SHELTRS PROJECT
FORMAL EVALUATION REPORT

SHELTRS Goals and Evaluation

The Support for Homeless Education: Linking Technology Resources to Shelters (SHELTRS) project was designed to address to inequalities related to the education of children experiencing homelessness. As is mentioned in the original grant documentation, it is expected that children experiencing homelessness will perform two to three years behind grade level, implying that many will not have the chance to escape cyclical poverty through education. The SHELTRS project was designed to serve children experiencing homelessness and functioning at a grade level that is lower than their age-peers by exposing them to advanced technological resources and active technology-based tutoring. A second and related inequality that the project was designed to address is the technology gap in Austin, TX, among school children. In helping to bridge the technology gap with regard to children experiencing homelessness and at risk of experiencing homelessness in Austin through the permanent placement of computers and the seeding of an expectation of access to the internet in shelters, the project sought both to help ensure more equitable access to technology and to prove by example that such resources could be successfully managed and placed at shelters throughout the state and the nation. The tutoring services and the development of the replicable model were key distinguishing factors of the program that differentiated it from simple donation and delivery of computers.

The outcomes of the SHELTRS project are largely intangible, and most observably manifest themselves in individuals and in society only in the long term. Essentially, the program seeks to improve the technological infrastructure and expertise at partner sites and to develop over the course of the program a project model that can be replicated at other sites across the nation. The outcome of the project activities is to "remove educational barriers faced by

children, youth and families in homeless situations and thus increase their chances to lead a secure and productive life" (Executive Summary, Project Grant). These outcomes are measurable only over the course of a child's life and against a somewhat nebulous counter-factual scenario. Outputs in the short term, however, can be expected to serve as indicators of the program's success in putting the children and the partner sites on a path that could (or could not) lead toward attaining these outcomes. Early in the program's life, modifications to the evaluation plan were made to better reflect the goal of the program over its observed lifespan. The focus of the monitoring and evaluation was shifted from a focus on the individual students' successes in the formal educational system and formal educational indicators (such as changes in GPA and standardized test scores) to a focus on the shelter environment and population. Especially because the development of online access to Texas state curricula did not progress as quickly as was expected in 1998, classroom teachers were less involved in the monitoring of the program than was initially expected. Since it is in this environment and within this population that the SHELTRS project sought to make a difference, this type of monitoring and evaluation are more in keeping with the program's goals and will give better information on the program's successes and shortcomings.

Methodology and Data

The environments in which children experiencing homelessness are served tend to be chaotic with confounding elements including:

- an exceedingly heightened need for the protection of the children's identity and privacy;
- high staff turn-over;
- a relative paucity of reliable information on the child's background;

- a chronic organizational focus that must address short-term needs, often at the expense of monitoring long-term goals;
- a learned hesitancy or prejudice on the part of formal education institution staff and personnel in addressing the needs of children with disabilities;
- absent parents; and
- extreme resource constraints.

As a result, the evaluation design relied on the triangulation of evidence and a (perhaps overly) fluid approach to data collection. The goal of this evaluation was not (and could never be, given the nature of the data collection practices) generalizability in the (social) scientific sense. Instead, the goal of the evaluation was primarily to capture evidence that would support a rich case study that would both help interested stakeholders and observers to understand the development and growth of the SHELTRS program and support the creation of a replicable model. This evaluation reports primarily on the data collected from project surveys and computer time sheets while being actively informed by the observations, interviews and the other formal data collection tools that were tested and implemented over the course of the SHELTRS project.

In conducting a program evaluation of the SHELTRS project, several types of data were collected between October 1998 and August 2001. Since a key component of evaluating the success of the program's role in closing the technology gap is monitoring the population served, client surveys of program participants were collected. The longer version of the survey (designed for use by older, literate children) included questions about socio-economic background, experience with the formal education system, previous experience with computers, attitudes toward computers, and experiences with the SHELTRS program. A shorter, one-page survey was also used (primarily with younger children, and available in Spanish) and asked more limited questions about age, educational experience, and experiences with computers, e-mail,

and the Internet. Tutors and site-based staff were asked to have all children participating in the program complete the surveys. In order to gauge the access to technology and the change in the educational environment at the shelters, all sites kept time sheets close to the computers to simplify the process for recording tutoring encounters, their duration, timing, and Internet usage. Other formal instruments used less frequently included a survey of tutors and a pre- and post-test of computer skills for children. In addition to these formal instruments, the evaluation assistant engaged in periodic observation at the sites and semi-structured interviews of project stakeholders. As a result of this sustained observation, it was possible to develop an accurate and useful picture of the activities of the program.

