not help her understand how to configure the NT system. She indicated that the

training was more of a lecture than a hands-on approach. She believes that training would have been more beneficial if conducted on each selected site for this grant. She added further that some of the grant money should be available for staffing.

Hayward, Wisconsin

- The Hayward Club has 550 members, and daily average attendance of 120 members.
- Of its members, 96% are Native American and 90% come from families with income levels in the range of \$0-\$12,000.
- Over 90% of its Club members have no access to a computer at home.

The Club, which targets members in the 6- to 18-yearold age range, had no computer technology before participating in Project Connect. The Technology Center at the Hayward B&GCA now has 15 computers and Internet connection. The NT server is functioning perfectly. The center is opened from 3:00 to 7:30 pm on Monday and Tuesday, and from 3:00 to 9:00 pm Wednesday through Friday.

Staffed with a computer education coordinator and a tutor, the Technology Center provides daily basic computer literacy to between 50 and 60 members. In

addition, members are involved in the following activities: homework, research, Scavenger hunt, and email. The technology is very popular and is one of the top programs at the Club.

Richmond, Virginia

- The Southside B&GCA has 289 members and an average daily attendance of 129 members.
- Ninety-eight percent of its members are African American and come from families with a wide range of income levels.

Before participating in the Technology Center program, the Club had twelve old computers. Its main goals are to prepare youth to enter the workforce and institutes of higher education. The technology program objectives, which support the mission of the organization, are to provide Club members with computer skills and a sense of belonging. The Club received fifteen computers, all of which are

connected to the Internet. The technology is to be integrated into a majority of their core service programs.

Opened in September 1999, the Center is used daily by 30 to 40 members between the hours of 4:30 and 8:00 pm every weekday, and between 9:00 am and 5:00 pm on Saturday. Members use technology in hourly intervals. Seventy percent of Club members participated in and completed the Club-designed curriculum.

The Technology Center has had a very positive impact on Club members as well as on parents. According to the Director of Outreach Services, the Technology Center has become an integral part of the learning environment at the Southside B&GC. Staff and members have become more creative in their overall participation in educational programs at the Clubs. Club members consistently use the computer programs to enhance other Club programs and activities they engage in. The technology program enhances members' knowledge of specific topics such as fundamentals of sports; helps volunteer teachers with homework assignments; and helps the administration maintain a database for members' attendance and accomplishments. Moreover, the technology program and a dedicated staff support Club members' SAT preparation and their participation in the College Awareness Program, which helps them enter institutions of higher learning by teaching them how to submit college forms and apply for financial aid.

A main challenge facing this Club is to properly and effectively train staff in various areas of computer technologies. Thus, the Director of Outreach Services believes that a major step in this direction would be to create technical familiarity with computer technology, for example, by teaching Club youth what the components of a computer are and what actually makes it work.

Denver, Colorado

- The William E. Cope Club Branch has 630 members (60% boys and 40% girls) and an average daily attendance of 90 members.
- Eighty-one percent of its members are Hispanic, and more than half its members come from families with income levels that range from \$0-\$12,000.
- Less than 1% of the Club's constituency has access to computers and the Internet at home.

Before joining the B&GCA Technology Center program, the Club had ten computers and one server. It has Internet access via DSL line. One of the main goals in their technology plan is to provide information technology competency to their members in the following areas: education and career development; character and leadership development; health and life skills; the arts, as well as sports, fitness, and recreation. The objectives of the technology program are that:

- Members will use the Technology Center to do their homework, including using the Internet for research purposes
- Members will become comfortable with and knowledgeable about computers, Windows-based programming, and the Internet
- Members will use educational software to complement the life skills programs (e.g., career preparation, GED preparation, etc.) currently offered at the Clubs.
- Older members and junior staff members will serve as peer educators in the Technology Centers, teaching younger members how to use the machines and software.

From Project Connect the Club received two printers, a scanner, a digital camera, and ten computers with a server. For software, the Technology Center has a Windows NT operating system on server and workstations. It also has various software packages including: Magic School Bus, Barney, MicroWorlds, Creative Writer, and Mavis Bacon Typing.

Opened in September 2000, the Technology Center is open at least 30 hours a week and has an open-door policy. That is, anyone can come and use the computer center when they need to. It is open daily from 3:00 to 8:00 pm. There is a \$2 per year membership fee.

The technology program was run by volunteers until October, when a part-time computer specialist was hired. The new Technology Center is staffed by the branch manager, physical education, education, and arts specialists, as well as many volunteers. Technical support is provided most of the time by outside consultants.

