THE IMMIGRANT PARENTS' COMPUTER LITERACY PROJECT

A STRATEGIES GUIDE FOR IMPLEMENTATION

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Abstract

This report discusses key issues and challenges that were encountered in the design and implementation of a technology-based project for Latino immigrant families. The goal of the project was to develop participants' computer skills and to help them utilize technology for learning and communication, essentially improving parents' familiarity with computers and understanding of their children's school tasks. The purpose of this report is to provide guidance on a set of issues that might inform other action research teams in developing strategies for implementing similar projects. The report provides information on some of the most important practical lessons learned as the project was being carried out. Sections focus on the following issues: program location and logistics, retention and recruitment of participants, technology and staff expertise, goal setting and evaluation, listening to participant feedback, and project dissemination. These issues are organized in a check list of considerations to follow in the development and implementation of a community-based computer literacy project.

Introduction

Substantial evidence exists at the national level that access to computers and the Internet is less common in low-income households, and in particular in the households of low-income, immigrant Latinos and other minority groups (National Telecommunications and Information Administration, 2000). At the same time, nearly every school in America has computers available for use by students as well as access to the Internet (National Center for Education Statistics, 2000). Low-income minority children are expected to develop computer literacy as a requirement of state and school district subject matter and performance standards. The disparity between access to computers at home and at school for Latino and other low-income students aggravates already existing concerns about Latino family awareness of and involvement in their children's schooling. Consistent with the Center for Research on Education, Diversity & Excellence (CREDE) program of research on Family-Peers-School and Community (Cooper & Gandara, 2001), we must address this divide by finding ways to provide Latino immigrant families with better access to computers and teaching them to use computers in ways required of their children in school. The underlying issues are centrally ones of family and intergenerational literacy and families' support of children's education. In agreement with Auerbach (1995), we want to move away from models of intergenerational literacy for immigrant families that are based on deficit models. Such models approach children's school failure in terms of parents' limited formal education. Our goal is to develop models that build on the shared social and cultural knowledge of family members as the foundation for children's literacy development and achievement in school. This goal requires rethinking the meaning of literacy and of learning mediated by computer technology at a theoretical level, and in particular, the conception of how computers and electronic technology create new forms of literacy for both children and parents.

In this report, we discuss key issues and challenges that were encountered in the design and implementation of a technology-based project for Latino immigrant families. The goal of the project was to develop participants' computer skills and to help them utilize technology for learning and communication, essentially improving parents' familiarity with computers and understanding of their children's school tasks. It is important to underscore the nature of this work as action research; this was a project in which we were continually balancing the tensions and reaping the harvests of building a learning community while researching this community in the making. In building this community, it was essential to emphasize that the community was a partnership involving parents, children, school staff, and researchers. Central to this community was the immediate connection to the cultural, social, and linguistic resources of the community and the immigrant experience.

The purpose of this report is to provide guidance on a set of issues that might inform other action research teams in developing strategies for implementing similar projects. The report is a guide for the development of strategies, rather than a set of isolated strategies, that can be adopted by implementers of similar projects.

Background

This report developed out of the implementation of a research project sponsored by the Center for Research on Education, Diversity & Excellence. The goals of the project were (1) to develop a theoretical research base on learning and literacy from the perspectives of sociocultural theory (Vygotsky, 1978)—which views learning and literacy as social accomplishments tied to participation in ongoing communities of practice using literacy as a set of cultural tools for the expression of meaning; (2) to develop designs for computer-based learning activities, which involves investigation of practices in implementing learning and literacy activities for parents and children; (3) to disseminate the findings of the study; and (4) to carry out a series of close-in studies of learning and literacy practices among parent and child participants.

In relation to the second goal, we designed and implemented activities for developing computer literacy to be pursued by parents and children. This was a reflexive process that evolved as we discovered the strengths and limitations of the activities and the importance of incorporating the needs and wishes of the participants. We had to test out what we could expect parents to learn about using computers, related technology, and the Internet in what amount of time. We also had to explore strategies and techniques for involving children in joint activities with parents, and when it would be best to allow parents to pursue activities on their own with less involvement of children. In addition, we needed to understand how to incorporate input from teachers and community members in the design of learning and literacy activities in a manner connected to enhancing parents' knowledge of children's schooling practices. We used ethnographic and discourse analysis methods to study closely how parents and children performed and negotiated complex learning and literacy tasks. Data from these analyses provided us with a progressive account of the learning activities and of the development of written products on the computer over time.