As mentioned above, the goal in collecting information was to assemble as much information on the program as possible as opposed to following a more scientific model of information gathering. For example, participation in the survey was not limited to a random sampling of participants. The chaotic environment of the shelters would have made this technique both impractical and less informative. Instead, we set the goal of surveying all clients, with the understanding and expectation that the majority of children who used the computers and technology might not be surveyed. Since the reason for failure to respond to the survey was not expected to be the result of differentiating characteristics of the client (it was rather expected to be connected to the up-and-down, relatively predictable patterns of the availability of staff and volunteers who could manage and ensure data collection), we expect that the responses on the surveys collected are indeed reflective of the population of children experiencing homelessness working on computers at SHELTRS sites. The surveys collected do not include a random sampling of clients, but do include a representative sampling of clients, since the only differentiating characteristic between the surveys collected has nothing to do with the client, but with the availability of the SHELTRS tutors and staff to administer the survey (such as the

limited presence of staff during holiday breaks, school vacations, changes in summer-time programming). In the end, 251 surveys were completed, 243 of which generated useable data (surveys that were suspected duplications were eliminated). The computer time sheets were similarly sporadic in their effectiveness. One of the most frequently heard refrains of tutors and staff in interviews regarding the computer time sheets was that the time sheets were a dramatic undercount of both time and frequency of computer (and particularly Internet) usage. Nevertheless, over the course of the program 4,614 tutoring encounters were recorded, which, given that the number prior to the projects introduction was zero, suggests that the SHELTRS project made a dramatic difference in the daily life of the children at the sites.

Findings

Survey Data

The most important output of the SHELTRS project was the provision of access to computer services to children who are (or who are at risk of being) on the disadvantaged side of the technology divide as a result of having experienced (or being at risk of experiencing) homelessness. A key issue in evaluating the effectiveness of the program is the degree to which it can be determined whether the program activities served the target population. As is mentioned above, 243 children were surveyed who participated in the SHELTRS program by having a tutor-supported experience with computers and the Internet while staying at partner sites. Due to personal preference, security concerns, and age, not all of the data were collected on all of the children. The response rate for each descriptive statistic provided is, therefore, reported.

Serving the SHELTRS Target Client Group

Of the 140 (58%) children who reported their gender, 67 (48%) were female. The slight overrepresentation of males is representative of the shelter environment. Age was reported by 239 of the children and the average age was 12.36 years. The range in age was 4 to 21, with a standard deviation of 4.34 years and a median age of 12. This indicates that the SHELTRS project did an admirable job of serving school-aged children of all ages and that no systemic age bias (either toward younger or older children) was apparent.

115 (47%) children also reported their ethnic background. This information was collected in order to evaluate whether or not the SHELTRS project met its goal of serving minority children experiencing homelessness, who are expected to be potentially most negatively effected by the digital divide in an urban area such as Austin. Only 22 of these children (19%) reported themselves as having Caucasian descent. 47 (41%) were reported as African American, and the remaining 46 (40%) were reported as Hispanic. No children reported themselves as being of Asian descent. From these descriptive statistics, it is obvious that the SHELTRS project met its goal of serving children of minority descent. In fact, it is likely from an educated guess based on the names of those who did not choose to report their race, that the proportion of students of Hispanic descent is underestimated in this reporting. All in all, it is clear that the SHELTRS project served its target population and produced as an output a large number of students of all ages and from all ethnic backgrounds who were experiencing both homelessness and lack of access to computer-based tutoring.

Serving Beyond Challenges

In the original grant documentation for the SHELTRS project, several additional challenges frequently faced by children experiencing homelessness were mentioned as potential

aggravating factors in the digital divide and the reduction of successful participation in the system of formal education. These factors included:

- having a primary language that is not the majority language of the community at large (in this case, English);
- becoming a parent before the age of 21;
- not being enrolled in school;
- being several years behind in school;
- long breaks in school attendance;
- attending too many schools;
- not participating in extra-curricular activities; and,
- participation in remedial academic programs such as special education.

In evaluating the success of the SHELTRS project, a crucial element is that a sizable minority of the students served demonstrate these characteristics. If they did not, then it is possible that the program was skimming the SHELTRS population and serving only the most able of children experiencing homelessness. Given the goals of the program it is, of course, crucial that children with such confounding factors not be under (or over) represented in the program. The following table reports the percent of children who responded to the question who reported themselves as having the given associated challenges:

Table 1: Risk Factors

Characteristic	Percent Reported As Having Given Characteristic	Question Response Rate
English NOT primary language	20%	63%
Early Parenthood	21%	54%
Not Enrolled in School	18%	86%
Behind in School	31%	86%
School Absence of More than 3 Months	54%	46%

Attending More than 4 Schools	64%	53%
No Extra Curricular Participation	24%	63%
Special Education Participation	22%	53%

In all cases of the confounding factors, at least one out of every six children served and who responded to the given question indicated that they were affected by the additional challenge that tends to increase the digital divide and the risk of prolonged homelessness. It is especially of note that for 18% of the children served, the SHELTRS project and associated programs at the site were the only formal education in which the child was currently engaged. The SHELTRS project also served a high proportion of students who were behind in school or who had spent a significant amount of time (not including school breaks) out of school in the past. The children who responded to the survey had, on the average, attended more than 5 schools, despite the fact that the average age of the child was only 12. Thirteen percent of children who responded to the question had attended 10 or more schools in their short educational careers. Children that have these characteristics are, of course, the most difficult to serve through systems of formal education and for whom to ensure that access to technology exists. By changing the environment and the availability of resources at these Austin sites, the SHELTRS project has indeed served some of the children most at risk of experiencing prolonged technological exclusion.