The Technology Center is used by members of the Club and their parents. It has an daily average attendance of 40 members.

The Club is collaborating with a neighborhood public elementary school to create the "I Go" Club, which allows students who complete all homework assignments, exhibit exceptionally good behavior, and do an "overall" good job at school to spend school time at the Cope Branch taking part in fun activities, including access to the Technology Center. The most popular activity for the school's students is the computer lab, which is open to them on Friday afternoons.

Staff and members have access to the World Wide Web and have email accounts. For members, however, the Club has set up firewalls. The computer technologies are used in different ways, including writing and drawing, presentations, research, and homework. The younger kids use it for fun. Student members earn points by engaging in the following activities: typing practice, a weekly project, writing, playing educational games, learning new software, homework, creativity, and exploration.

The technology is being integrated into the general education programs including Power Hour and the Investing Club, which uses the computers to track their investments. According to the Technology Director, "The computer lab has met and exceeded all objectives and goals! The impact has been astounding! We have provided a learning opportunity to hundreds of inner-city youth who had little or no computer experience."

Members have learned basic computer skills in the eight months the Center has been open. They made Secret Santa stories using PowerPoint and wrote Secret Santa letters using Word. They have made drawings which accompany basic melodies such as the "Alphabet" and "Mary Had a Little Lamb." They are learning basic computer programming by making various Pokémon battles and DreamWorlds through the MicroWorlds software. Some members have even started to use Geocities to extend a website.

Members are constantly making beautiful "Thank You" cards for teachers and parents. They write letters to each other. Parents enjoy coming to the lab to see what their children are doing, and members are very proud of their work. The kids teach their parents new things about the computer and software, and some parents have decided to buy computers. As the organization further develops its "Technology Initiative," expanding the curriculum and securing the funding necessary for full-time instructors, the youths will have even greater opportunity to build career skills.

The technology program faces multiple challenges. Funding is needed to hire fulltime staff in order to keep the program consistent. Technology literacy is well below average, creating multiple problems with the use of the computer. For example, at the beginning of the program, 80% of the members had had no experience with computers and needed to learn how to use a mouse.

The Technology Committee is currently updating the technology program. Its development targets consist of three general areas: fund development, curriculum, and hardware/software. The fund development subcommittee is developing the marketing plan and targeting potential corporations and individual donors.

The curriculum subcommittee is researching software packages and staffing issues, while working in conjunction with the public schools. This committee will make recommendations to be considered by the Board of Directors this fall. The overall goal is to develop a metro-wide curriculum and staff-training programs, as well as to hire full-time instructors.

Los Angeles, California

- The Eastside Boys & Girls ClubBoys & Girls ClubBoys & Girls Clubs of LA have 1,350 members (50% girls) and an average daily attendance of 185 members.
- Ninety-nine percent of its members are Hispanic, and 93% of its members come from families with income levels in the range of \$12,000-\$22,000.

Before joining the B&GCA Technology Center program, the Club had six computers well equipped with educational software, and two printers. The computer education program offers instruction in wordprocessing, spreadsheet, graphics, and other educational software such as MathBlaster and the Living Book series. The Club's technology goal is to provide its members with access to the same educational and technological opportunities that children from more affluent communities have. The Technology Center provides access to members every day but designates different days for different age

groups. There is a \$10 per year membership fee for one hour a week. The Center is collaborating with several schools and businesses, and offers adult classes in the mornings for parents.

There are 24 computers in the entire Center, of which 15 have Internet access through ISDN. World Wide Web access to staff is open door, and email access for staff is by sign-up (staff must sign up or make an appointment to access these computers). Technical support is provided by outside consultants.

Members use the computers for homework between the hours of 2:30 and 4:30 pm. The Center remains open until 7:00 pm. Running the technology seems to require a great deal of effort from the entire staff, a situation that spreads people thin and thus impacts negatively on program quality. People have many responsibilities and quality control for the program does not exist. One way to solve this problem would be to hire a full-time staffer to provide technical support.

Although the NT technology is very powerful, it did not allow any other educational software to be uploaded on the machines. This is due to the fact that it is configured for business use. Accessing the Internet was also occasionally difficult. Overall, staff felt that the implementation of the Technology Center was a challenge, and that they should not have been given responsibility for such a cumbersome system.

Houston, Texas

- The Jim & Barbara Morefield Boys & Girls Clubs have 2,400 members (35% girls, 65% boys; ages between 7 and 13), and have an average daily attendance of 246 members.
- Ninety-eight percent of its members are African American, and 80% come from families with income levels in the range of \$0-\$22,000.