The Immigrant Parents' Computer Literacy Project

The project served approximately 140 parents and 120 children during the 5 years of the study. It was implemented at three different sites in the Santa Barbara (CA) area: Isla Vista School, the Goleta Boys' and Girls' Club, and La Patera School. In the first project year, 7 parents and 12 children were served in the spring of 1997 at Isla Vista School. During the second year (1997-98), the project ran during the fall at Isla Vista School and in the spring at the Goleta Boys' and Girls' Club. During the third through fifth years (1998-2000), the project ran at La Patera School. Location of the project changed as better facilities were found. All three sites were located within a one and one-half mile radius from each other and served a community consisting largely of parents and children from immigrant backgrounds. The number of parent and child participants grew by several individuals during each cycle (10 sessions) of the project. During the 2000-2001 academic year, a total of 54 parents and 56 children participated at our La Patera School site.

Parent background

Across all 5 years, the background characteristics of family participants revealed many similarities. Almost all of the parents were from Mexico, with the exception of two families who were originally from the Punjab, India. All of the Mexican family participants were first-generation immigrants and had children in the elementary grades. Typically, families ranged in size from one to five children. Questionnaire data indicated that the majority of fathers worked in blue collar or manual labor jobs, while the mothers worked as hotel maids and house cleaners in addition to their jobs inside the home. Most had limited skills in English.

The educational backgrounds of the adults varied considerably. Many of the parents had only completed elementary school in their native country before being obligated to work, some had completed the equivalent of high school in their native country, and in two cases the parents had either finished their teaching credential or master's degree in their native country.

Language of instruction
By design, given our main target population of first generation immigrant Latino families, most activities were conducted in Spanish as the primary language of communication. However, English was also used, in particular with the Indian families, who did not speak Spanish.

Activities
The project introduced parents and children from low-income immigrant families to the uses of the computer and to computer literacy. Participants met in small groups once a week for each cycle, or 10 sessions. A research-development team of university staff from the University of California at Santa Barbara and classroom teachers assisted the families in learning how to operate computers, focusing on the creation of written documents and Internet activities. The research development team assisted parents in the creation of newsletters and other publications that were distributed to participants, and via the school, to other families and friends.

Evaluation
Parents' acquisition of elementary computer skills was evaluated statistically by means of questionnaires assessing knowledge in different areas of computer literacy both at the beginning and the end of two target cycles. Children's performance was not formally assessed. Ethnographic and discourse analyses were undertaken to examine the practices of the parents and children in conducting research and writing on the computer towards the end of developing publications. The research-development team also undertook a review of sociocultural theory and research that helped conceptualize the functioning of the project as a situated, local community of practice.

Implementation
Implementation of the project created an alternative community-based organization interfacing among a university research and development team, school personnel, community members, and families. We found an effective approach to family literacy involved setting specific learning and literacy goals and allowing parents and children choice and creativity in the contents of products they produced on the computer. The latter was of special importance. While we established clear literacy and learning goals for parents and children, it was the parents and children who made the decision about what to write and how to convey their own thoughts and images on the computer.

Results
Immigrant parents with limited or no computer experience showed themselves to be adept learners of computer technology. They were quick to acquire elementary computer skills, despite wide variation in their levels of schooling and schooled literacy. We designed and implemented pre- and post-questionnaire measures of parents' learning of elementary computer skills and found statistically significant gains in parents' skills associated with participation in the project.

Parents and children produced complex written products on computers, similar to literacy tasks encountered by children in school that required the exercise of important computer and technology skills and an articulated understanding of audience, genre, and design of texts. Qualitative studies of parents' and children's interaction

and project sessions employing ethnography and discourse analyses yielded rich evidence regarding how participants carried out learning and literacy activities. In particular, the parents and children completed more complex learning and writing tasks over time.

Effectiveness

The research showed that the project's effectiveness was enhanced especially by being able to draw out the cultural and experiential background knowledge of the parents and children as a resource in the negotiation of texts. Parents and children eagerly took up the opportunity to write about their social and cultural experiences in Mexico and day-to-day experiences in the United States. They wrote, for example, about their hometowns, their history, and their religious celebrations. They wrote about friendships, overcoming hardships in the United States, and most of all, about the importance of education.

