AOL Foundation
Interactive Education Initiative

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Year 2
Evaluation Report

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Introduction

Background

The AOL Foundation seeks to identify and support interactive learning models that can be replicated beyond the schools and communities that receive direct funding. Through its Interactive Education Initiative (IEI) grant program, it provides classroom teachers, school programs, and community-based organizations (CBOs) with seed money to integrate technology into their learning environments in innovative ways. The Foundation is committed to targeting schools and organizations serving socioeconomically disadvantaged populations in diverse communities. IEI's long-term goals are

- To maximize the benefits of interactive technology in K-12 learning environments
- To develop models and/or identify best practices that can be replicated by other schools and communities
- To produce an expanding network of educators and others dedicated to promoting effective educational use of interactive technology.

In 1998, the pilot program of IEI awarded 54 grants to projects run by individual schools and community-based organizations; in the following year, the Foundation awarded a second round of grants to 55 different projects.

To understand better the common themes that run throughout the IEI projects — both the characteristics that may lead to their success as well as the challenges they encounter — the AOL Foundation commissioned the Education Development Center's Center for Children and Technology (CCT) to conduct a formative evaluation of the program's first two years. CCT, a non-profit organization that has been studying the roles that technology can play in teaching and learning for the last 20 years, submitted its first report to the AOL Foundation in September 1999. The current report covers the 55 projects that constitute the second cohort of grant recipients.

As in the first year, the overall purpose of CCT's evaluation is to assess IEI's impact at the local level, and to understand the projects in the context of the schools and community-based organizations in which they have been implemented. More specifically, this report will:

- Document the characteristics of the schools and organizations from the second round of grant recipients, helping to refine the list of characteristics we developed in the first year.

- Describe the characteristics of successful projects as well as the factors that impede their success, making comparisons to the successful projects among the first round of grantees.

- Identify those projects that exemplify best practices. As in the first year, projects can enact "best practices" in two different areas. The first is in achieving self-identified project goals, generally those related to student learning; the second is in leveraging grant funds to create a sustainable project, one that will have a positive impact on the whole organization's use of telecommunications technologies.

- Assist in identifying projects that could benefit from additional support and offer suggestions for other uses of AOL's resources beyond funding discrete projects.

- Make recommendations for the future development of the IEI Network, a web-based environment overseen by Learning Options, and other mechanisms of support.

For both the first- and second-year evaluations, CCT used a variety of methodologies – site visits, telephone interviews and questionnaires, surveys, and case studies – to assess the impact of the IEI projects at the local level and to understand the institutions in which they were implemented.

Through case studies, we place a greater emphasis than the previous report on outstanding projects, and offer suggestions in the "Recommendations" section on how the Foundation — either through IEI or another Foundation initiative — may leverage these projects in the future.

Section I. Evaluation Overview

This report has five sections:

     I.   Grantee Profile
     II.   Project Profiles
     III. Themes and Case Studies
     IV. Conclusion and Recommendations
     V.   Appendices

The first section presents a detailed analysis of information culled from a survey, site visits, and phone interviews with the IEI grantees. After summarizing the research information, in the second section we describe our observations and conclusions about the projects. We also present criteria used to rate the sites into four categories: exemplary, promising, struggling, and delayed. The third section gives a more complete picture of a number of projects. Although last year's report described a variety of both successful and less successful projects, this year we chose to focus on exemplary sites that are poised to serve as national models.

Methodology

Both years' evaluations used multiple methodologies to collect both quantitative and qualitative information. The research team collected data through two core strategies: 1) Gathering baseline quantitative information through surveys given to all 55 IEI sites.[1] 2) Developing a qualitative understanding of the projects in the larger context of their host organizations through site visits and telephone interviews. The information collected by these methods is the basis for case studies we present in Section III. We also used this information to help identify characteristics that contributed to successful implementation and factors that hindered project success.

The Survey
The survey collected basic demographic information from project coordinators, including:
- Types of organizations in which IEI projects are found
- Student populations served by the IEI projects
- Project coordinators' teaching background
- Project coordinators' prior experience working with technology and telecommunications resources
- Type and accessibility of technical infrastructure at IEI locations.

Site Visits
CCT selected 23 projects for site visits. (See Appendix A for a complete list of sites visited.) The sites were chosen to vary in terms of size and type of organization (e.g., schools, CBOs, youth-serving institutions), population served

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[1] Fifty-eight project coordinators from 39 sites responded.

(e.g., urban, rural, and suburban), and nature of project (e.g., curriculum-based, school-to-work, community outreach). Selected sites were also to meet one or more of the following criteria:

- The IEI grantees were able to articulate clearly the goals of their projects and their plan to evaluate their work.
- The site was implementing new and emerging technologies in ways designed to enhance and strengthen core programmatic goals.
- The site was able to host a visit during a time when some of the served population would be present. When possible, we interviewed students involved in the project in addition to project leadership.

During site visits researchers learned about the IEI grantees' goals as well as the culture of the host school or CBO. The site visits were guided by the following questions:

- Is technology being used to extend and enhance core teaching and learning objectives?
- How is the leadership at the school or CBO involved? How do they support the project?
- What other support systems are in place that might help to nurture the project?
- What obstacles do sites face as they implement their projects?
- How involved are sites in the IEI Network and what kinds of support would they like to receive from the AOL Foundation?

A site visit generally included an interview with IEI grantees, as well as informal meetings with the director or principal of the institution. (See Appendix B for a copy of the protocol used for each site visit.) Researchers toured facilities, made classroom visits and observations, and usually ate lunch with the grantees. Whenever possible, we watched the project in action and spoke to members of the served population about their experiences with the project. We collected a variety of information at each of the sites including documentation directly related to or produced by the project, such as student work and clippings from local news outlets that covered a project's inception of progress.

Telephone Interviews

Researchers conducted telephone interviews with IEI project leaders in the remaining sites. We asked a series of questions including:

- Has the project achieved its goals?
- What are/were some of the obstacles?
- What are the resources or conditions in the school or organization that are supporting or facilitating the implementation of the project?
- Is the IEI project integrated into other educational initiatives going on in schools?
- How does the integration of telecommunications technology support and enhance the project?

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We also tried to develop an understanding of organizational setting, project vision, and the nature of the organizational leadership.

Section II. Grantee Profiles

In November 1999, at the IEI conference in Washington, D.C., CCT distributed a survey to all grantees. This survey was designed to collect a range of information that helped us develop a profile of the types of organizations receiving support from the Foundation. A total of 58 project coordinators, representing 39 projects (out of 55), completed the survey.[2]

The survey we distributed in the second year was guided by research similar to that used in the first year. This research strongly suggests that significant factors for successful technology integration and reform include the technology expertise and teaching experience of the project coordinators, teachers' experience using technology with students, and an organization's technological infrastructure. With this in mind, we developed a survey to collect demographic data and descriptive information about the individuals and organizations participating in the Interactive Education Initiative. We also gathered information about these individuals' experiences with technology, their experience using technologies with their students, and the availability of telecommunications resources at their sites. The information collected would serve at least two purposes: It would help determine if the grants reached the target population; and it would provide profiles of the grantee institutions and coordinators to help identify characteristics that contribute to a project's success.

In general terms, the survey responses depict a diverse group of educators and organizations serving an equally diverse population of students throughout the country, as was the case with the first cohort of grant recipients. (A detailed presentation of the survey responses is in Appendix C.) The majority of IEI projects are run by teachers working with students in elementary, middle, and high schools. However, a number of the projects are housed in community-based organizations offering informal learning opportunities to both young people and adults or senior citizens. The demographic profiles of the IEI projects continue to reflect the Initiative's goal of reaching underserved populations. Many of the students in the projects come from economically disadvantaged regions, and sites are evenly distributed across a range of environments, from rural to suburban settings and from small towns to large cities. Students also come from a wide range of ethnic backgrounds as well as from communities where access to and use of technology has been low.

IEI project staff come from a variety of backgrounds with a mix of familiarity with technology. Specifically,
- IEI project staff are often seasoned educators; the cohort averages 15 years of experience in the field. However, a significant minority (17%) are new to education, with 5 years of experience or less.

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[2] For the purpose of clarity, throughout this report we refer to grantee organizations as being either "schools" or "community-based organizations (CBOs)." "Schools" refers to projects found in individual classrooms, those that are school-wide or grow out of a school district office or program, which may or may not be collaborating with other organizations (including CBOs). Similarly, "CBOs" refers to projects conducted by nonprofit educational agencies, health and welfare organizations, and afterschool programs, some of which are tied to school districts.

- Many project directors are classroom teachers whose areas of expertise span the arts, humanities, and sciences. A significant number of others are directors or staff of community-based organizations.
- Project staff's familiarity with technology is similarly distributed: varied but with a bias toward experience. The majority have used computers and telecommunications tools every week for at least 3 years.
- In the classroom, IEI educators have moved more slowly toward integrating technology. While a significant minority has been using computers and telecommunications technology with students for a number of years, equally significant numbers have only begun to use these tools in class, and a few were technology novices when they began their IEI projects.
- Although some project directors have limited experience in using computers in their classrooms, they often are actively participating in school- or organization-wide efforts to integrate technology in meaningful ways.
- The projects' technology-readiness reflects the growing presence of technology in education. All but one of the sites that completed surveys had Internet access and only three did not have a technology plan. Most projects offer students, teachers, and administrators access to online resources such as email, news groups, and the Web.

Section III. Project Profiles

As we did with the first cohort of grant recipients, we defined *success* as an IEI site's successful implementation of its proposed project. Given the Foundation's commitment to providing seed money to schools and community-based organizations, a site's ability to actually do the work they set out to do and begin achieving its proposed goals was the most logical place to begin our assessment.

During our evaluation, we examined a number of key factors within each project: the project's original goals as laid out in its grant proposal; the implementation plan, as conceptualized and as put into practice; the host organization's technological infrastructure; the commitment made by essential personnel to the project's success; and the project leadership's ability to overcome barriers encountered during implementation.

Based on our analysis of the original proposals and the data we collected through telephone interviews and site visits, we grouped the projects into four categories: exemplary, promising, struggling, and delayed, according to where they were in the process of implementation. Below, in "Characteristics of Success and Remaining Challenges," we provide a detailed description of the characteristics of each of these categories, but in broad terms, we define the groups as follows:

- Exemplary projects implemented their projects successfully and were actively seeking ways to continue the work they had done.
- Promising projects achieved some of their goals but faced obstacles, such as insufficient funding, changes in staffing, a lack of support from district or school administrators, or insufficient time.
- Struggling projects were plagued by many of the same challenges as promising ones, and because these challenges were either more intense or were compounded by an unclear educational vision, the projects reached few of their goals.
- Delayed projects have not yet happened.

This year's evaluation, like last year's, found that successful implementation involved several factors, such as a project's ability to:

- Achieve its articulated project goals
- Modify its goals when obstacles arose
- Develop a project that integrated technology to support and enhance their program's goals
- Integrate the AOL grant with existing initiatives to sustain the project beyond the term of the grant.

Consistent with our findings from the first year's evaluation of IEI grant recipients, we found that *none* of the demographic or technological factors examined in the survey account for the differences in the degree of success. The following were equally distributed across all four categories — exemplary, promising, struggling, and delayed:

- Types of organizations (school and community-based organization)
- Ages of the students (pre-K, elementary, middle, high school, and adult)
- Ethnic composition (African-American, Hispanic, Alaskan, Asian, and Filipino)
- Socioeconomic status (high, medium, and low percentages of students eligible for government assistance)
- Geographic locations (urban, small town, suburban, and rural).

Summary Demographic Characteristics for Four Groups of Projects

Rank (assigned by CCT)	Org. (institution type)	Age (target for program)	Ethnicity (largest population group)	Ethnicity (significant minorities: =10%)	SES (% eligible for free lunch in school)	Location (geographic setting)
Exemplary Projects 12	8 schools 4 CBOs	2 elementary 1 middle 3 high 2 multi-grade 1 high – 24yrs. 1 student + adult 1 adult 1 senior	5 Caucasian 3 African American 2 Hispanic 1 50% Hisp, 50% Cauc 1 mixed	4 Hispanic 4 African American 2 Caucasian 1 Asian	3 75% - 100% 5 50% - 74% 1 35% - 49% 1 20% - 34% 1 0% 1 mixed	4 urban 2 small city/town 2 suburban 2 rural 2 multiple locations
Promising Projects 20	12 schools 8 CBOs	1 pre-K 5 elementary 4 middle 3 high 2 multi-grade 3 student + adult 2 adult	7 Caucasian 5 Hispanic 3 African American 1 Native Hawaiian/ Filipino 3 mixed 1 unreported	3 African African 3 Caucasian 3 Hispanic	5 75% - 100% 7 50% - 74% 3 35% - 49% 1 1% - 19% 2 mixed 2 unreported	3 urban 3 small city/town 2 suburban 10 rural 2 multiple locations
Struggling Projects 18	11 schools 7 CBOs	5 elementary 4 middle 3 high 5 multi-grade 1 adult	6 Caucasian 6 African American 1 Hispanic 1 Alaskan Native 4 mixed	6 Hispanic 4 Asian 4 Caucasian 3 African American	4 75% - 100% 3 50% - 74% 2 35% - 49% 3 20% - 34% 2 mixed 4 unreported	6 urban 5 small city/town 1 suburban 4 rural 2 multiple locations
Delayed Projects 5	4 schools 1 CBO	2 elementary 2 high 1 multi-grade	2 Caucasian 1 Hispanic 1 Native American 1 As yet undefined	1 African American 1 Caucasian	2 75% - 100% 1 50% - 74% 1 35% - 49% 1 20% - 34%	1 urban 1 town 1 suburban 2 rural

* "Mixed" indicates either a project which exists on the internet (and therefore serves an undefined and potentially unlimited population), or one in which no single ethnic group dominates the population. Also, in two cases, projects provided information other than free/reduced lunch eligibility, and we have grouped these sites with the equivalent categories.