Before joining the B&GCA Project Connect Technology program, the Morefield Boys & Girls Club had nine computers with extremely limited capabilities and no Internet access. The current computer education program offers instruction in word-processing, spreadsheet, graphics, and other educational software such as School House, and Troggle Math by SoftKey Multimedia. The Club's technology plan is to provide learning opportunities to its members and reach those members who learn in different ways. The following modules will be used to structure the educational program: health and fitness, digital music, video editing, and digital photography.

The Technology Center is open from 2:30 to 8:00 pm. The Club is structured by age group and offers drug prevention, arts and crafts, tutorial, Smart Kids, Keystone, some of type of network, etc. In order to play baseball, 7-to-9-year-old members are required to participate in computer classes, and 10-to-12-year-old members practice their skills using Jump start Software.

Through Project Connect, the Technology Center now has fourteen computers which are connected to the Internet through ISDN, and members have email addresses. Technical support is provided by outside consultants.

The Club is planning to measure the effectiveness of its computer program and the technology integration aspects of the program by instituting a pre- and post-test for evaluation purposes. Members have been learning about basic computer skills since September. Many come to the Center to do research on the Internet and to print their work. Members know that the computers are here for them.

Milwaukee, Wisconsin

- The Julius & Rose Pieper Boys & Girls Clubs have 950 members and an average daily attendance of 156 members.
- Ninety percent of its members are African American, and 74% come from families with income levels between \$5,000-\$22,000.

Before joining the B&GCA Technology Center program, the Club had seven computers, one server, and one printer. This computer education program offers instruction in word-processing, spreadsheet, graphics, and other educational software such as Math Blaster and the Living Book series. The Club's technology goal is to provide to its members access to state-of-the-art technology that supports and enhances their education and technology literacy skills for workforce

preparation. An allied goal is to attract disadvantaged youth into a safe place where they can learn and have fun with their friends. The Center is collaborating with the Milwaukee Public Schools to create safe environments for the kids to stay in after school while they wait for their parents. In addition, integration of the technology into the gymnasium office, arts and crafts room, and health room is critical.

The Technology Center is located in a housing project. The Center is run by three staff, and a fourth person is available on Saturdays. They also rely heavily on volunteers who mentor members. In addition, technical support is provided by outside consultants.

The Technology Center is open from 3 to 9 pm, and all day for holidays when members are not in school. The Center serves 6 to 17 year olds, and they are required to contribute \$5 yearly per person. Each program area is to target the following three age groups: 6 to 8, 9 to 12, 13 and up. Although the program is organized around activities for all age groups, members between the ages of 6 and 12 seem to be the biggest users. Members access the computers by signing up in a specific program, and/or by using them during open times. Many members come during open time, which makes it hectic.

The technology is used in different ways in the program. Most of the work is experimental and is constantly being modified based on members' and volunteers' needs. Some programs rotate depending on the season. There is also a lot of replication in particular program areas. The core service areas are the arts and cultural enrichment, technology and/or educational program, outdoor environmental, and social recreation. For example, the art teacher works with members on producing newsletters, using the Internet as a research tool. Other programs are intended to enrich members' technology experience by helping them focus on learning specific software applications and coming up with digitized products at the end of two-week sessions. Informally, members experiment with KidPix, Kai Super-Goo, etc.

In addition, there are times when staff can use the Technology Center to learn about the technology and use it for administrative purpose. Staff have access to the Internet through Outlook, which is not restricted by the firewall. The Technology Center is faced with two types of challenges:

- Members have difficulty accessing email because of the presence of firewalls.
- It is impossible to install new software into the computers with the NT software system.

Seattle, Washington

- The B&GC of King County has eleven main clubhouses throughout the county.
- The Clubs serve 17,000 members and have an average daily attendance of 4,500 members; 65% of its members are white and 22% are African American.
- More than half its members come from families with income levels in the range of \$22,000-\$40,000.

All of the Clubs in this county have computer technology labs connected to the Internet, with access provided through high-speed as well as dial-up accounts. Staffed by an Education Director, the computer labs are places where members are helped to meet their daily needs for homework assistance, basic skill building, research and exploration, creative expression, employment preparation, and fun. A Technology Specialist is involved in technical assistance as well as program design and implementation.