With this background context in mind, this report provides readers with information on some of the most important practical lessons learned as the project was being carried out. It was written to help others in developing similar projects with immigrant families. Sections focus on the following issues: program location and logistics, retention and recruitment of participants, technology and staff expertise, goal setting and evaluation, listening to participant feedback, and project dissemination. These issues are organized in a check list (see Appendix) of considerations to follow in the development and implementation of a community-based computer literacy project.

Find Accessible Sites with Well-Maintained Equipment

The first challenge in establishing a computer-based project is to locate a suitable site. To be responsive to community needs, we operated under the knowledge that such a project should ideally be located in a facility that is accessible to community members, and in which they feel comfortable. In searching for a site, we realized the importance of exercising flexibility and being cognizant of community dynamics. Three priorities emerged in the beginning stages of the overall design.

- Locate the project site.
- Make contact with the community regarding the choice of the site.
- Obtain access to optional sites.

We suspected from the outset that a school or group community center would be preferable. Our first efforts centered around local elementary schools. Initially, we were able to obtain the use of a computer lab in an elementary school that was convenient to most of the parents in the community and where many had children who attended the school. Obtaining access required meeting with school administrators to make our case. In general, the school administrators were open and hospitable. They had reasonable concerns regarding how the project would benefit their school and when it would be offered. In terms of benefitting the school, we explained that a goal of the project was to strengthen home-school links and to create ways of helping students and their parents familiarize themselves with the classroom activities and practices engaged in at school. We encouraged these administrators to work with us in drawing in teachers and other staff (i.e., school computer room coordinators) who could help design and implement activities that were compatible with what was expected of students at school. The administrators were very responsive, and over the course of the project, the participation of teachers from the schools turned out to be particularly constructive. They were especially helpful in the development of project sessions that were geared toward familiarizing parents with learning activities encountered by their children at school. During the last 3 years of the project at the La Patera Elementary

School, a sixth grade teacher and a kindergarten/first grade teacher even assisted the research team in running each individual session and incorporating projects that were related to the activities students were working on during the day.

Another issue of concern to administrators was the hours that the program would be offered. They were sensitive to the dangers posed by after-dark activities. In one case, a principal postponed a cycle of our activity until after Daylight Savings Time to minimize the risk to parents and students, especially those arriving on foot.

At one point, we considered the possibility that community group computer facilities—such as those housed in community centers—might have an advantage over a school site. To this end, we offered one cycle at a local Boys' and Girls' Club. While the facility was very user friendly, it lacked well-maintained computer equipment. We discovered that, in general, local clubs and group facilities receive much more use after hours than most schools. They also have limited funds, resulting in lower maintenance, slower and fewer working computers, and restricted Internet access.

In the end, we found that there are many advantages to housing such a project in a school, especially one that is prepared to accommodate after-hours activities. Schools are often willing to support the project in other ways, such as distributing promotional fliers and newsletters for recruiting participants and enlisting the help of classroom teachers or other staff. It is also beneficial to the child participants who attend the school; they are already familiar with the school and the computer lab and in some cases the participating teachers.

Establish Criteria for Recruiting and Retaining Participants

The recruitment and retention of potential participants was a major challenge in the implementation of the project. Four particular needs related to recruitment and retention required close attention:

- Establishing cultural ambiance, including the use of the native language, and being aware of cultural conventions;
- providing child care;
- sustaining participants' commitment to the program;
- exercising flexibility.

Cultural and linguistic context

Knowledge of the cultural conventions and linguistic backgrounds of the participants is an essential element to this type of project. For example, we found that visiting local community centers, such as churches and markets, to personally invite parents to join the project was a good way to recruit participants and to spread word about the project through the community network. Initial contacts and invitations were made in the target participants' first language, in this case Spanish. The use of Spanish was an invaluable resource for recruiting potential participants, most of whom had very limited skills in English.

The use of Spanish was also important in the computer learning setting, because it enabled the participants to communicate in socially and culturally familiar ways and to request assistance without hesitation or a loss of words. Further, the use of Spanish permitted parents and children to communicate freely among themselves to discuss their work and interests.

After the first 2 years of the project, Proposition 227 was passed, which denied bilingual education and hence increased pressure on schools to provide an English-only atmosphere. Although our computer groups only met during after-school hours, there was concern that the presence of Spanish-speaking parents on campus might be misinterpreted by visitors or other school staff as inappropriate. Thus, it was important to hold direct discussions with the school administrators regarding this issue. We were able to convince the school administration that, because the project met after hours, no abrogation of Proposition 227 was implied or intended.