Characteristics of Success and Remaining Challenges

Last year, the CCT evaluation team found that exemplary projects shared four broad areas of commonality. These were: innovative educational design; reflective use of technology; strong leadership and vision; and status as part of a pre-existing program (see last year's report for a detailed discussion of each characteristic). In this second round of evaluations, we built upon last year's work by testing the validity of these characteristics as yardsticks for judging project success.

First, we found that this year's strongest projects tended to share traits with last year's exemplary sites. Exemplary projects were reflective and flexible in their technology use. They supported genuine educational innovation with technology, rather than using hardware to support traditional educational practice or using it for its own sake. Exemplary project leaders integrated information and communications technologies to extend student learning, expand curricular goals, and reshape traditional pedagogy. They also had a firm grasp of how their particular IEI project fit into a larger set of curriculum initiatives. Exemplary project leaders had a strong vision and a clear sense of the realities of the school that had to be coped with. Finally, we found that projects that existed in some form prior to receiving AOL funding were likelier to fulfill their proposed goals by year's end than those that were initiated with AOL funding..

Second, observing 55 new sites allowed us to go beyond affirming last year's basic findings to achieve a more complex understanding of the factors that contribute to project success, as well as those factors that hold projects back from reaching their goals.

We began our analysis by grouping the IEI projects into the three categories we used last year: exemplary, promising, and struggling. We also added a fourth category — delayed — for those sites whose projects did not begin in the 1999-2000 academic year.

Below is a more detailed description of the characteristics shared by projects in each of the four categories, with an emphasis on the new distinctions that emerged this year. Identifying and grouping these cross-site characteristics is helpful in determining which projects will most benefit from additional support and in helping other projects achieve their goals.

Exemplary Sites

Exemplary sites had the following characteristics:

*   *Strong, flexible leadership with a broad vision*
    Exemplary project leaders are collaborators. Nearly all the IEI grantees in this category created supportive relationships with a wide range of people from both their own organizational networks and the broader community. These projects were often supported by a larger decision-making body, whether a school's administration or district office, or a CBO's board of directors. When this was not the case – when projects had to work around resistance from some members of their professional community (district-level bureaucracy was a commonly cited hindrance) – leaders of exemplary projects were unwilling to retreat from their goals, and many had a history of pursuing independent projects despite institutional delays. Exemplary leaders adapted to the needs of their target populations, and most identified areas they would like to strengthen in the upcoming year. In contrast to the common perception of technology's generational gap – the belief that computers attract only the young – we found that successful project leaders vary widely in age. Many are among the first in their school or CBO to pursue a higher-level understanding of technology and are involved in training other staff. The most common personal trait was an openness to new skills and a willingness to be what these leaders hope their students will become: active learners.

*   *Innovative educational design*
    As was the case last year, exemplary projects grew from new and creative approaches to education. School-based projects often integrated technology as part of an overall educational reform strategy that included inquiry-based learning, teacher collaboration across subjects, flexible scheduling, and the use of experiences and resources beyond the boundaries of the classroom. Exemplary CBO-based projects discovered ways that new technologies can be used to address existing needs in the community. For example, one trend that emerged this year among CBOs was vocational – introducing technology as a valuable skill area for students receiving vocational training to develop.

*   *Encouragement of student autonomy and knowledge*
    Exemplary projects grew out of leadership's sensitivity to the needs of the people they serve. All of them project leaders gave the served population significant input into the form and functioning of the project. These projects employed technology to help nourish students' intellectual curiosity and their sense of autonomy. As such, they influenced both students and teachers in their approaches to education. Teachers who ran exemplary projects tended to be comfortable placing students in the driver's seat; this is particularly meaningful at a time when young people often have a greater knowledge and facility with technology than their parents and teachers. Staff at exemplary projects not only acknowledged this reversal, they capitalized on it, and a number of exemplary projects featured students teaching other students – or even teaching teachers – to use technology. As an outgrowth of this pedagogical approach, many of the projects are engaged in the process of

ongoing self-evaluation. This includes using students' assessments to gauge what the targeted population is getting from their participation as well as attending to changes that project leadership and teachers/instructors can make to improve the project.

- *Reflective use of technology*
As was the case last year, exemplary projects carefully considered how interactive technology would enhance their programs. Reflective use meant subordinating the technology to the learning goals of the project and ensuring that the technology contributed to those goals, in addition to any serendipitous opportunities it afforded. Exemplary projects integrated technology to deepen student engagement in the learning activity. In many cases, this meant project leadership designing curriculum that gave students opportunities to "tinker" with new information and communications tools. Project leaders were not only comfortable placing the technology in the hands of students, they insisted that they constructively play and experiment with the hardware and software to discover what it offered them.

- *Recognition of importance of training*
Although training is often a component of pedagogy, its role was so fundamental to the success of exemplary projects that it is worth listing as a separate characteristic. Project leadership recognized that adult teachers and older-aged student mentors needed time to experiment and become familiar with the tools before knowing how to use them with their students. Training is essential to achieving meaningful technology integration, and to acclimatize teachers and other adults to the notion that they are not required to have all of the answers but can allow their students to keep introducing them to the new capabilities of the machines in their classrooms or labs.

- *Pre-existing programs*
Like the grant recipients in 1998, many of this year's exemplary projects integrated technology into pre-existing programs and, as a result, were able to build their respective IEI projects on solid educational foundations. These projects faced fewer implementation challenges because the groundwork —trained staff, reliable technology infrastructure, established curriculum, district buy-in — was already well established. Thus, they were spared the burden of starting an entirely new project while trying to integrate technology at the same time.

- *Sustainability*
The future is uncertain for all IEI projects. Looking for evidence of sustainability, we found that exemplary sites are well aware of the need for ongoing funding and are actively seeking it. Many of these projects have at least one team member with experience as a grant writer, or have access to someone within their school district or CBO with this expertise. Others have been empowered by their experience with AOL to seek other sources of independent funding.

Promising Sites

These sites have yet to reach exemplary status for a number of reasons. Many are works-in-progress; their host organizations are doing exemplary work, but the projects themselves have not achieved either their proposed goals or the modified goals they created during the year. Others are still formulating some of the objectives they would like to achieve. In these cases, project leadership may have created an admirable program that still needs curricular fine-tuning.

The projects in this category are deemed likely to succeed because in their first year of implementation we found some or all of the following indicators of success:

- Ongoing dialogue among project staff about how to improve the project, and an understanding that the project is not yet as effective as it could/should be
- Support from the host organization and related systems (district leadership, etc.) for the project's continuation
- Strong correlation between project activities and leadership's core job responsibilities, ensuring their continuing participation even when the start-up process extends beyond the first year
- Ample funding. Many of these projects either have money left over from the original grant or have already purchased all the necessary equipment to sustain the project.

Despite these promising characteristics, many of the sites also displayed one or several of the following traits that are keeping them from fully implementing their projects:

- *Conceptual barriers*
  Some sites made a conceptual mistake in the design of their projects. They may have anticipated greater student or parent enthusiasm for activities than was warranted. In these instances, sites experienced very little buy-in from the target community and had a difficult time getting started. In other instances, sites designed curriculum that did not teach participants the desired skills or information. What makes these sites promising is that project leadership recognizes the need for revision and is revising the implementation plan for the next year.

- *Starting from scratch*
  Several projects took longer to implement than leadership originally anticipated, and this was especially common with brand-new projects. Leaders of new projects often failed to foresee common delays such as bureaucratic slowdowns, trouble wiring buildings or acquiring necessary equipment, or steep learning curves for students mastering new technological skills for the first time. Staff development, in particular, frequently held up projects as project staff were often learning to use new technologies along with their students. However, these are all one-time delays which should not hinder the projects in future years.

- *Lack of time*
  Even among pre-existing programs, the addition of new technological components often caused unexpected slowdowns. Many promising projects simply ran out of time during implementation and are likely to reach their proposed goals in the coming year.

Struggling Sites:

Struggling sites are those contending with either fundamentally-flawed approaches to education or with crippling obstacles. These sites may have much to recommend them — strong leaders, a compelling "solution" to an unmet community need — but in each case the future outlook for the site is bleak. In some cases, institutional support is so flimsy that the project seems likely to wither from lack of resources; in other cases, project leadership has not identified the changes in approach and structure required for the project to succeed. For still others, the projects reached some of their proposed goals and created something of value this past year, but seem to have hit a ceiling in their development. Because project leaders lack either the resources or the insight to recognize that their project has plateaued, these sites may not continue to evolve. Finally, there are those projects that simply accomplished very little for a variety of reasons and are not moving toward greater accomplishment.

Some of the reasons these projects may not continue to evolve include:

- *Conceptual barriers*
  These are projects where leadership has not recognized the conceptual weaknesses limiting their project's impact. Although they are not attaining their essential learning goals (e.g., improved performance on standardized tests, heightened student understanding of scientific or historical concepts, sharpened critical thinking skills, etc.) the leaders are satisfied with the facts or skills that students *are* learning, or with the physical products (reports, webpages, artworks) created by project participants. Because they are not actively evaluating the educational impact of the project, they are unlikely to recognize or address its shortcomings.

- *Mundane use of technology*
  Some sites have integrated technology to support their projects but the use of the technology itself is not innovative. Some projects incorporated technology into existing programming out of an unexamined belief that by its mere presence the technology would improve students' experiences. This faith in technology — the "halo effect" — is hindering project leaders from critically examining the role that technology plays in their pedagogy.

- *Conflicting institutional approaches to technology*
  Whereas some of last year's projects encountered opposition from institutional leadership, several 1999 sites encountered a different form of political obstruction. Project leadership's open and exploratory approach to technology clashed with a school administration's more conservative,

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protectionist policies. In a number of cases, projects incorporating Internet research or email hit a brick wall of opposition from school or district leaders unwilling to grant students even restricted access to these resources.

- *Lack of institutional support*
  Although some first-round sites had difficulty distinguishing themselves from the multitude of technology-based initiatives within their schools and CBOs, this year's sites more commonly faced administrations or advisory boards that were new to technology. The challenge was less an effort to compete against other successful technology programs and more a need to vie for scarce resources and against the perception that technology is an untested "extra." In a number of cases, a project manager had numerous other responsibilities in the organization, and the IEI project was not a priority for the organization as a whole. Due to a lack of time, funding, and interest from organizational leadership, the project did not achieve its goals and will likely be abandoned after its first year.

- *Lack of adequate self-evaluation.*
  As stated above, some projects employed curriculum that was inadequate to accomplish their proposed learning goals. This problem was compounded when projects lacked the kind of self-assessment and evaluation that would uncover these programmatic deficiencies. For example, a project might propose to broaden students' understanding of world history and geography through guided Internet research on historical sites. If students produce a sheaf of completed ditto sheets in the process but fail to retain any of the information they gathered, project leadership might assume they had met their learning goals if they do not look to multiple methods of evaluation.

Delayed Sites

A few projects simply did not get started during the 1999-2000 school year. Within this category, most projects seem clearly destined to proceed on a delayed timeline. Last year's obstacles (such as a lack of technology infrastructure or loss of key personnel) have since been overcome, and a plan is in place for next year's implementation. There is, however, a small minority where implementation at any time seems unlikely given the challenges they face.

Section IV. Themes and Case Studies

The following case studies are intended to highlight the characteristics of the sites we have defined as exemplary, focusing on six projects the Foundation may wish to support further. They are:

• CyberSeniors.org — 1000 Hours of Computer Training for Seniors
• Baltimore County Public Schools –– The Parent Mobile: Bringing Learning Closer to Home
• Pueblo Gardens Elementary School — Publishing Project
• Bridgeport Area Youth Ministry –– Computer Genesis
• L.A. Youth at Work –– Computer Technology Training

Rather than describing these projects in isolation, as unique pieces of work unconnected to the world beyond their relatively small school or community-based organization, we are presenting each case study as emblematic of a larger theme that ran throughout our data collection. These themes are not exclusive to one project or another; indeed, we easily could have used some of these outstanding projects to characterize multiple themes. Yet, each one represents significant movement within public education reform and societal expectations of what young people "should" be learning more generally. Whether in formal settings, such as a standards-governed, district-monitored classroom, or in informal environments, such as an afterschool program run by a nonprofit organization, many educators throughout the country are trying to accomplish the following:

• Provide equitable, meaningful access to technology tools
• Achieve sustained parent involvement
• Design interdisciplinary, hands-on curriculum
• Offer nontraditional vocational training.