A Tech-mobile Director, an educator, was hired in April. The King County B&GC has developed a mobile

cmputer lab on wheels, named the Tech-mobile, designed to provide computer and Internet access to children, ages 6-18, all across the county. The primary goal for the Tech-mobile is to create an inspiring technology environment that can be driven to any B&GC, school, housing complex, or other building. The Tech-mobile allows advanced computer and telecommunications technology to be delivered to communities that have no access to computers or the Internet because of lack of space and/or funds (e.g., West Seattle).

The Tech-mobile is equipped with 8 Gateway Profile workstations, 4 Gateway Solo 2500 laptops, a Gateway ALR 7200 Server, an HP 4050TN Laser Printer, 2 Aironet 4800 Wireless Access Points(modems), 4 Aironet Wireless PCMCIA cards for the laptops, a G4000 Dual channel raceway with 42 ports, a ViewSonic 802 + LCD projector, 2 Sony Mavica FD83 digital cameras, a Sony videocamera, an Ortronics 48 port patch panel, a Gateway E3200 with SatServ software to aim satellite dish, a DircPC Satellite dish, AT&T Sierra Wireless Cellular Digital Packet Data Modem, and around 1,000 feet of Category 5 networking cable. All the computers have Microsoft Office 2000 Premium, Microsoft Encarta Reference Suite 2000 Deluxe, Encarta Africana 2000, Bookshelf 2000, and several Microsoft educational software games, such as Magic School Bus. The laptops also have Adobe Illustrator 7.0 and Adobe PhotoShop 5.0.

The Tech-mobile project has not fully started and is not fully tested yet. Although the Tech-mobile Program will be launched officially this summer — around June 14th, the technology program has been rolled out since April 2000.

At this time, the Tech-mobile Director is in the process of creating and developing the curriculum for this program, and establishing partnerships with low-income housing developments, community centers, and other organizations. She believes that the summer months will give her the opportunity to determine where the greatest need for computer access and knowledge is throughout King County. Classes will be offered in the basics of Office 2000, Encarta 2000, the World Wide Web, and multimedia. The program will also encourage advanced computer use, including website development, video editing, music composition and performance, and computer-aided design (CAD). During the summer months, regular visits will be scheduled for public housing developments, community centers, as well as schools and rural areas where there is limited technology access for young people. Resources will be focused on those of low-income, minority, and/or limited-English-speaking backgrounds. Children will be the primary users of the Tech-mobile, but adults will be allowed to participate when there are open seats. (The Tech-mobile can accommodate only 12 people per session.) The Tech-mobile Program has developed its own website at www.positiveplace.org.

High Point, North Carolina

- The Club has 370 members,
 95% of whom are African American.
- Forty percent come from families with income levels in the range of \$5,000-\$12,000; and 60% are from families with income levels in the range of \$12,000-\$22,000.

The Club, which has an average daily attendance of 75 members, has received 14 computers, 1 server, 2 printers, 2 cameras, and 1 scanner from Project Connect, but the program is not yet implemented. The construction of the Technology Center at the Carson Stout Club is still being completed. The hardware infrastructure needed for the building will be installed and completed in June 2000.

The organization is currently outfitting the other five

Club sites with hardware and DSL Internet services. The Board and staff are also developing a revised organizational technology strategic plan to address the needs of Club members and how to use the new technologies in the near future.

Possibilities for Sustainability

Dissemination

The lessons learned from the pilot project were disseminated in a special Project Connect package prepared by B&GC Program Services, titled "Resources for Implementing Technology in Boys & Girls Club Programming." This manual was made available to Technology Directors at the B&GCA's National Conference in New Orleans in May 2000. The package contains an overall description of Project Connect and its key components:

- hardware minimum standards that were put in place in Clubs as well as a sample of software names
- an outline of responsibilities to be carried out by Technology Center personnel
- a sample proposal for fund-raising
- a list of the Club's human resources
- fun projects and ideas for use with computers
- Internet resources for technology planning and online safety rules
- examples of acceptable-use policies
- websites for kids and teens
- a sample of an Internet exercise called "Internet Scavenger Hunt."

Conclusion and Future Directions

The Boys & Girls Clubs of America and its Project Connect initiative are creating a community environment that can exploit new technologies for engaged learning and the preparation of a qualified and technologically literate workforce. Although all fourteen pilot Technology Centers are still in the process of being fully implemented their technology programs are designed to provide lifelong learning skills, a broad educational background, and the ability to work in culturally diverse contexts to all Club members.

In this context, it is fair to say that the B&GCA's Technology Center initiative has increased computer and Internet access in most of the pilot sites. Moreover, the presence of a Technology Center in these Clubs has helped to increase membership. However, Project Connect is confronted with the challenges of providing ongoing training based on the Technology Centers' specific needs in the areas of technical assistance and technology integration into other educational programs; staffing; strategies for financial sustainability; and local comprehensive evaluation.