One area of frustration for the researchers was the initial agreement of parents to attend the project and the failure to follow through. At one point, this became a serious problem. It turned out, according to our understanding of phone calls to parents, that when asked whether they planned to attend a session, the preference for a positive answer was in operation regardless of whether or not it was genuinely feasible to attend. This is a known politeness norm for Mexicano origin parents and is a cultural way of showing respect for esteemed community members. It is not polite to say "no" directly to an esteemed community member. Once we understood this, we found it necessary for project staff to phone each parent and explain that we needed a precise response with respect to attendance, and then to make it clear that it was perfectly acceptable to say "no" and that we valued their continued interest in attending our activity as time and responsibilities permitted. We explained to parents that a definite "yes" or "no" response for attending a next meeting would help us to ensure the planning, conduct, and success of the next meeting. This strategy worked and helped us reduce the number of false positive replies.

Child care

Another crucial issue centered around the decision to offer child care. Because the community-based project worked almost exclusively with low-income parents from Mexico, the cultural practices of Mexican family life (and the economic situation of many) meant that parents would typically attend the sessions not only with their grade-school children who were participating, but also with their smaller children and infants. The provision of child care at no cost to the participants facilitated participation in the project of parents and older siblings (who might otherwise have been assigned the responsibility), and particularly mothers. Names were obtained of local individuals who were willing to provide onsite child care and who had been approved by the school.

The decision to offer child care posed the challenge of securing another room in addition to the computer lab. To this end, one of the kindergarten classrooms was obtained, which provided a safe place for the children to play as well as a stimulating environment for preschool and early learning activities. On occasions when unforeseen events precluded separate child care facilities, the sessions were carried out with small children or infants present in the computer room. While this may have seemed impractical, many mothers and fathers proved surprisingly able, and indeed willing, to work at the computer while holding and caring for their small children.

Sustained commitment

Establishing a commitment on the part of the participants is fundamental to the success of this type of program. During the course of the project, different strategies were used to achieve this goal. Many parents who were initially enthusiastic about the project lost interest during the cycle and sometimes exhibited little or no follow-through. As the project progressed, we modified and adjusted our procedures for engaging participants and sustaining their attendance. We devised a multipart strategy for this purpose that included the following:

- ensuring that the program was structured with manageable cycles of activity, articulated clear goals and provided adequate time to attain the goals, and was responsive to feedback from parents;

- acquiring a verbal commitment from families to attend a maximum number of sessions;
- providing participants transportation, if transportation was the main obstacle to participation; and
- making regular reminder phone calls to the parents before each session (in some cases, parents were given two reminder phone calls before a session).

Flexibility

Project staff continually monitored and assessed how well a particular session was going, and at times it was necessary to make adjustments in learning goals or in procedures that were responsive to unforeseen problems or to feedback from parents on their preferences and special interests. Inevitably, there were sessions when only three or four parents attended, out of anywhere from seven to ten who had originally made a commitment. On those evenings, fallback plans were available that allowed participants to depart from the evening's agenda and do independent research on the Internet on their chosen topic of investigation. On other occasions, they were allowed to work with their children on homework assignments or to explore learning software for improving their typing or English skills.

The research team quickly learned that maintaining a flexible approach was very important, especially because it was impossible to know when attendance might be lower than expected. For instance, the funeral for a local and well-respected member of the community coincided with a session, which precluded the majority of participants from attending the session.

The point in question here was to understand the fragile nature of projects involving voluntary Latino parent participation. Such projects are often negotiated and accomplished on a week to week, day to day, even moment to moment basis, often depending on the interactional and sociocultural practices in operation at any given moment as well as the many personal, family, and practical demands on time faced by participants.

Assess Available Technology and Staff Knowledge of Technology

Once a site was selected, an inventory of the computer lab was carried out to give us an idea of the available software and hardware for the project. We had to update this understanding as new software and hardware became available and as inevitable problems arose due to needs for hardware repair. Before each session, team members were responsible for ensuring that the relevant software was installed on each computer and operating properly.