Theme 1:   Providing equitable, meaningful access to technology tools.

News media, policymakers, educators, community organizers, and countless others have voiced significant concern over what has become known as the "digital divide."[2] In light of this concern and the desire to achieve greater equality of technological access and use, there is grave need to find examples of people and projects that have successfully overcome deeply entrenched inequity. One of the overall goals of the Interactive Education Initiative is to reach disadvantaged groups of people, and several exemplary projects explicitly set out to introduce technology to and expand its use by underserved and exceptional populations, such as the elderly in Maine and students attending the American School for the Deaf in Connecticut. The target groups of these projects, often burdened by economic obstacles, also experience considerable social disadvantage, further complicating the challenges they face in integrating technology into their lives in meaningful ways.

CyberSeniors.org's project, described below, may serve as a model of how technological tools can improve the lives of the elderly and offers worthwhile lessons that the Foundation may want to draw upon when attempting to help meet the needs of other unique groups.

CyberSeniors.org

Project   *1000 Hours of Computer Training for Seniors*
Location   *Portland, Maine*

Project Summary

CyberSeniors.org's "1000 Hours of Computer Training for Seniors" has placed the power of information and communications technology in the hands of over 2,500 people aged 50 to 93.

Project Description and Goals

CyberSeniors.org is a community-based nonprofit organization that brings together the talents of student trainers and retired classroom teachers, computer donations from local businesses, the cooperation of housing facilities, and seniors' desire and patience to learn new skills fundamental to their health and well-being. What began several years ago as training for twelve seniors has grown to a

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[2] See, for example, Michael J. Puma, Duncan D. Chaplin and Andreas D. Pape (September 2000), "The E-Rate and the Digital Divide: A Preliminary Analysis From the Integrated Studies of Educational Technology" (Washington, DC: U.S. Department of Education), or *Falling Through the Net III*, November 1999, (Washington, DC: National Telecommunications and Information Administration), or "The E-Rate in America: A Tale of Four Cities (March 2000)" edited by A. Carvin, (Washington, DC: Benton Foundation and EDC/Center for Children and Technology).

program of computer learning workshops and a website serving over 2,500 with a waiting list of 200.

After an unsuccessful search for adequate computer training materials for seniors, the project leader developed original curriculum. Her mission was "connecting seniors to the world at their fingertips," which translated into conducting workshops in public schools, universities, senior community centers, and housing facilities.

More specifically, the project director formulated the following project goals:

- To provide an opportunity for every Maine senior to learn how to access the wealth of information and resources on the Internet
- To recruit and hire a corps of 250 teachers (paid and volunteer) to maintain a two-to-one student/teacher ratio as the organization's training program expanded throughout the state with its community partners to meet the demand of the rapidly growing population of Maine seniors
- To develop twelve additional educational sites through community outreach
- To reinforce and extend CyberSeniors.org's online curriculum by expanding the interactive tutorials and supplemental exercises created for use at all training sites, including those in rural areas.

Setting and Demographics

CyberSeniors.org has held training in 24 different locations in an effort to reach as many seniors throughout the state as possible. Nearly half the training sites were in schools and the other half were in housing facilities where seniors live; a couple of libraries, a senior center, and a community center have also served as training sites.

The profile of CyberSeniors' target population is:

- Seniors are 3.9% of Maine's population; 173,254 people in the state are over 65 1.
- The median age of seniors trained by CyberSeniors.org is 73.
- Many of the seniors receive government subsidies and are described by the project director as "poor, unable to afford personal computers."

Implementation

Innovative Educational Design

The cornerstone of the CyberSeniors program is easy-to-follow materials and friendly, supportive training workshops. The project director, Elizabeth Isele, found that materials used by other organizations working with seniors had basic structural flaws –– small font sizes and no illustrations –– that made them both intimidating and difficult for seniors to use. Isele insisted on keeping her organization's supporting materials simple and created a carefully tailored package

of coursework consisting of three books, the first of which is titled "Very, Very, Very Basic Computer Skills." More important than the materials, though, are the resources seniors have in people. CyberSeniors' teacher-training addresses the specific needs and anxieties of senior learners. Workshop teachers are trained to place their students' interests and styles of learning at the heart of each session. The only definitive rule for teachers is that they are not allowed to touch the students' mouse or keyboard, expressing the program's guiding tenet: failure is unacceptable and patience is vital when working with this population. This philosophy, along with the remarkably low student-to-teacher ratio (3: or 2:1), have all led to a program-completion rate of 98% — a remarkable feat given that many of the seniors had tried other computer courses but were unsuccessful and dissatisfied with the experience. Vision and hearing impairments do not prevent seniors from completing workshops because Isele saw to it that the program incorporated adaptive technologies for those seniors struggling to overcome physical challenges. Even the name of the program, "1000 Hours of Computer Training for Seniors," conveys the organization's long-term commitment to its work. The 1,000 hours are meant to represent the accumulation of services the organization intends to provide with the AOL funds, from support for persons with disabilities to easy-to-follow materials for everyone participating in the program; it does not assume that each senior needs to complete hundreds of hours of training.

Because Maine has a community service graduation requirement for its middle and high school students, the project director is able to corral half of her workshop trainers from nearby schools. The thrill of teaching others, though, keeps them well beyond their initial commitment. The other half of the training staff are retired teachers who have some computer experience. The entire training staff — even the veteran teachers — go through a rigorous teacher training that involves carefully reviewing the workshop curriculum and completing an apprenticeship with an ongoing class until they are ready to be lead teachers.

Reflective Use of Technology
Isele'srecognition, that technology can help people overcome the isolating and disempowering effects of aging, is both obvious and revolutionary. CyberSeniors.org builds from the knowledge that many seniors have been unable to participate in society and their local communities. In response, the organization invites seniors to enter a virtual community housed on the CyberSeniors.org website, gives them the technology skills to access it, and hopes that in the process, seniors will find new entryways into real communities as well. The intergenerational nature of the training and the reliance on one another that seniors develop during the workshops — every training session must have at least two people and no more than eight attending — ensure that the "1000 Hours" project is just as much about human connections as it is about electronic connectivity. Reportedly, the high-school-aged trainers are often nervous at first, unsure of what to expect from "old fogies." For their part, the seniors are anxious about their trainers, who often have brightly colored hair and body piercings. The technology and the desire to learn provide a common ground: seniors want to acquire new skills and trainers want to help them reach this goal.

The commitment "1000 Hours" has to informational literacy is also an important pedagogical goal of the project. Seniors learn not only how to use computers, but also how to critically evaluate and then use information they find on the Web. The program fosters the desire and knowledge to make information relevant to their daily lives. Though this use of technology is not new, arming seniors with information literacy skills is compelling, particularly as the program teaches seniors to evaluate the validity of Web-based health information, an application that may have a direct and meaningful effect on seniors' well-being.

Leadership and Vision

Isele, who is not only the director of "1000 Hours" but also the founder of CyberSeniors.org, is a tireless advocate for learning and community building among seniors. She is driven to give seniors the tools to take charge of their health care and to re-enter the larger world by entering new communities, reopening long-distance communications, and reinvigorating their status as learners and participants in both local and national communities. The project director describes her tactics to meet organizational goals as "shameless," and her tenacious leadership style has attracted a large and dedicated group of volunteers and minimally paid staff who take on significant responsibility, as well as an active, influential Board of Advisors. The Board of Advisors is composed entirely of volunteers whose areas of expertise range from finance to medicine to education.

Sustainability

The project director used the AOL funding to enhance a program that had been in operation for three years. While the essential components of CyberSeniors.org's mission are unchanged, the organization's commitment to a low student-teacher ratio and its ever-evolving roster of services demonstrate a considered approach to meeting the expanding needs of current and new senior trainees. New initiatives such as the CyberSenior website and a research collaboration with the Area Health Education Centers and the Maine Medical Center grow out of the program's continual effort to identify new areas of interest to the seniors.

Project leadership has also implemented an evaluation component to assess areas of strength and weakness. All trainees and trainers complete evaluations at the end of each workshop, allowing project staff to gather feedback from seniors about what they have learned and what questions they would like answered next. The organization also has started to interview trainees, collecting information about how participation in the program has changed their lives. Thus far, the response has been overwhelmingly positive.

Although raising CyberSeniors.org's budget is a constant challenge — simply printing each trainee's full-color workbook is a financial stretch — the director is doing what she can to expand the program. On a pedagogical level, the organization plans to broaden its curriculum this summer, providing additional tools for seniors wishing to augment their skill set. The State of Massachusetts has taken great interest in CyberSeniors.org, perhaps due to some of the favorable news coverage it has received, and state officials are working with the organization to replicate its programs. Bell Atlantic, MBNA, and a number of Maine-based foundations are helping to underwrite the program, and with the work that

CyberSeniors.org is doing with the Cyber Health Initiative, it is hoping to expand on a national level.

Technology Infrastructure

With 24 different training locations, technology infrastructure varies from site to site. In some cases, CyberSeniors.org procured hardware and ISP donations from local businesses and used a software grant from Microsoft to build a suitable training facility. In other cases the organization was able to use a pre-existing lab, as with a few of the public schools and some of the high-end independent senior living centers. More often, senior housing facilities had computers for staff but not for residents, and so the CyberSeniors had to educate the staff about the role that technology could play in seniors' lives. Maintenance and technology support also is sporadic and financially burdensome. Most of the schools have their own tech-support staff but their skill level and reliability varies.

Theme 2:   Achieving sustained parent involvement.

Bringing parents into schools and helping them participate actively in their children's learning is one of the great challenges of contemporary education. While there is overwhelming evidence that parent involvement is critical to a child's success in school, many parents do not feel they have the skills to help their children with homework, and do not feel integrated or even welcomed into the school community.[3] On the other side of this divide are the schools themselves, and while most schools acknowledge the need to foster meaningful parent involvement, relatively few have achieved it. This is particularly true for schools serving economically disadvantaged or socially underrepresented communities. Time and again in our discussions with IEI project staff, leaders reported that some of their greatest difficulties came when trying to build parent involvement – both in their IEI projects and in their schools as a whole.

Adding intimidating technology into the equation can make it even harder for educators to involve parents. In communities where the only free access to computers is in schools, parents can find themselves excluded from the educational process as their children increasingly work with unfamiliar technological tools. Thus the much-talked-of digital divide can separate not only rich communities from poorer ones, but also computer-literate children from their parents.

In confronting these issues, a project in the Baltimore County Public School system took an innovative approach to parent involvement and created an outstanding program with implications that could reach well beyond county boundaries.

Baltimore County Public Schools (BCPS)

Project   *The Parentmobile: Bringing Learning Closer to Home*
Location   *Towson, Maryland*

Project Summary

With the Parentmobile project, Baltimore County Public Schools tackled the problem of low parent involvement by physically bringing educational technology out into the community. Based on the highly successful model of the bookmobile, the Parentmobile was an outstanding step toward overcoming the logistical and psychological barriers that keep parents from being more involved in their children's education.

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[3] The National PTA and other educational organizations on the state and local level have done significant work to strengthen the home-school connection. See for example the resources found in the education resource library at http://www.pta.org/programs/edulibr.htm#home.

Project Description and Goals

When the staff of BCPS's Office of Community and Parent Relations (OCPR) surveyed schools about their parent involvement programming, they found that schools in communities with greater financial needs had very low turnout at parent events, and that some schools — in poorer, more diverse, or rapidly changing neighborhoods — conducted no parent events at all. Office staff recognized that many parents, particularly those who were already underserved, felt uncomfortable interacting with schools and school staff, and were further hampered by lack of adequate transportation and childcare.

As a result of this survey, OCPR staff identified a number of goals, both broad and specific:

- To expand the ways that schools systems engage parents
- To change the way that parents, particularly those who do not feel comfortable in schools, look at us
- To connect parents to the world of technology that we are exploring with their children
- To create a project that will translate to increased confidence and skills for participating parents and carry through to their children's education.

With these goals in mind, they decided to bring school to the parents in the form of a Parentmobile: a cheerfully decorated school bus, refitted with comfortable seating, stocked with computers and curricular materials, and staffed by friendly, accessible parent liaisons and parent volunteers. On the bus, parents could ask questions about their children's curriculum and school in general, learn about the hardware and software their children were using in school, receive introductory training on Internet use, and begin building relationships with fellow parents as well as school and district staff.

Setting and Demographics

The Baltimore County Public schools is a suburban school system with a population in flux. Though the student population is predominantly European-American (65%), recent waves of immigration have brought increasing ethnic diversity, and the system now hosts significant and growing minority populations of African-American (30%) as well as Asian and Hispanic (5%) students. These students and their families live in a diverse range of communities, from rural farm areas to factory towns built around the now-moribund steel industry. While the number of students qualifying for free and reduced lunches is 26% system-wide, the figure rises as high as 79% in some schools; 39 of the system's160 schools qualify for Title 1 funding.