If Project Connect is to become part of the larger B&GCA environment, it is critical that the successful efforts and lessons learned demonstrated so far by some of these Technology Centers be communicated back to the entire B&GCA community. Technology Coordinators and technology teachers in these pilot Centers understand that being able to solve infrastructure issues on their own will increase the reliability of technology's benefits. Furthermore, they are attuned to the fact that the only way to effectively address meaningful use of the available advanced technologies is to provide technology teachers with professional development experiences grounded in an educational technology curriculum, rather than basic skills training on specific software. They have developed a deeper understanding of how the Internet, multimedia tools, and technology can be used for research, design, and communication. They have been able to arrive at this level of technology know-how because of various factors such as past technology experience; the efforts of full-time and dedicated technology personnel; the fostering of collaboration among staff and an open line of communication to share experiences; a well-articulated technology curriculum aligned with other educational programs; continuous program evaluation; and the ability to secure external funding.

<u>References</u>

- Babb, S. (1998). "The Internet as a Tool for Creating Economic Opportunity for Individuals and Families." Unpublished Doctoral Dissertation. LA, CA: University of California.
- Hoffman, D. and Novak, T. (1998). "Bridging the Racial Divide on the Internet." *Science*, Volume 280, pp. 390-391.

Appendices

- Agenda and Materials for the Technology Pilot Program Evaluation Workshop
- Internet Usage Contract of the Boys & Girls Club of Newark, New Jersey
- Student Work Samples
- Newletter pubished by the Newark, New Jersey Boys & Girls Club

Boys and Girls Club of America Technology Pilot Program Evaluation Workshop Center for Children and Technology

- 1) Introduction: 5 minutes-Name, project site, goals of your project.
- 2) Overview of B&GCA Evaluation

Gathering Baseline Data:

- telephone interview protocols and site visits and email,
- collect information on Club demographics, attendance levels, as well as gather programmatic issues, such as homework help classes and existing technology assessments
- Tracking information on students' attitudes toward their future.

Assessing Impact of Technology:

- What are the perceived effects of technology activities on students' learning, motivation, and work habits?
- What are the barriers to the effective use of these technologies at the B&GCA?
- How is the technology having an impact on Club's organization and administration?
- What are the types of products that club members produce collaborators produce?
- What is the frequency of computer use and to what extent are Club members using computers to do homework?
- How are students communicating via email?
- To what degree are students able to communicate with others using email and find information on the Internet?

Visiting Selected Sites

Some sites will be selected for us to visit to do some in-depth case studies.

Conducting evaluation at a local site

• Why conduct an evaluation?

-To be able to assess the effect of your project while it is being executed so that you can change your activities, strategies, or even goals "mid-stream".

-To demonstrate to stakeholders the effectiveness of the project.

- Formative vs. summative
- Informal, mixed methods triangulation—quantitative and qualitative methods.
- What does B&GCA hope to achieve and how does this mesh with what you hope to achieve in you project?

Things to bear in mind for evaluation:

- What are the intended goals of your project?
- Who are the major stakeholders?
- What's your target audience for the impact of your project?
- How will you measure the impact of you project?
- Are your methods of assessment familiar and realistic?
- Do you have a realistic timetable in which to evaluate your project?

What are the critical components to the formative evaluation?

- Do your activities and strategies match your project plan? In not, what are the reasons they are changed?
- Did you follow your project timeline? If not, why not? Were the task carried out by the planned personnel? If not, why?
- Were you able to implement your project within your projected budget? If not, why?
- Are the participants in your project moving along toward your anticipated goals? Which activities strategies seem to be most helpful in moving the participants towards your intended goals? How have you adjusted your activities or strategies to achieve your goals?
- What are the barriers have you encountered? Were you able to overcome them? How?
- Were there any negative, unwanted 'side effects' of your project? Were you able to overcome them? How?

What are the critical components to the summative evaluation?

- To what extent was your project able to meet it's overall goal?
- How did the project's goals mesh with your school's (or community, depending on context of project) goals?
- Was the project equally effective for all participants?
- What components were most effective?
- What significant unintended impact did the project have?
- Is the project replicable and transportable?



EDC Center for EDC Center for Children & Technology 96 Morton Street, 7th Floor

Founded in 1981, CCT is a research and development organization that conducts basic, applied, and formative research as well as technology design and development projects in collaboration with educational, corporate, and research institutions.