During the implementation phase, the research team had to assess its ability to support the parents' technology learning. Many members of the research team had had enough previous experience with computers to provide assistance to the participants but possessed various levels of expertise with respect to the particular computers and software being used in the project. Before the beginning of each cycle, and particularly when new team members were coming on board, it was important to incorporate into the planning meetings an assessment of the technological expertise of each team member and to ensure that they learned how to use the computers and specific software before the start of the cycle. This was crucial with regard to the types of specialized word processing software that were used. Some staff, for example, had no experience with the two programs used in the project: *Storybook Weaver* (2004), which allows the author to create an illustrative collage on the same page above the written text; and *Bilingual Writing Center* (1992), which assists Spanish-speaking writers in the development of word processing documents. Not all of the

staff were equally familiar with the use of search engines on the Web; Yahoo and Yahoo en Español were used frequently by participants to do their Internet research.

Set Clear Goals for Cycles and Sessions

Each 10-week cycle consisted of one 2-hour session per week. Over the course of the study, the need to set clear goals for each cycle and for each individual session became increasingly apparent.

The first cycle, held during the 1996-1997 school year, was a starter instantiation, and we knew from the outset that it would be a learning experience. Questions having to do with recruitment and attendance, the focus of sessions, and software were brought to the fore at an early point. As we progressed, we found that setting goals was no simple task; this typically necessitated several meetings of project staff, including researchers, participating teachers, and occasionally a school administrator, before the beginning of each cycle. Sometimes "ad hoc" meetings were scheduled during the cycle, in addition to the regularly scheduled staff meetings.

The plan for each session included both specific and open goals. We developed a flexible curriculum that was designed to help parents acquire the skills needed for operating a computer and for publishing a product with their children by the end of each cycle. This product was either a magazine-like publication or a newsletter. Following this fixed plan, we were able to give parents and children a clear understanding of what the goals of the cycle were and what a final product might look like. We found that a desktop-published item was a worthy goal for the completion of a cycle, because it provided the parents with a focus and it helped staff indicate in concrete terms that work had been accomplished. While the participants were required to produce a desktop published item, they could choose what they wanted to write. Helping the participants select topics for their desktop publishing projects turned out to be a very rewarding part of the research. They were eager to identify a theme of interest to them (i.e., "my home town," "how I learned to play the guitar") and needed little prompting. They were very enthusiastic about the opportunity to publish their work and to share their knowledge and experiences with other community members.

In 1998, when the project moved from the local Boys' and Girls' Club to La Patera Elementary School, we had access to a more up-to-date computer lab and realized that with planning we could effectively accomplish more during each cycle. By that time, our project had already completed four cycles, so we were in a good position to gauge what we could achieve in a cycle or during a session. However, we also knew that, due to commitments with the school and the participating teachers, our project had to make every attempt to engage the parents in activities that bore some relationship to what their children were doing in school. This proved to be very challenging, but a focus on a desktop publishing project again proved useful.

In school, the children were studying several units that were vaguely related by theme—"Ancient Egyptians," "The Mayas," "Stories of the Greeks and Romans." We knew that the literacy level of some of the participating parents would preclude actual adoption of any of those themes as a desktop publishing goal. Thus, in a series of meetings held before the beginning of the school year, we made the decision to adopt the general theme of "Legends." Keeping a broad focus allowed the parents flexibility when it came to developing an idea, writing, and doing the Internet research. The result was a fine piece of desktop publishing, in which the parents, in collaboration with their children, sometimes worked on an actual Mexican or Latin American myth—such as *The Myth of La Llorona*—or the myths of Mayan and other cultures. By

keeping the goals modest—one desktop publishable written text from each parent/child combination—and sufficiently general (a broad topic such as "Legends"), we were able to ensure that the participants could achieve them.

It was necessary to state early on that the project had multiple goals. These included developing parents' computer literacy and teaching them to assist their children with school work, as well as a research agenda. When questions arose, it was necessary to reaffirm that the project could not be left completely open-ended, because it was a project with learning goals for family members as well as a research project that required the researchers to meet certain goals. We found that we had to reiterate this several times during the course of a cycle.

Evaluate Participants' Development of Computer Skills

Researchers employed a pre- and post-evaluation instrument, designed with an easily comprehensible question-and-answer component. This instrument was administered to parents at the beginning of the project and upon completion of a 10-week cycle. Statistical analyses were run on the results obtained from the evaluations at the end of each cycle. At a later point, we devised a post-assessment that involved an actual hands-on demonstration. This required parents to display their knowledge by performing the operation of a particular computer-related skill, and as such to demonstrate the skill in front of a researcher in order for an affirmative answer to be counted.

Some parents exhibited initial confusion about why they had to be evaluated. We found it necessary to provide a straightforward explanation about the evaluation goals the researchers had to accomplish.