Rather than trying to pull parents into schools, BCPS uses the Parentmobile to seek them out. The bus sets up at school and community events such as school fairs and festivals, and also comes directly to locations frequented by parents, parking in high-traffic areas like the parking lots of shopping centers and

supermarkets, and outside the offices and factories of local employers during lunch and after work.

Implementation

Innovative Educational Design

From the outset, the team from the Office of Community and Parent Relations made the Parentmobile a community effort. The county Office of Transportation provided a retired bus, and local businesses provided much of the material and labor to repair and repaint it. Retired teachers and school system employees, student volunteers, and staff from the school system's technical-support office all pitched in as the bus was gutted, refitted, wired for computers, furnished and decorated. The paintings for the outside walls were contributed by BCPS students through a system-wide design contest. In this way, the Parentmobile's message — that schools belong to the community – was built into the structure of the bus itself.

The finished Parentmobile is a model of efficient use of space. In the front half of the bus, Apple IMacs are lined up at three computer stations. Beyond the computer stations in a comfortable, kitchen-nook-style sitting area, volunteers have room to talk to visitors over coffee and light snacks, and to guide them through an extensive library of curriculum materials aimed at parents of students of every grade and ability level. A television and VCR allow visitors to access a collection of informational and educational videos. In the back, a play area stocked with toys ensures that parents with young children in tow have the time for a meaningful visit.

Staff at the Office of Parent and Community Relations had determined to focus on encouraging teaching and learning at home. This choice was based on research indicating that parents who are aware of their children's schoolwork and provide support, structure, and assistance have the greatest positive impact on their children's school performance. The Parentmobile's "curriculum" is designed to address this focus. At the three computer stations, parents can try out all of the educational software their children are using in school and learn to access school websites via the Internet. Beyond computing skills, they can also take print copies of educational worksheets and activities to do with their children as well as select pamphlets outlining various health and learning topics, such as Attention Deficit Disorder and nutrition.

By the time the Parentmobile rolled out of the parking lot and headed to its first event — a ribbon-cutting on October 7, 1999, at the King's Mill apartments in Essex, Maryland — project leadership had attracted a diverse and enthusiastic group of collaborators. Office staff had recruited and trained fifteen parent volunteers from all over the county, ensuring that, wherever the bus went, a parent from the local school would be at the helm, greeting visitors. Professionals from other areas within the school system, such as the Superintendent of Schools, the PTA and its Parent Involvement Coordinator, the staff from BCPS Resource centers, and the Office of Transportation had all gotten involved – raising

awareness of the project among schools and parents or working directly on the bus. County technical-support staff were deeply invested in keeping the bus's computer lab up and running. Startup funding and in-kind support from the AOL Foundation had been supplemented by a $15,000 grant from the Maryland State Department of Education as well as labor and equipment donations from local businesses.

Flyers with the Parentmobile's schedule were sent to all county schools, and upcoming Parentmobile visits were also posted on the BCPS website. The project also received extensive local press coverage, with some papers even printing schedules of upcoming visits.

Turnout was accordingly high. In its first month, the Parentmobile served over 300 visitors, and at any given event, the bus received many dozens of parents. By late May, a guestbook at the front of the bus held over 2,000 signatures. More important than numbers was the quality of visits. Parentmobile staff found (and CCT observed) that their goals were being realized. Feedback from parents was overwhelmingly positive, and where parents requested modifications to the bus's holdings (asking for more materials on special education, behavior and discipline, and helping kids with homework) the project staff made speedy changes. Visitors credited the Parentmobile with changing their ideas about technology, their children's schools, and their ability to get involved in their children's school lives.

Reflective Use of Technology
Rather than treating technology or even technology training as an end in itself, project designers incorporated technology that addresses their core goals — to build relationships with parents, to inform them about their children's schools and curriculum, and to empower them to become more involved in their children's education.

At any visit, the Parentmobile might be filled with children showing their mothers and fathers the software they use in school, or grandparents touching computers or exploring the Internet for the first time. Parentmobile staff strike a balance between guiding visitors' experiences and giving them room to tinker with the machines in a relaxed, comfortable way. Often, parent liaisons or volunteers first allow parents to explore the machines and ask questions. Once the visitor has achieved a level of comfort, the Parentmobile staff engages her in a conversation about her experience with computers, and then points her to certain features and offers guidance.

Technology is only one of the areas that parents can learn about. Parent liaisons from the Office of Community and Parent Relations as well as trained parent volunteers provide information on helping children with homework, teaching them conflict resolution skills, and registering children for kindergarten and pediatric immunizations. Because the bus is always staffed by a parent volunteer from the community being visited, those volunteers are also able to have broad, relaxed conversations with visitors about how to get more involved with the local school.

Leadership and Vision
Project leaders Kathy Kelly, Linda Ross, and Linda Richardson – all staff members in the BCPS Office of Parent and Community Relations – do an extraordinary job of pulling together resources and collaborators, of publicizing their project, and of making sure the Parentmobile stays close to its fundamental goals.

The Parentmobile idea emerged when the three women sat down to map out how they would address the issues of low parent involvement revealed by their system-wide schools survey. Linda Ross's recollection of the bookmobiles from her childhood, which successfully brought libraries to low-income communities, was at first little more than a whim, but the women decided to investigate the feasibility of an updated version of the concept.

Kelly discussed the idea with a friend who headed BCPS's Office of Transportation. "When she said she'd donate a bus, in my mind, the Parentmobile was built. I knew that if a reasonable and intelligent person would go for the idea it was possible." From the moment of that initial donation, Kelly and her colleagues used personal and professional connections, good will, and persistence to build a remarkable coalition of supporters and collaborators. The Office of Transportation eventually donated a mechanic to retrofit the bus. The Department of Maintenance donated a project manager and carpenters to furnish the bus; electricians came from elsewhere in the system to wire the bus for lights, fans, and air conditioning; and the Department of Instructional Technology brought in computer technicians to wire and install the onboard computer lab. The head of a local company with a long-standing relationship with the BCPS transportation department at first offered to paint the bus at cost, but later decided to donate his work and materials. "In hard cash we spent about $25,000," Kelly estimates, "but I think that without all of the donated time and in-kind contributions, it would cost $65,000 to replicate.

Project leadership also looked beyond the BCPS network for input and support. A presentation at a State Department of Education breakfast on parent involvement led the state to assign a contact person to the project, Maria Teresa Schaeffer, a Family, School and Community Involvement Programs Specialist. Schaeffer championed the Parentmobile at the state, eventually garnering $15,000 in funding and attracting the attention of other school systems and county and state officials.

Leadership also collaborated with stakeholders on the project's content. They partnered with the county PTA from the outset, meeting regularly with the PTA's Parent Involvement worker to give updates and seek advice on the bus's curriculum. They received instructional and informational materials from Parent Resource Centers throughout the system who saw the Parentmobile as a way to reach a wider audience. And once the Parentmobile was up and running, they used onboard parent feedback sheets to gauge parents' needs and to adjust the bus's offerings accordingly.

This willingness to keep up a dialogue with the parents they serve has kept the Parentmobile project evolving. At the end of their first year, project leadership

identified a number of areas to hone in the new school year. They decided to focus their site visits on locations where they'd had the most productive events – parent work-sites, festivals and fairs with a family focus, and specific community sites (e.g., apartment communities). They decided to co-sponsor events such as health screenings with other departments in the school system. They also began considering how they could turn their detailed records of the implementation process into a handbook for project replication.

Sustainability

The very existence of an Office of Community and Parent Relations is unusual and evinces a sophisticated approach to this issue within BCPS. While the Parentmobile itself is an entirely new program, the Office takes a number of complementary approaches to parent involvement and conceived the project, in part, as a partner to the Parent Internet Education program, which invites parents into their children's schools for computer training.

As is the case in many public school systems, BCPS experiences a high turnover rate in leadership. The start of the 2000–01 school year brought a new county superintendent, and project leadership anticipates having to re-sell the project to the new administration. However, its broad base of support in the county makes the Parentmobile unlikely to suffer from the change.

Enthusiasm is high at the state level for replicating the Parentmobile, and project leaders are already in touch with administrators in two other counties, discussing how they can aid them in setting up their own Parentmobiles.

Technology Infrastructure

Creating a mobile computer lab proved to be more complicated and difficult than project leadership initially anticipated. Fortunately, the structure of BCPS's technical-support system was sufficiently flexible to give the Parentmobile the help it needed. While the county usually sent any available member of its nine-person tech-support staff out on calls, one technician, Michael Fort, became personally attached to the project during the hours he spent wiring the bus on donated time. He became the Parentmobile's dedicated technician — making it his business to troubleshoot hardware and software problems on the bus. When the initial computers purchased through the AOL grant proved difficult to physically secure to countertops within the moving bus, Fort arranged a trade for more portable IMacs from the Instructional Technology Department. When he discovered that it was not possible to connect the computers to the Internet — using a wireless connection was both burdensome and prohibitively expensive — he created a special Intranet for the terminals on the bus by downloading sites that he felt would be of interest to parents from the community. Fort, a teacher himself, sees great value in the project and continues to work on improvements. He and the rest of project leadership are currently pursuing possible solutions to the Internet-connection dilemma.

Theme 3: Designing interdisciplinary, hands-on curriculum.

Despite the hyperbole trumpeting technology's power to transform classrooms and student learning, many teachers are woefully unprepared to use technology to enhance their existing curriculum. Having received little if any training in technology integration — many teachers' introduction to computer hardware and software is a few-hour workshop with no follow-up — teachers are hard-pressed to know how to use technology tools to expand their classroom practice.[4] Several of this year's exemplary projects were able to redress this difficulty, however. These projects used the funds they received from the AOL Foundation to provide teachers new technology tools and the time to experiment with using them. As a result, teachers not only extended their classrooms physically — much student activity literally took place outside — but themselves pedagogically, as teachers saw the value in having students' interests drive teaching and learning.

Four of the exemplary projects, Pueblo Gardens Publishing Center, Rose Bay Legacy Project, Bird's Eye View, and Interactive Alternative Education, can serve as instructive models for how teachers can design student-centered projects, we have chosen to describe Pueblo Gardens to illustrate this theme because of its leaders' dual emphasis on student learning and teacher practice.

Pueblo Gardens Elementary School

Project   *Pueblo Gardens Publishing Project*
Location   *Tucson, Arizona*

Project Summary

The Pueblo Gardens Publishing Project provides afterschool and in-class projects with the opportunity to publish their works, giving students a chance to connect their creations to events, people, and ideas to the world beyond their classroom. The Publishing Center also provides a supportive place where teachers can go to practice integrating unfamiliar technology tools into their inquiry-based teaching practice, with which they are very familiar.

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[4] For a review of research on the ways technology has been integrated into formal educational settings, see Katherine McMillan Culp, Jan Hawkins, and Margaret Honey (January 1999), "Review Paper on Educational Technology Research and Development" (New York, NY: EDC/Center for Children and Technology).

Project Description and Goals

For the magazine and newspaper clubs filled with 27 budding journalists working with the *Arizona Daily Star* and a class of second-grade authors of a set of "Who I Am" poems, the Publishing Center serves as a powerful resource in a school deeply committed to student-driven, inquiry-based learning. Students attending Pueblo Gardens Elementary School experience high levels of poverty, linguistic and cultural barriers, along with high-stress home situations, and yet, the school is developing a comprehensive educational program within its Community Learning Center (CLC), out of which the Publishing Center has grown.

Although the Publishing Center encountered and then overcame a number of obstacles during the initial phases of implementation, the project began with a number of goals; project leaders wanted to:

- Build on the school's overall goal that students' work be meaningful, interactive, and linked to real-world experiences.
- Provide opportunities for students not only to choose what is important to write about and do the writing, but also to learn how to self-publish using all related technology.
- Allow classrooms to develop their own plans for what they want to publish and share with the wider school community.
- Make use of the Publishing Center as a key component of the summer teen-employment program sponsored by the school. (Neighborhood teens are hired to tutor and mentor students and assist with community service projects. One idea is to have the teens work with younger students to publish a multicultural cookbook and market it as a fundraiser.)
- Enable the students to share their publications through the Educational Enrichment Foundation, a local website that covers district curriculum innovations.

To reach these goals in the near term and to create institutional capacity to keep expanding upon them, project leadership envisioned the Publishing Center as one of six services within the school's Community Learning Center (CLC). As defined by Bonnie Bazata, the former Community-Based Education Coordinator for the school, the services of the CLC are:

- Community Service Program, primarily coordinated by three AmeriCorps Members
- After School Program, serving 180 students through 13 different programs
- Learning and Leading, a teen mentoring and leadership program that brings six teens to the school to serve as mentors and program coordinators
- Outdoor Environment, located in the courtyard of the school, which can be further developed into an inviting, interactive space for the students and community
- Adult Education Program, which periodically coordinates evenings focusing on ESL, GED, and exercise programs
- The Publishing Center, which publishes projects both after school and in the classroom.

All these services are an outgrowth of the educational mission of Pueblo Gardens: to help students become problem-posers, not just problem-solvers, generators of knowledge, not just consumers. To realize this overarching goal, the Publishing Center, like all of the services within the CLC, was designed to function as both an independent learning center within Pueblo Gardens as well as a supporting resource for other educational efforts within the school. Because CLC operates outside of the school's main budget — the services are supported through outside resources such as grants, tax-credit donations, and volunteers — it enjoys a certain autonomy from the activities taking place in individual classrooms and during official school hours. At the same time, because the CLC is housed within the school building, teachers and students perceive the services as useful ways to extend the school day and offer meaningful, informal alternatives to structured in-school time.

Setting and Demographics

Pueblo Gardens Elementary School is located in one of Tucson's most ethnically diverse and financially poor neighborhoods. Much of the student population lives in high levels of poverty, and many come from homes where English is not the first language. Half of the pre-K through fifth-grade classrooms are bilingual, and the other half offer at least 45 minutes of English-as-a-Second-Language instruction each day.

The profile of the Pueblo Gardens Elementary student body is:

Grades K-5
Students   330
Free/Reduced Lunch   97%
Ethnic status
    Hispanic   72%
    African-American   13%
    Caucasian   8%
    Native American   4%
    Asian-American   3%

Despite economic challenges, the school recently experienced notable academic success. In the 1998-99 school year, for example, Pueblo Gardens Elementary made greater gains on the Stanford 9 test scores than any other Title 1 school in the district, and the third graders outscored the overall district average in seven years and the overall national average in five.

Implementation

Innovative Educational Design

Project staff designed the Publishing Center to be a flexible environment, governed solely by the spirit of student inquiry. In fact, well before technology was a component of the school newspaper, it was the students who came up with the idea to put out a periodical: a group of fourth and fifth graders approached school staff and asked to launch a newspaper for the school. Thrilled by the students' interest, teachers supported the would-be journalists as they set out interviewing people and writing stories. After the school had contacted the city's local newspaper and enlisted the help of a professional journalist, more teachers took an interest in the project and began discussing other publishing possibilities, such as classroom newsletters. The principal formed a multi-grade team constituted of teachers and resource people, such as the community education coordinator and the librarian, to explore how classroom practice could enlist publishing to highlight student work. Eventually this team began considering the role that technology could play in enhancing these publishing activities, all the while remaining committed to their principal objective of connecting classroom learners with the broader community.

The Publishing Center was intended to give young people a means of sharing their work with others. Students were armed with tools that could help them create knowledge, produce artifacts, and communicate with one another. Unlike the computer lab, which teachers characterize as rigid and antiquated because the lab coordinator permitted only limited drill-and-practice activities on dilapidated computers, this space was designed to be a place where students could gather informally to explore what it is like to be a journalist. The students participating in the afterschool newspaper club determined what topics to pursue in their articles and had the opportunity to work with a professional reporter on article format, interviewing techniques, and story development. Thus, the May 2000 edition of *Pueblo Gardens Extra News* is filled with stories of relevance to them, such as the popularity of Pokemon cards, how the fifth graders anticipate transitioning into middle school, the merit of meals served in the cafeteria, and the appeal of Camp Wildcat, a summer camp on a nearby mountain. Going through the process of researching and writing about events and ideas that shape their lives, the students are able to reflect upon their daily environment and share their contemplations with their peers and mentors.

In the case of classroom-related projects, the Publishing Center was set up to give early-elementary students a chance to become familiar with editing and publishing on a more general level, and to afford teachers opportunities to supplement their classroom practice with activities involving hands-on use of technology. Both the afterschool club members and the classes of children received a big boost from seeing their work on display and distributed. Though pedagogy varied from teacher to teacher and project to project, the students seemed notably confident and self-assured. For instance, one of the first-grade classroom teachers was able to create an illustrated book of poetry using the equipment in the Publishing Center — this was no small task because she first had to avoid the pitfall of stifling creative self-expression among her nascent artists. Because first-grade art is not

generally known for being diminutive — in fact, artists in this age group enjoy making grand gestures on large pieces of construction paper — in order to make the book the teacher first had to reduce the students' art work. The scanner and computer in the Publishing Center made it possible to shrink what otherwise would have been too ungainly for the students to carry home. In the end, the finished product could easily fit in the much-relied-upon back-pack mail system, enabling students to proudly deliver their work to their parents' laps.

Reflective Use of Technology

Staff running the Publishing Center viewed technology as a powerful tool to use in launching new programs and supporting existing practices. While putting together books of student work or school newspapers is not new per se, teachers at Pueblo Gardens are keenly aware of the effect that producing sleek, professional-looking products can have on students' self-esteem and the quality of their work. The very act of publishing also confers agency to the students: no longer mere recipients of other people's writings, these students get to be writers and artists themselves, makers of meaning, producers of their own knowledge. Martha Jane Oliver, the AmeriCorps volunteer responsible for the Publishing Center since early 2000, did not waver from a commitment to giving students the power and responsibility to create. For example, students working on the newspaper and magazines had considerable control over design and layout; they did not follow a template constructed by an adult. Oliver also chose to place the best, highest-quality tech tools in the school directly in the hands of students, and it was up to them to decide when and how they would use them.

The exploratory atmosphere surrounding the Publishing Center stands in sharp contrast to the school's computer lab and its more traditional, autocratic approach. Where Oliver wanted the young people to test the tools, to experiment with their functionality and effects, the computer lab coordinator had strict policies about "playing and not breaking" the machines. As a result, the Publishing Center gives Pueblo Gardens students a safe space to get to know and feel comfortable with advanced information and telecommunications technologies rather than perceiving these tools as "special," "off-limits," or worse, as "something other people get to use."

Leadership and Vision

In general, Pueblo Gardens has extremely strong leaders in the principal, Carmen Kemery, and the outdoor activities coordinator, Renee Karsten. Kemery is a dynamic visionary whom teachers admire for her passion, spirit, and commitment to academic excellence in the face of the countless difficulties facing her students; Karsten is a roll-up-her-sleeves leader — especially when helping run the shave ice fundraiser! — who transformed the school's desert courtyard into a lush, outdoor learning center. What was once a hot, unforgiving patch of Tucson soil is now home to an outdoor garden, animal habitat, mosaic tile map, water station, barbecue for community picnics, and compost project — all created by volunteers and enjoyed by students.

Although she had left the project by the time of the evaluation, Bonnie Bazata, the former Community-Based Education Coordinator also contributed significantly to

the health and well-being of Pueblo Gardens. In singing Bazata's praises, Karten not only called her a genius, but also reported that Bazata had raised five times her salary by her grant-writing activities. These three woman, along with the AmeriCorps volunteers, most notably Martha Jane Oliver, are responsible for the momentum and good will building around the Publishing Center. Though Oliver's term will be over at the end of the calendar year and Kemery is due for retirement, Pueblo Gardens appears to be a place where students learn and where leaders are nurtured and therefore succeed one another.

Sustainability

Because the Publishing Center grew out of the school's larger, pre-existing philosophy, it is likely to have a life beyond its tenure as an IEI project. It has, however, several challenges to overcome if it is to sustain its success. Though she came to the project in the latter stages of implementation, Oliver made significant progress with the students and teachers. Due to her imminent departure, she devoted time at the end of the last school year to creating systems for a smooth transition, encouraging classroom teachers to take ownership of the Publishing Center. Karsten will play a key role in maintaining the Center and must recruit a teacher to assume the weekly responsibilities during the final months of Oliver's term of service. The Publishing Center also needs more funding if it is to remain a vibrant, reliable resource. The major hardware entailed one-time-only expenses, but the supporting materials, like color ink cartridges that make poetry books possible, paper, and Internet service provider fees, are ongoing.

Technology Infrastructure

The Publishing Center, which shares space with the CLC office, is outfitted with three iMac computers, a scanner, and a printer. Though the office is cramped, this setting starkly contrasted with the atmosphere and layout of the computer lab, described above. Getting the Center set up was no easy task, in large part due to broken promises from the Tucson Unified School District and the AOL volunteer bank. The AmeriCorps volunteer and the Community-Based Education Coordinator eventually took the situation into their own hands and hooked up the computers and other equipment. They purchased a hub for networking the equipment but experienced further delays in connecting the terminals to the Internet, which finally occurred in April. The initiative of the AmeriCorps volunteer meant that the students were able to make use of the Publishing Center more quickly and the teachers who used the services for a single classroom project this past year began planning further activities for the upcoming one.

Theme 4:   Offering non-traditional vocational training

One of the most frequent observations educators make about technology is that it arouses students' enthusiasm. In many cases, the idea that "kids love technology" generates the assumption that adding a technological component to any activity will automatically increase student buy-in and will consequently improve the educational value of that activity. While the research of CCT and others has shown this assumption to be misguided, there are valuable ways to harness the intense curiosity and affinity that some young people feel for computers.

The following two projects — "Computer Technology Training" and "Computer Genesis" — both treated technology as a skill area providing unique opportunities for young people to develop mastery, and thus to broaden their professional opportunities. Each project offered vocational training for students from severely economically depressed communities, and while each took a different approach, there are key areas of commonality. Each program is multi-tiered: at the practical level, they give participants marketable job skills, but beyond merely passing on technical knowledge, both community-based organizations offer young people unique opportunities to take ownership of the organization. Program graduates are on staff at each office, answering phones, helping to seek funders, teaching classes, and designing activities. Both programs are guided by the belief that building responsible young professionals requires more than simply teaching them a trade — it requires that they learn the creative and managerial skills of an entrepreneur.

Bridgeport Area Youth Ministry (BAYM)

Project   *Computer Genesis*
Location   *Bridgeport, Connecticut*

and

LA Youth At Work (LAYAW)

Project   *Computer Technology Training*
Location   *Los Angeles, California*

Project Summaries

Bridgeport Area Youth Ministry's Computer Genesis (CG) program seeks to reinvigorate Bridgeport's East End by training young people to become skilled computer technicians, and by providing local organizations with free hardware

and technical assistance. The organization offers Bridgeport youth "reasons to stay in Bridgeport, to work in Bridgeport, and to be responsible citizens."

LA Youth at Work's Computer Technology Training is one of a series of job-skills seminars intended to enhance the skills and broaden the horizons of Los Angeles youth. Trainees who complete the seminar and a job skills course are paired with professional mentors and enrolled in a job-and-internship-referral service.

Project Descriptions and Goals

Both projects seeks to empower young participants by giving them a combination of specific practical skills and broader "life skills." Though the skill sets targeted by the two organizations are somewhat different, the ultimate goals of both are very similar.

The Bridgeport Area Youth Ministry (BAYM) runs a number of interrelated youth-training programs, including the Learn to Work job-skills course, an Organizational Development course, and a Wilderness and Outdoor program, all of which are designed "to provide a safe environment for urban young people to develop life and work skills." In the last few years, BAYM has built both a highly successful business selling discounted, refurbished, and custom-built machines to businesses, and also a significant community presence through collaborations with other local agencies.

The Computer Genesis project teaches area youth how to repair, refurbish, and upgrade used (donated) PCs. Concurrently, they learn job-searching skills such as résumé-writing and interview etiquette — all of this with the immediate aim of helping them market themselves as professional computer repairmen and women and, more broadly, of helping them envision a professional and entrepreneurial future. BAYM defines the goals of the Computer Genesis program as follows:

- To give participants a course in electronics related to computer use, keyboard usage, knowledge of software, online Internet services, and other related aspects of computer literacy
- To give participants knowledge and skills in personal computer repair, upgrading, and software installation
- To give participants skills in sales, marketing, customer service, customer instruction (in computer usage)
- To give participants resume writing and job-interview skills as well as knowledge and experience in business development/management
- To provide an opportunity for Bridgeport young people to become computer literate and knowledgeable about online and Internet services.

Upon completing the course, each graduate receives his or her own personal computer. In some cases, BAYM hired its own Computer Genesis graduates as teachers, technicians, and leaders within the organization.

Similarly, LA Youth at Work (LAYAW) is a youth employment organization that seeks "to provide young people with the skills that will empower them to obtain and retain meaningful employment." The program works in partnership with 32 youth-serving organizations in the greater Los Angeles area. These partner organizations refer members to LAYAW and maintain a trained staff member as a LAYAW liaison.

With the Computer Technology Training project, LAYAW sought to move closer to some of the organization's broader goals while also providing young people with specific skills. The program was designed to achieve the following:

- familiarize young people with the most frequently used computer programs and tools, including the Microsoft Office suite and Internet [applications]
- give participants skills that will make them more marketable [job applicants]
- [To give participants] the potential to benefit the communities they represent
- encourage youth to identify career paths and begin working toward long-term goals.
- [To provide] mentorship opportunities that begin the networking process, creating a bridge between training and placement.