Listen to Participant Feedback

Part of being reflexive and collaborative is being open to the need for change and to the feedback of parents, children, and other team members in the planning and production of each cycle. A recurring problem in developing strategies for working with the parents and children came from needing to discern appropriate responses to feedback. It frequently happened that parents' feedback on the activities being carried out during the sessions would push the cycle in a direction substantially different from the one that was originally envisaged. For example, despite repeated explanation, some parents were confused by the need to accomplish set goals within the project; they felt that the computer lab should be open as "free time" to explore the Internet and word processing without having to do any specific work or produce any specific project. To address this concern, researchers and school staff agreed to open the computer lab for an additional half hour prior to the beginning of each session. This allowed an opportunity for parents and children who wanted extra time for independent work. As a result, several participants would arrive early to explore the Internet, write correspondence, or advance homework projects.

Over a period of time, the research team found that listening attentively to feedback, taking the appropriate action, and providing sustained explanation, where elicited, was the best approach. In one case, a man who had attended many sessions with his fifth-grade son expressed his view that the project should be solely "empowering" and should not attempt to pose any constraints on what children or parents do at the computers. He indicated that he might even withdraw from participation. After evaluating his position and then reiterating the project goals—which included developing important skills and knowledge among participants—he gradually began to display renewed confidence in the project and to understand the benefits of parents sharing common goals with the project. With this awareness, we were able to increase his

level of participation. As always, there was a tension between supporting individual needs and maintaining group structure.

Channeling feedback productively is not easy. While some feedback is genuinely helpful—for instance, many parents gave the research team specific suggestions concerning implementation of the project and how Internet use or instructional areas and assistance should proceed or be altered—other feedback simply reflects individual states of mind or opinions on participation on particular days. Researchers should make every effort to be responsive to all concerns, while still realizing that the stated project goals must be maintained.

Some of the most productive feedback the researchers received from the participants concerned the various visual support tools and written artifacts we provided. Participants made suggestions, for example, about the clarity of instructions, the meaning of diagrams shown on handouts, and alternative ways to accomplish the operations and procedures shown on handouts and via on-screen demonstrations.

Implement Schemes for Dissemination

Essential to the project was the need to develop strategies for getting the message out about it. At the start of each cycle, research team members, in whole group presentations, explained that because the Immigrant Parents' Computer Literacy project was a university research project, it was necessary to provide evidence that a learning community was being formed. To this end, a "capstone" product that could be disseminated to the community was to be developed during each cycle to demonstrate the learning that had taken place. Parents understood that they had a great deal of leeway in suggesting ways to reach the end product, but that a commitment to use the equipment in the room on the given evenings was also a commitment to participate in the project and to assist in the development and creation of its product.

On the whole, desktop publishing was found to be the most useful mode of producing and disseminating a capstone product, with several such products being created over a given period of time. Running off multiple copies of the products—the "Leyendas" booklet for the Fall 1998 cycle, for example—not only gave the participating families something to show to others about their learning, but also provided researchers with a model of what the participants were learning how to do.

During the spring 2000 cycle, an additional mode of local dissemination was tried. This included the production of collages composed of art work generated on a computer, images downloaded from the Internet, and writing. This medium provided an opportunity for the families to work on a project that was comparable to work being done in the classroom. These formats afforded special attention to visual artifacts, and in particular images connected to families' natal cultural experiences and social practices. This cycle culminated with oral presentations by each family of the collages produced.

Research team members also wrote journal articles and prepared conference papers on the project, which provided other means of disseminating information about the project. However, the dissemination of the desktop-published product remained a key focus of the project. We found that, over a period of time, word-of-mouth in the community about the learning atmosphere created by the project was greatly assisted by the distribution of the various desktop-published items created by parents, families, and project members.

Several other methods of dissemination were employed. These included developing a relationship with the local Spanish-language community paper. The editors of the paper visited our project and ran notices and articles about it in the paper. In addition, visits by guest speakers, including members of the university's Spanish and Portuguese Department and the university Center for Chicano Studies, as well as visits by guest professors from Mexico, gave the project visibility. The project also adopted a newsletter format that resonated with the school newsletter and was more readily available for mass production to the school community.