Settings and Demographics

BAYM:

The profile of Bridgeport Area Youth Ministry members is:

Ages	High-school aged and adult
Total Enrollment	270
Eligibility for Free/Reduced Lunch in school	85%
Ethnic status	

African-American	*50%*	
Hispanic		*45%*
Caucasian	*3%*	
Asian-American		*2%*
Native American		*1%*

The press often cites Bridgeport as one of the poorest cities in the nation. One-third of Bridgeport's children live in poverty, and thirty percent of Bridgeport high school freshman drop out before graduating. Furthermore, the East End section of town, where BAYM is located, and the adjacent East Side are two of the most socially and economically troubled areas in Bridgeport. Says BAYM director George Stowell, "It's a difficult, divided community. The East *End* is black, the East *Side* is Latin-American, and never shall the two meet. This area is known downtown [in the city government] as the most difficult community — as far as complaining, contention, and divisiveness."

Gwendolyn Hicks, a Computer Genesis graduate who became BAYM's office manager, can recall throwing bottles through the windows of what is now BAYM's main building. Director George Stowell bought the building, a former meat-packaging plant, for one dollar and an agreement to pay the back taxes. BAYM has since expanded into two adjacent buildings and is working with nearby Bowler Havens Technical High School to restore the entire BAYM complex. The three-building facility is a rapidly evolving patchwork of half-completed stairways, freshly plastered walls, bare piping, and exposed wooden framework. A converted meat locker has become a spacious, brick-walled computer classroom, with 24 terminals at long tables and a number of worktables for disassembling and putting together machines. A former biker-bar will soon house an auto shop for a new auto-repair course, and the contents of a large garage hint at the diversity of BAYM's offerings — there are woodworking tools, building materials, as well as canoes and other supplies for the wilderness course. On the second floor are BAYM's administrative offices and a large room with stacks and stacks of personal computers, printers, and servers, which have been, or will soon be, repaired by students and staff.

LAYAW:
The profile of LA Youth At Work members is:

Ages	High-school aged to 24 years	
Total Enrollment	1,474	
Eligibility for		
Free/Reduced Lunch in school		*87%*
Ethnic status		
Hispanic		*47%*
African-American	*44%*	
Caucasian	*4%*	
Asian-American		*4%*
Native American		*1%*

LAYAW estimates that less than 1% of students in the Los Angeles public schools they serve have access to Internet-ready computers. The average number of student-accessible computers per school is 16 (servicing an average student population per school of 2,400), and computer courses are offered only as electives in Los Angeles schools.

Whereas BAYM is rooted in its ever-evolving facility, LAYAW exists largely in the schools and offices of partner organizations. Industry-specific workshops such as Computer Technology Training are conducted on the grounds of the corporate partners providing the training. Students meeting for LAYAW-related activities often do so in borrowed rooms donated by other organizations, such as downtown Los Angeles's First AME Church. LAYAW's own offices are small and sparsely furnished, as money and other resources are usually directed back into programming.

Implementation

Innovative Educational Design
One of the most remarkable characteristics shared by LAYAW and BAYM is the projects' commitment to human infrastructure. The directors treat the young people they serve not just as students — the ones passively receiving the lessons and skills — but as collaborators, capable of sharing the responsibility for the organization's health and growth. In doing so, they have exponentially increased their chances to succeed.

LAYAW began as a modest, city-sponsored job-and-internship referral service for young people called the Summer Youth Employment Service (SYES), and evolved into a complex job-training and education nonprofit. When director Melina Reiman took over the program in 1995, it provided nothing more than summer referrals for young people from the Los Angeles Unified school district — and few referrals at that. Believing that part of her organization's low referral rate was due to her target population's lack of preparedness for the job market, Reiman instituted a basic job-skills seminar. In order to enroll in the referral service, all participants would now be required to participate in this seminar, where they learned about résumé writing, interview etiquette, and on-the-job comportment. In 1998, LAYAW added a second level of training to its job-preparedness curriculum. While all graduates of the initial seminar were still eligible for the referral service, those who wished could pursue further, "industry-specific training" in one (or more) of six different professional areas (e.g., sports, entertainment, biomedicine).

Computer Technology Training is the most recent addition to LAYAW's roster of industry-specific trainings. The three-workshop series serves between 20 and 30 students twice a year (for a total of 40 to 60), and LAYAW leadership hopes to add more cycles when funding is located. Attending students participate in free training workshops offered by a corporate partner, the Candle Corporation. The Candle volunteer is a full-time employee whose sole job is educational outreach. Most of his work involves giving one-on-one technology training and mentoring to students at two area high schools. Coordinating and running the workshops is another part of his work, and as a result of his experience with young people, he excels at identifying students' levels of knowledge as well as communicating information and skills. The student/volunteer trainer ratio at the workshops is 1/5, and LAYAW director Reiman, who observes all of the workshops, is very satisfied with the quality of the teaching.

Once they complete the workshop, trainees are paired with mentors from the technology sector whom they "shadow" on at least two occasions at the mentor's workplace. After these initial shadowing sessions, participants may or may not continue their mentoring relationships, and may or may not decide to pursue employment in technology; LAYAW's focus is on exposing them to their options and making them employable.

By comparison, in 1996, BAYM's first Computer Genesis class served 20 students. During the eight-week course, teenagers would:

- Rebuild their own [donated] personal computer
- Learn several basic applications; e.g. word processing and spreadsheet
- Develop their first résumé along with appropriate cover letter
- [Be] guided through a sample job application process
- Experience a typical interview situation
- Learn how to use the Internet to do research and find information relevant to BAYM's business programs.

Each member of the first class completely dismantled and reassembled a 386-megaherz PC, and each took the computer home upon graduating from the program. Nearby business such as Sikorsky Aircraft and People's Bank donated both computers and funding. The entire class took place in BAYM's then barely inhabitable facility, with water dripping from the leaky ceiling onto students' computers.

In addition to the students enrolled in the class, Computer Genesis was serving a secondary population of adults. Parents would come and sit in the back of the class to learn as much as they could without the hands-on experience that official students were getting. As the young adult class grew — serving hundreds of students over the ensuing three years — so did interest (and "auditing" of classes) among parents in the community. When, in 1999, BAYM received Federal funding to offer its first adult class, it had no trouble filling the room. On the day of sign-ups for the first adult class, a line began in the building and stretched outside, circling around BAYM's parking lot. The class eventually served 50 adult learners, each of whom graduated with a Pentium 100 computer, complete with CD-ROM and modem.

In addition to the computers awarded to Computer Genesis graduates, Director Stowell estimates that BAYM has donated 100 computers to local organizations, including nearby schools, churches, and youth-service centers. An afterschool program across the street from BAYM has received a number of PCs, as has a local police post where young people often wander in off the street. The post has a recreation area to which BAYM donated two computers. All of these computers have "BAYM" printed on them, to increase community awareness of the organization. Lead technician Hector Hernandez will also travel to these local agencies to troubleshoot machines which BAYM has donated. Sometimes this service is free, sometimes BAYM charges by the hour if an organization can afford to pay. Computers have also been given directly to individual community members. In early 2000, BAYM partnered with a local restaurant to hold a picnic and computer giveaway at which they raffled off 30 machines.

Reflective Use of Technology
Neither BAYM nor LAYAW has discovered a new use for technology, but both put computers and the technology industry within the reach of young people who would otherwise have very limited access. Each program uses the paradigm of technical mastery to teach students broader life skills: how to take control of their careers, how to manage responsible professional relationships, and how to make an organization work. The specific curricula of the two projects reflect these larger aims:

LAYAW's training program starts with the most basic essentials — from turning on the machine to mouse use, using pull-down menus, etc. — but moves on at a steady pace to Microsoft Office programs and Internet research. Graduates of the training are particularly pleased with the final project, which synthesizes the practical skills have learned and also ties in the central themes of career awareness and reflection that LAYAW seeks to promote. Students choose a career they might want to pursue after school, and then use the Web to research how much they would probably earn in that career and what sort of lifestyle they would be able to afford with those earnings. The project pulls in the Excel, Word, and PowerPoint skills the students have learned, as they are required to use these programs to calculate their earnings and expenditures, write up, and present their findings. Students found the project eye-opening and engaging, and reported having retained the computer skills they learned ("learning to use formulas in Excel was a lifesaver").

Beyond their participation in the workshops, a significant number of students who graduate from the Computer Technology or other industry-specific trainings spend time working (on an informal basis) as unpaid LAYAW staff — coming by the office to spend time on the phone dealing with donor corporations, publicizing the program, etc. They express an understanding that this is natural — that LAYAW is their program and it is therefore their responsibility to help it succeed. Reiman, in turn, says that having LAYAW kids serve in responsible positions furthers the organization's mission of preparing them for professional lives and placing them in jobs: "I can tell employers all I want about how great our kids are," she says, "but it's much more powerful if they actually talk to them on the phone and deal with them on a professional basis." Reiman attributes LAYAW's high enrollment rate (while other L.A. programs are conspicuously underused) to this sense of ownership by the students. When asked, the students said they felt LAYAW strikes the right balance of letting them identify their own needs and desires for the program, while also offering them guidance.

In addition to the industry-specific training, LAYAW makes its own modest computer resources available to program participants. Office computers are constantly occupied by program participants working on homework, doing job research, or preparing résumés. Informal training of participants by staff (or more experienced participants or volunteers) is ongoing and frequent.

Like LAYAW, BAYM placed job skills and eventually significant responsibility in the hands of young people. By the year 2000, Computer Genesis was run by James Buckley, a graduate of that first class. Another graduate, Elliot Calderon, taught CG classes while completing his senior year of high school. Buckley and Calderon exemplify a significant group within BAYM's staff — program graduates who have taken on leadership roles within the organization. As head of Computer Genesis, Buckley has overseen the design of BAYM's website and the expansion of its computer-resale business from a venture that sold refurbished machines to local customers into a small but growing business providing both rebuilt and custom-made machines to an increasingly large and far-flung client base. As a Computer Genesis teacher, Calderon not only passes on the curriculum he learned as a

student in the class, but has designed participant surveys to assess the course's effectiveness and continues to refine the curriculum based on survey data. A third Computer Genesis graduate, Hector Hernandez, is now BAYM's lead technician. He first learned technical skills from an adult volunteer from Hubble Technologies and has since rebuilt hundreds of computers. Hernandez now oversees all computer repairs, provides technical assistance to local companies and non-profits which use BAYM machines, and assists Buckley in most aspects of BAYM's computer-resale business.

Increasingly, young staff use the Internet to research business opportunities for the computer-resale operation. Buckley mentioned that his most recent effort, finding wholesale parts suppliers on the Web, has significantly cut BAYM's costs.

Leadership and Vision
BAYM and LAYAW work with two of the most underserved, under-resourced communities served by any IEI project. Yet each organization has managed to amass a remarkable array of partnerships and resources. In each case, exemplary project leadership has enabled these projects to succeed. The leaders of these two programs have confronted extreme need with creativity, finding necessary funds and materials by building relationships with other organizations, luring the support of businesses, and leveraging their programs' successes to attract further support from the community.

LAYAW would almost certainly not be the success it is without the talented leadership of Director Melina Reiman. Reiman is exceptionally dedicated and relentlessly resourceful — she describes herself as having borrowed, begged, and networked her way around numerous resource-scarcity problems. Volunteers for LAYAW's mentoring program may be old classmates and sorority/fraternity sisters and brothers from Howard University, acquaintances made through her current work as a USC doctoral candidate (Poli Sci), or individuals from the private sector she has met through her LAYAW work. The program receives significant support from the Mayor and area City Councilmen, relationships that began with Reiman's work for many of their campaigns and that she has leveraged to acquire financial and political support for her organization. Operational costs — around $518 per student — are a tiny fraction of the average for similar job-placement programs (Reiman estimates this to be around $7,800 per student) because LAYAW has managed to procure so many donations of time and material from area businesses — including the donation of teaching time and materials for the Computer Technology Training workshops from Candle Corporation.

Moreover, Reiman's managerial style reflects her belief that young people must have ownership of a program to get anything out of it. This is clearly demonstrated by her support of a new advisory group within LAYAW — the student-formed, student-run Youth Action Coalition (YAC). Founded with Reiman's encouragement by graduates of LAYAW's industry-specific trainings, the YAC began as an advisory body so that LAYAW participants could have formal input into the organization's policies. The group then began to create its own agenda, and Reiman currently acts as an experienced adviser as the YAC seeks funding to construct a Youth Center in downtown Los Angeles. In this capacity,

Reiman strikes a balance between guidance and "empowerment," facilitating YAC meetings without setting their agenda and bringing up factors for YAC members to consider while leaving decisions in their hands.

Like Melina Reiman, BAYM Director George Stowell is ingenious and tireless in his pursuit of resources and collaborations to further BAYM's work. In BAYM's first years, Stowell mustered a constantly changing yet reliable group of volunteers from local businesses to teach classes and mentor young people. As the organization grew, he brought in program graduates as staff. He has acquired significant contributions in both funds and equipment from private and corporate donors, including large companies such as ITT Industries, and local ones such as Bridgeport Hospital. He skillfully fosters symbiotic relationships with other CBOs — an approach that perfectly matches BAYM's mission to serve as a flagship entity in a community-wide revitalization. A case in point is Stowell's use of his position as a career counselor at Bridgeport's Bowler Havens High School to benefit both the school and BAYM. Bowler Havens students are rebuilding BAYM's facility, providing an inexpensive renovation for the CBO and real-world experience for the students. In addition, Stowell is able to refer Bowler Havens students to the Computer Genesis program for technical training and to secure jobs for CG graduates through his High School Career Center connections. Another example of Stowell's resourcefulness is his ability to attract volunteers. On the third floor of one BAYM building is a vast barn-like room crammed full of dismantled computer parts from donated computers too old to fix up. Hector Hernandez directs an effort to cannibalize the computers for useful parts and to separate out the metal and the containers of dangerous chemicals — for recycling and appropriate disposal, respectively. Volunteers from two local churches do much of the work of tearing these old machines apart. Hernandez claims there is a contest to see which church can give more time volunteering.

Director Stowell allows student staff like Hernandez, Buckley, Calderon, and office-manager Gwendolyn Hicks to be spokespeople for BAYM in the organization's dealings with corporate partners, community organizations, and funders; this approach mirrors his larger managerial style of giving young people a stake in program management. They accordingly feel tremendous ownership of BAYM, and each takes great pride in his or her work. Their accounts of what BAYM means to the community are all the more convincing because they are members of the community.

Sustainability
The Computer Technology Training program is in its second year. LAYAW has been extremely successful in training and placing young people; in the five years under Reiman's leadership, the placement rate has jumped from about 150/year to about 1,500/year, while maintaining minimal operational costs (see above). The project seems robust and destined to grow.

One challenge facing LAYAW is the lack of support, and indeed, resistance, Reiman receives from her Board of Directors. The program was initially founded by the City's Private Industry Council as a nonprofit companion to the city-run Summer Youth Employment Service (SYES). Leaders from SYES (now defunct)

are still on LAYAW's Board, and Reiman describes them as bureaucratic, slow-moving, and shortsighted. Despite LAYAW's consistent success, these board members have resisted the organization's evolution from a mere job-referral service to a training and education program. She attributes this to embarrassment — the SYES program, which LAYAW has now entirely superseded, placed one-tenth as many students while costing fifteen times as much per student to run. LAYAW has consistently worked around the resistance of these Board members in pursuing its goals — continued success and vigorous support from other members of city government have made this possible — and Reiman is seeking to phase them out. At this point, however, LAYAW does not have its own 501(c)3 status and is thus dependent on the Board until LAYAW can either (a) find another fiscal sponsor, or (b) earn independent nonprofit status.

Similarly, BAYM's Computer Genesis program is healthy and growing, and Director Stowell says the program is receiving greater attention at the state level. The recent acquisition of a thirty-thousand-dollar federal grant to teach an adult computer class is one sign that the organization's achievements are increasingly recognized in political circles. BAYM also recently gained the support of a Bridgeport judge, who began requiring enrollment in the Computer Genesis course as a condition of probation for local youth offenders. Because it is staffed largely by young people, BAYM has a high staff turnover rate. Project leadership sees ongoing mentoring of Computer Genesis graduates as the answer to this problem, at least for now. As one young technician or teacher moves on to a professional career, others are waiting to take on new responsibilities.

Technology Infrastructure

BAYM suffers from no lack of machinery — indeed, the facility is overflowing with computers. Because, however, BAYM relies largely on donated machines, the organization does struggle with a surplus of old equipment and a shortage of state-of-the-art hardware. As BAYM's computer-resale business continues to grow, income from the venture will presumably allow the purchase of more up-to-date machines. For now, the computer lab features 24 terminals (serving between 20 and 22 students in regular Computer Genesis classes). BAYM has only four phone lines, so Internet access is limited, as is printing capacity.

LAYAW, on the other hand, is very technology-poor. Of the six computers available for student use, only one has Internet access, (they are unable to take advantage of the other accounts donated by AOL because only one phone line is available). Participants in the Computer Technology Training, however, have access to the high-quality machines provided by the Candle Corporation.

Section V. Conclusion and Recommendations

Conclusion

Well-focused seed money *can* make a difference. Based on the evidence collected during our first- and second-year evaluations of the Interactive Education Initiative, it is clear that the AOL Foundation's support of grassroots technology efforts is having an impact on teaching and learning. The first two years of the initiative gave educators from all manner of schools and CBOs the resources to make innovative new programs happen.

Although not all of the 109 projects funded by the Foundation have achieved what we call exemplary status — a certain number of missteps are inevitable with experimental new programs — many are already making differences within their schools and CBOs by addressing the educational needs of disadvantaged youth and adults in under-resourced classrooms and communities. Given additional time, and with a sustained commitment from project leadership, many more projects that we deemed "promising" will achieve the same level of impact.

As the Foundation contemplates new directions for its education program area, the greatest interest may not be in individual achievements of discrete IEI projects but in the projects' ability to strengthen teaching and learning in schools and CBOs that have not participated in the initiative. In order to do this, the Foundation may want to give special consideration to a select group of grantees whose accomplishments stand out even among the successful sites. These sites found new ways to attack pervasive educational problems, built organizational structures that are strong but flexible, and spent considerable energy on self-evaluation to ensure that their programs genuinely serve the target population. Because of their thoroughness and sustainability, these projects have the potential of being adapted to other environments and organizations. As the Foundation considers its next steps, it may be valuable to revisit these exemplary projects, giving thought to how several of them are poised to reach a larger audience if given additional support. In the "Recommendations" section below we provide specific suggestions for ways the Foundation may further its collaboration with some of these successful projects.

Recommendations

Last year the evaluation team offered a set of recommendations to help guide the Foundation during future years of grant-giving. The complete 1999 report articulates the recommendations in greater detail, but briefly they were: make small grants to individuals within a school; target teachers with technological competence and experience; use AOL grants as a vehicle to change teachers' circumstances; develop clear criteria for "innovative" projects; and create a different model of dissemination. While we found further evidence for the same recommendations — and would make them again this year — below are suggestions specifically for leveraging the success of the past two years of grants.

Considerations for the Foundation

- *Help exemplary sites serve as national models*
  Exemplary projects all reached their proposed AOL project goals. In the process, many of them created programs that address nationally felt needs in innovative, effective ways. Having seeded their creation, AOL now has the opportunity to develop working partnerships with select projects, and to help grantees who have been very effective locally to reach a far wider population.

  Part of this effort could involve expanding the current IEI Network into a website offering interactive guides to replicating these exemplary IEI projects. In the case of several sites, project leadership had the foresight to document the process from conceptualization to implementation in great detail. With additional support, project leaders could take their existing materials and develop a practical, step-by-step "how-to" manual for other schools and organizations wishing to meet similar needs with these now-tested, successful approaches.

- *Use AOL properties to highlight the work of IEI grantees*
  The AOL Foundation is uniquely well-suited do more than merely finance the replication of exemplary projects. With the tremendous power of AOL's presence on the Internet, and specifically the broad reach of new programs such as AOL-At-School, the Foundation could provide the platform and the tools to help these exemplary projects reach a wide audience of potential collaborators, as well as to help educators searching for real models of success to locate and learn from these exemplary projects.

- *Provide an opportunity for project directors to disseminate lessons learned*
  Because the AOL grant served as a training ground for emerging leaders — this was the first time many of the teachers and community organizers directed a project with ties outside their immediate environment — a logical next step is to encourage them to share their experiences with others. Though many of these projects may be specific to a particular school or community, they have had a discernible impact throughout their host organizations and their leaders stand to benefit from describing their work at professional conferences, district and state meetings, and other dissemination opportunities.

Considerations for Evaluation

- *Conduct a follow-up evaluation of Years 1 and 2 grant recipients*
  The Foundation may want to hire an outside evaluation team to contact the grant recipients one or two years after they first implemented their IEI projects to know how they progressed. Given our hypothesis that many of the promising sites will become exemplary in future years of implementation, it may be instructive to see if this is the case and to catalog the variables that contribute to their success and the elements that remain challenging.

- *Shift focus away from formative evaluation to "participant research"*
  The first two years of formative research have provided ample evidence for understanding the common themes that lead to a grant recipient's success. Instead of conducting a third year of evaluation that mirrors the first two, the Foundation may want to hire an outside organization to serve as consultants to projects, visiting them at an earlier point in their implementation process. These visits and other forms of contact could serve as opportunities to offer advice, helping to shape the project in order to meet the goals outlined by project leadership.

  The evaluation team also could help identify emerging national models. In addition to the exemplary sites that this report has identified as potential projects for replication and/or scale-up, several of the promising sites may serve as models as well. The evaluation team could monitor the progress of the promising, struggling, and delayed sites, bringing them to the IEI Network and the Foundation's attention when they are ready to move to the next phase.

- *Disseminate report findings to grantees*
  Many project leaders have expressed a desire to learn from CCT's findings. CCT could produce a second edition of this report — either in print form or on a website — tailored for distribution to the project directors. In addition to the descriptions of the categories and their characteristics, this version could include a best-practices segment based on those IEI projects that have developed effective solutions to common difficulties (e.g., teacher training, encouraging parent involvement, setting up pen-pal relationships, etc.). This report could also serve as the basis for creating an ongoing support resource for current and future grant recipients.

Appendix A: Sites Visited

- Community-Wide Interactive Website; Phoenix, Arizona
- Pueblo Gardens Publishing Project; Tucson, Arizona
- Student Media Specialists as Trainers and Neighborhood Resources; Tucson, Arizona
- Alice In Wonderland: Beyond the Looking Glass; Lemoore, California
- The Marchese Online Gallery; Downey, California
- Project SMART (Science Math and Real World Technologies) Crimes; Tulare, California
- East Meets West Online; Encinitas, California
- L. A. Youth at Work; Los Angeles, California
- Computer Genesis; Bridgeport, Connecticut
- Electronic Sign Language Course, West Hartford, Connecticut
- Computer Learning Expansion at Martha's Table, Washington, D.C.
- Rose Bay Legacy Website, Daytona Beach, Florida
- Hello, World!, East Boston, Massachusetts
- Youth Web Advisory Program/Center for Young Women's Health Resource Center; Boston, Massachusetts
- The Parent Mobile: Bringing Learning Closer to Home; Baltimore County, Maryland
- Lolo Creek Water Monitoring Project; Lolo, Montana
- Eco-Forestry with Digital Evaluation, Jacksonville, New York
- Interdisciplinary Biomedical/Health Careers Project-Based Curriculum Using Online Interactivity; Queens, New York
- Portfolios for Job Success; Chillicothe, Ohio
- Bird's Eye View; Navarre, Ohio
- Westfield, Your Window to the World; Toledo, Ohio
- Magnitude 8 (formerly Project X); Portland, Oregon
- Past Times from Puyallup High, Puyallup, Washington

Appendix B: Site Visit and Telephone Interview Protocol

Project #:
Date:
Interviewer:
Interviewee:

Project Name:
Site:
City, State:
Check one: Teacher
              School Admin.
              District Personnel
              Technology Specialist
              Student

1. Interviewee's general impressions of school:

_____
_____
_____
_____

2. What are the goals of the project?

_____
_____
_____
_____

3. What do you think the role of technology is in education?

_____
_____
_____
_____
_____

4. How is movement toward the project's goals being assessed?

_____
_____
_____
_____

5. How much progress toward these goals has been made? Has there been a
need to adjust the goals? If so, how?

_____
_____
_____

6. What factors are helping make progress toward these goals?

_____
_____
_____

_____
_____

7. What are the barriers or challenges to attaining these goals?
_____
_____
_____
_____
_____
_____
_____

8. How have the resources afforded by AOL's IEI grant aided progress toward these goals?
_____
_____
_____
_____

9. Has the IEI grant project been able to mesh with existing initiatives at the school or CBO?
_____
_____
_____
_____

10. Are there efforts under way to raise money from other sources to support the project?
_____
_____
_____
_____

11. What unusual or distinctive factors in your school/CBO contribute toward the success of the IEI program/
_____
_____
_____
_____

12. How can CCT help the project with assessment procedures?

_____
_____
_____
_____

13. What are your impressions of and participation in the IEI Network?

_____
_____
_____
_____

Evaluation Checklist:

This project falls under the following stage:
___ 1. Exemplary Stage
___ 2. Promising Stage
___ 3. Struggling Stage
___ 4. Delayed Stage

Project's goals:
Definition:
___ Clearly defined
___ Somewhat unclear
___ Very unclear

Formative Assessment Procedures are:
___ Doable
___ Hard to do.
___ Undoable

___ In place and operating.
___ Have been used to adjust goals/
___ Not in place
___ Are not utilized.

Appendix C: Survey Findings

Results of AOL IEI Grant Recipient Survey:

At the end of the evaluation workshop, CCT researchers asked participants to complete a survey describing themselves, their students, their organizations, and their practice. Of the 55 project sites, 39 completed at least one survey, and in many cases more than one representative of a project filled out a survey. As a result, for those questions that profile people who are implementing a project (questions 1-6), there are 58 respondents. For those questions that provide information on a project as a whole (7–18a), there are 39 respondents. (Note that question 18b is a special case and has its own sample group, described below).