Conclusion

Inevitably, projects with a community base are works-in-progress. Each team must find what suits their needs, explore their local resources and expertise for project facets, and beyond that develop their own set of priorities with input from participants. Our observations are designed to inform others of our experience and serve as suggestions—possible ways in which to smooth the path for the implementation of future projects. We anticipate that those of you setting up similar programs will discover that the family participants in such programs bring rich reservoirs of cultural and linguistic knowledge and that the energy and enthusiasm of using technology as a medium of self and social expression will be highly fulfilling to all involved.

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Appendix

Immigrant Parents' Computer Literacy Project

Strategies Check List

Goals

1. To develop tools and processes to help low-income Latino immigrant families utilize technology for learning and communication.

2. To strengthen home-school links and create ways to afford students and their parents an opportunity to familiarize themselves further with classroom activities and technology.

Strategies

Location and Logistics

❒ Find a suitable location for the program with a computer lab or facility that community members have access to and in which they feel comfortable.

❒ Opt for a school site, if possible; school sites are often a better choice, because there is less after-hours traffic and the equipment and Internet access tend to be more state-of-the-art.

❒ If a school site is identified, consult with school administrators to obtain permission and to discuss how the project could benefit their school.

❒ Consider project hours. Are there dangers posed by after-dark activity? Are other groups going to be using the facility?

❒ Involve site administrators (e.g., principals, teachers, school computer room coordinators) in designing, and if possible, in implementing the instruction.

❒ Secure permission to use an alternate room and devise back-up plans for times when computer rooms become unexpectedly unavailable.

❒ Maintain flexibility in dealing with the inevitable changes in school, university, and community schedules.

Recruitment and Retention

❒ Visit local community centers, such as churches, public gathering places, and markets, to personally invite parents and their circle of acquaintances to participate in the project.

❒ Use the native language of the local community to recruit potential participants, because they may have limited or no proficiency in English.

❒ Create a culturally comfortable environment by permitting use of the primary language as a resource for communication and self-expression in site activities, while supporting the value of English and bilingualism.

❒ Collaborate with the site administration staff to distribute promotional fliers and newsletters about the project.

❒ Get a commitment from participants and provide support systems to facilitate follow through on commitments (e.g., reminder phone calls).

❒ Provide child care; if necessary, secure another room in the same facility for child care.

❒ Provide transportation to the site if lack of transportation is an impediment to participation.

❒ Maintain awareness of different cultural conventions, especially with regard to interactions with perceived authority figures, parents' authority over children, and norms for social and cultural politeness.

❒ Be sensitive to natal culture traditions, customs, and special holiday and religious practices and how they may affect attendance at project sessions and topics of special interest to parents and children.

❒ Allow parents and children adequate free time to explore cultural topics and themes that are self chosen and outside of the immediate computer learning assignments.

❒ Recognize the importance of being flexible.

Technology and Technological Expertise

❒ Create an inventory of the available computers and software at the site.

❒ Ensure that the relevant software is installed on each computer, and that computers are running properly before each session.

❒ Evaluate whether researchers have expertise with the specific computers and software to be used in the sessions before the beginning of a new cycle, especially when new staff are hired.

❒ Be prepared to assist parents and children to use the Internet, CD ROMs, and software to search out, explore, and find information of special cultural and social significance including information available in the primary language.

❒ Use the expertise of participating students and teachers to navigate software and computer use when necessary.

Project Goals

❒ Set clear goals for cycles and sessions; do so collaboratively through meetings with participating teachers and school administrators.

❒ Clearly state goals (both the learning goals of the participants as well as the research agenda) at the outset; reaffirm those goals throughout the project.

❒ Keep goals modest and achievable, for example, one desktop-publishable written text per a cycle.

- ❒ Have all participants aim to create an actual product, such as a desktop-published newsletter or booklet.
- ❒ Link project activities as closely as possible to the topics participating children are studying in school.
- ❒ Listen attentively to parental feedback, take appropriate action, and provide sustained explanation when warranted.
- ❒ Make sure that the parents understand that a commitment to use the equipment in the room during the sessions is a commitment to participate in the project and to assist in the development and creation of its product.
- ❒ Evaluate how well the project is meeting its defined goals (e.g., assess parents' computer skills before and at the end of each cycle).

Dissemination

- ❒ Create a capstone product that can inform the community about the project and what kind of learning is taking place.
- ❒ Collaborate with local media outlets such as a Spanish-language community paper or radio and TV stations to run articles or announcements about the project.
- ❒ Invite guest speakers from local cultural resources (e.g., universities) to make presentations in the community that give the project visibility.
- ❒ Write journal articles and prepare conference papers about the project.

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