> QUESTIONS FOR INDIVIDUAL PROJECT IMPLEMENTERS (N=58)

I. Educator Background

Q1 – Respondents' positions.

- 19 respondents (33%) are teachers of general curriculum.
- 17 (29%) are teachers of specialized subject matter.
- 10 (17%) are school-level computer coordinators or specialists.
- 7 (12%) are teachers of students with special needs.
- 7 (12%) are teachers of gifted and talented students.
- 4 (7%) are school administrators.
- 2 (3%) are district-level computer coordinators or specialists.
- 1 (2%) is a school-level media specialists.
- 1 (2%) is a library media specialist.
- 17 respondents (29%) chose "Other." Of these, the majority (12) were faculty at CBOs.

Q2 - Years respondents have been educators?

Respondents averaged 15 years of work experience in education.

- 17 respondents (29%) reported 21 years or more.
- 8 respondents (14%) reported between 16 and 20 years.
- 7 respondents (12%) reported between 11 and 15 years.
- 12 respondents (21%) reported between 6 and 10 years.
- 10 respondents (17%) reported from <1 to 5 years.
- 4 respondents (7%) did not answer this question.

Q3 – Grade level with which respondents work.

- 14 respondents (24%) answered pre-kindergarten.
- 18 respondents (31%) answered kindergarten.
- 19 respondents (33%) answered grade 1.
- 21 respondents (36%) answered grade 2.
- 22 respondents (38%) answered grade 3.
- 23 respondents (40%) answered grade 4.
- 20 respondents (34%) answered grade 5.
- 21 respondents (36%) answered grade 6.
- 20 respondents (34%) answered grade 7.
- 17 respondents (29%) answered grade 8.
- 20 respondents (34%) answered grade 9.
- 21 respondents (36%) answered grade 10.
- 22 respondents (38%) answered grade 11.
- 23 respondents (40%) answered grade 12.
- 13 respondents (22%) answered "ungraded."

Q4 - Current teaching assignment.

- 13 respondents (22%) reported working in self-contained classrooms or CBOs.
- 8 respondents (14%) are general-science teachers.
- 8 respondents (14%) are general-computer teachers.
- 7 respondents (12%) are biology teachers.
- 7 respondents (12%) are social-studies/social-sciences teachers.
- 6 respondents (10%) are earth-science/geology teachers.
- 5 respondents (9%) are physics teachers.
- 4 respondents (7%) are chemistry teachers.
- 4 respondents (7%) are English/language-arts teachers.
- 4 respondents (7%) work with emotionally disturbed children.
- 4 respondents (7%) work with learning-disabled children.
- 3 respondents (5%) are art teachers.
- 3 respondents (5%) are mathematics teachers.
- 3 respondents (5%) are vocational-education teachers.
- 3 respondents (5%) work with developmentally disabled children.
- 2 respondents (3%) are basic-skills/remedial-education teachers.
- 2 respondents (3%) are ESL teachers.
- 2 respondents (3%) are history teachers.
- 2 respondents (3%) are industrial-arts teachers.
- 2 respondents (3%) are reading teachers.
- 2 respondents (3%) are special-education teachers.
- 2 respondents (3%) work with emotionally disturbed children.
- 1 respondent (2%) is a health/physical education teacher**.**
- 11 respondents (19%) chose the "Other" category; for example, some were teacher educators.

II. Technology Background and Training of Project Implementers

Q5a - **How many years have you used computers every week?**

- 1 respondent (2%) answered for 15+ years.
- 32 respondents (55%) answered for the last 6-10 years.
- 17 respondents (29%) answered for the last 3-5 years.
- 2 respondents (3%) answered for the last 1-2 years.
- 3 respondents (5%) answered for less than 1 year.
- 2 respondents (3%) answered "none."
- 1 respondent did not answer this question.

Q5b - **How many years have you had students using computers every week?**

- 15 respondents (26%) answered for the last 6-10 years.
- 19 respondents (33%) answered for the last 3-5 years.
- 8 respondents (14%) answered for the last 1-2 years.
- 11 respondents (19%) answered for less than one year.
- 4 respondents (7%) answered that their students have not been using computers every week.
- 1 respondent did not answer this question.

Q5c - **How many years have you been using telecommunications (e.g., modem, Internet) for professional or recreational purposes?**

- 13 (22%) respondents answered for 6-10 years.
- 25 (43%) respondents answered for 3-5 years.
- 10 (17%) respondents answered for 1-2 years.
- 7 (12%) respondents answered for less than one year.
- 3 (5%) respondents said they do not use telecommunications for professional or recreational purposes.

Q5d - **How many years have you been using telecommunications (e.g. modem, Internet) with students?**

- 5 (9%) respondents answered for 6-10 years.
- 15 (26%) respondents answered for 3-5 years.
- 14 (24%) respondents answered for 1-2 years.
- 10 (17%) respondents answered for less than one year.
- 13 (22%) respondents have not used telecommunications with their students.
- 1 respondent did not answer this question.

Q6a - **During a typical week how many hours are you in front of a computer?**

- 17 (29%) respondents answered between 12-20 hours per week.
- 16 (28%) respondents answered between 1-5 hours per week.
- 15 (26%) respondents answered between 6-10 hours per week.
- 7 (12%) respondents answered between 25-30 hours per week.

- 2 (3%) respondents answered that they do not use a computer.
- 1 (2%) respondent answered 45 hours per week.

Of that - how many hours do you use the Internet?

- 20 (34%) respondents answered between 2-4 hours per week.
- 18 (31%) respondents answered between 5-10 hours per week.
- 9 (16%) respondents answered that they do not use the Internet.
- 8 (14%) respondents answered between 15 minutes and 1 hour per week.
- 3 (5%) respondents answered between 5-10 hours per week.

Q6b- During a typical week how many hours are you in front of a computer outside of school/work?

- 16 (28%) respondents answered between 4-9 hours.
- 13 (22%) respondents answered between 1/2 and 2 1/2 hours.
- 12 (21%) respondents answered between 10-15 hours.
- 6 (10%) respondents answered that they do not use computers outside of school/work.
- 3 (5%) respondents answered 20 hours.
- 3 (5%) respondents answered between 28-30 hours.
- 5 respondents did not answer this question.

Of that – how many hours do you use the Internet?

- 22 (38%) respondents answered between 3-8 hours per week.
- 14 (24%) respondents answered that they do not use the Internet.
- 8 (14%) respondents answered between 1/2 and 2 hours per week.
- 5 (5%) respondents answered between 10-16 hours per week.
- 3 (17%) respondents answered 20 hours per week.
- 6 respondents did not answer this question.

Questions for Project Sites (N=39)

III. Projects' Student Populations

Q7 - How many students were enrolled in school/CBO as of Fall 1998?

- 1 (3%) respondent reported 9,000 students.
- 3 (8%) respondents reported between 1,850-2,200 students.
- 6 (15%) respondents reported between 800-1,300 students.
- 7 (18%) respondents reported between 620-750 students.
- 10 (26%) respondents reported between 450-600 students.
- 5 (13%) respondents reported between 300-425 students.
- 2 (5%) respondents reported between 100-150.
- 2 (5%) respondents reported between 30-55 students.

- 1 (3%) respondent reported 5 students.
- 2 respondents did not answer this question.

Q8 – Demographics of school/CBO.

- 14 respondents (38%) serve a population of which a significant minority of students (10%-49%) are Hispanic, regardless of race (Mexican, Puerto Rican, Cuban, Central or South American, or other culture or origin).
- 7 respondents (19%) serve a population of which a majority of students (50%-100%) are Hispanic.
- 14 respondents (38%) serve a population of which a significant minority of students (10%-49%) are African-American (not of Hispanic origin).
- 4 respondents (11%) serve a population of which a majority of students (50%-100%) are African-American.
- 10 respondents (27%) serve a population of which a significant minority of students (10%-49%) are white (not of Hispanic origin).
- 17 respondents (46%) serve a population of which a majority of students (50%-100%) are white.
- 5 respondents (14%) serve a population of which a significant minority of students (10%-49%) are Asian or Pacific Islander (Japanese, Chinese, Filipino, Korean, Asian Indian, Vietnamese, Hawaiian, Guamanian, Samoan, other Asian).
- 1 respondent (3%) serves a population of which a majority of students (98%) are American Indian or Alaskan Native.
- 2 sites did not provide this information.

Q9 – What percentage of students in your school/CBO receive free or reduced lunches?

- 7 respondents (18%) reported that between 90-100% of students receive free/reduced lunches.
- 1 respondent (3%) reported that between 80-89% of students receive free/reduced lunches.
- 4 respondents (10%) reported that between 70-79% of students receive free/reduced lunches.
- 6 respondents (15%) reported that between 60-69% of students receive free/reduced lunches.
- 3 respondents (8%) reported that between 50-59% of students receive free/reduced lunches.
- 3 respondents (8%) reported that between 40-49% of students receive free/reduced lunches.
- 5 respondents (13%) reported that between 30-39% of students receive free/reduced lunches.
- 1 respondent (3%) reported that 19% of students receive free/reduced lunches.
- 3 respondents (8%) reported that 0% of students receive free/reduced lunches.
- 6 sites did not provide this information.

IV. Projects' Demographics and Characteristics

Q10 - Description of school/CBO.

- 31 (29%) sites are elementary, middle, or secondary schools.
- 3 (8%) sites are CBOs.
- 1 (3%) site targeted students with special needs.
- 1 (3%) was described as a vocational site.
- 1 (3%) site reported being an alternative site. "Alternative" was defined in the survey as a program offering a curriculum designed to address the needs of students which typically cannot be met in a regular school.
- 2 (5%) respondents chose Other.

Q11 - Description of area where site is located.

- 14 (36%) sites are in rural areas.
- 9 (23%) sites are in large cities (pop.250,000+).
- 6 (15%) sites are in suburban areas.
- 5 (13%) sites are in towns.
- 5 (13%) sites are in small cities (pop. 100,000 – 250,000).

Q12 - Does school have access to Internet?

- 38 (97%) sites have access to the Internet.
- 1 (3%) site does not have access to the Internet.

Q13 - How does site connect to the Internet?

- 16 sites (41%) have a T1, T3, DS1, or DS3 line.
- 9 sites (23%) are connected via modem.
- 3 sites (8%) have an ISDN line.
- 2 sites (5%) has a coaxial cable
- 1 site (3%) has a 56kb line.
- 1 site (3%) connects via SLIP/PPP.
- 1 site (3%) has a wireless connection.
- 3 sites chose "Other."
- 3 sites did not answer this question.

Q15 Which of the following Internet resources does your site have and who has access to each?

Email
- 29 sites (75%) have email available for teachers.
- 28 sites (72%) have email available for the administrative staff.
- 17 sites (44%) have email available for students.
- 1 site (2%) does not have email.

News Groups.
- 17 sites (44%) have news groups available for teachers.

- 15 sites (38%) have news groups available for the administrative staff.
- 11 sites (28%) have news groups available for the students.
- 10 sites (17%) do not have news groups available.

Resource location services, eg., Gophers, Fetch, etc.
- 16 sites (41%) have these services available for teachers.
- 15 sites (38%) have these services available for students.
- 13 site (33%) have these services for administrative staff.
- 8 sites (21%) do not have these services available.

World Wide Web (WWW)
- 34 sites (87%) have access to WWW available to students.
- 32 sites (82%) have access to WWW available to teachers.
- 28 sites (72%) have access to WWW available to administrative staff.
- 1 site (3%) does not have access to WWW.

Other

14. 3 (8%) sites marked "Other" and indicated that they had "videoconferencing" or "Distance learning" services available to students, teachers, and administrative staff.

Q16 - How was connection to the Internet funded?

- 9 sites (23%) received funding from a foundation, corporate, or government grant.
- 8 sites (21%) received funding from the AOL Foundation Interaction Initiative.
- 5 sites (13%) received funding through a bond initiative.
- 5 sites (13%) received funding from a phone company.
- 4 sites (10%) received funding from a parent and/or PTA.
- 4 sites (10%) received funding from teachers' initiative.
- 3 sites (8%) received funding from an increase in local taxes.
- 1 site (3%) received funding through Net Day.
- 12 sites (31%) chose the "Other" category.
- 1 sites (3%) responded "None of the above."

Q17 - **Does site have a technology plan?**

- 36 sites (92%) reported that they have a technology plan.
- 1 site (3%) reported that it does not have a technology plan.
- 2 sites did not answer this question.

Q18a - **Does the site have a technology committee?**

- 33 sites (85%) reported that they have a technology committee.
- 4 sites (10%) reported that they do not have a technology committee.
- 2 sites did not answer this question.

Q18b - **Is respondent on technology committee.**

Of the 49 respondents who come from sites that have technology committees:
- 27 respondents (55%) were on their site's technology committee.
- 17 respondents (35%) were not on their site's technology committee.
- 5 respondents did not answer this question.