Expanding Computer and Internet Penetration

Another important output of the SHELTRS project was the number of introductions of the technology to neophytes and to those who have not had much experience with the technology in the past. After all, much of the technology divide can be expected to be due to a lack of exposure and, presumably, those who have been exposed to technology are more able to pick up

the skills again if the resources are unavailable for a period of time. Unquestionably, the most significant impact of the SHELTRS project on this front was a change in the site environments themselves. Computers (let alone computers connected to the Internet) were almost entirely unavailable to clients prior to the program. Site-based staff were typically quite unfamiliar with the technology as well. Over the course of the project, the computers and e-mail and Internet access became an expected and integrated component of daily life at the sites.

Beyond this change in environment, the SHELTRS project had additional outputs that reflect the program's commitment to the expansion of availability of e-mail and Internet technology. Of the children involved in the SHELTRS project who completed the surveys, 7% reported having *never used a computer before*. An additional 17% had only used a computer very occasionally in the past. For nearly a quarter of the children involved in the SHELTRS project, their experience with the SHELTRS project represented the first time (including their formal schooling) that they had *ever* had regular access to a computer. Nothing is more fundamental to helping to close the technology gap than ensuring that every child has the habitual familiarity with computers that is evermore central to daily life.

In looking at the reported prior experience with e-mail and the Internet, an even higher percentage of the children surveyed were exposed to these technologies through their participation in the SHELTRS project. 29% of the 154 children who responded to the question reported that they had never used the Internet before and another 18% reported that they had used the Internet only occasionally in the past. 32% of the 152 children who reported on their experiences with e-mail reported that they had never used e-mail in the past and another 9% of these children reported that they had only used e-mail occasionally in the past. Not only did the SHELTRS project help to address the technology gap by ensuring that computers and the

Internet would be habitually available in the program sites, but it frequently helped children to make their first contact with this technology.

Children's Voices: Comments About the Computers and the SHELTRS Project

Children completing the SHELTRS project surveys were asked to give three words that described their feelings about computers. 128 of the children who participated in the SHELTRS project did so. The descriptors used were nearly universally positive and the most commonly used words were "fun," "educational," and "interesting." At times, the children did use words with more negative connotations, such as "confusing," but these instances were in the extreme minority and the words used did not by and large reflect an overt dislike for computers. Given the daily circumstances and life experiences of the children experiencing homelessness, such positive commentary and feelings are especially encouraging, and demonstrate the potential for interaction with the computers and accompanying tutoring for helping children experiencing homelessness to develop and foster positive feelings and approaches to the educational experience in general. The children who participated in the SHELTRS program reported a wide variety of dreams for the future (everything from working for the CIA to nursing to being a fireman to being a cartoonist). A positive attitude toward educational opportunities is key to the realization and development of these dreams.

The children who participated in the SHELTRS project survey were asked to comment on why they wanted to use the computers and what they hoped to learn using the computers and the Internet, and to reflect upon their experiences using the computers. The comments that the children made often revealed an educational purpose for their use of the technology. When asked why they wanted to use the Internet at the site, the children experiencing homelessness wrote such reasons as "to look up a subject on slavery," "to help and gain knowledge," and "I

want to use the computer today because in the future I want to be an engineer." The reasons for wanting to use the computers and the Internet also revealed that some of the respondents were acutely aware of the need to become acquainted with technology. One nineteen-year-old pursing her GED with Lifeworks wrote that she wanted to use computers "because the world today is full of computers." Another child, a fourteen-year-old boy at the children's shelter, wrote that he wanted to use the computer to "learn more about life and the world today."

In their responses to the questions about their experiences using the computers and the Internet with the help of SHELTRS tutors, some of the children reported that they had encountered certain challenges. When asked why computers are hard, one child wrote "because they always get messed up." Another wrote that the Internet is at times difficult because "sometimes I can't find things." Not all of the children had trouble with the computers, however. One wrote, in response to why computers are hard, that it is because "they are made of plastic." Another wrote that "computers are pretty easy, my generation grew up with them." The free-form comments also demonstrated a generally positive and hopeful attitude toward computers and the Internet that helped to create a positive learning environment at the project sites.

Finally, children were asked to comment on what they would like to learn using the computers. These statements provided important information on the perceived needs of the children involved in the project. It is perhaps unfortunate that a stronger feedback loop did not exist between the evaluation assistant and long-term tutors who might have stayed through the course of the project, as sharing these comments could have helped to make the use of the computers even better. Luckily, the skills and communication patterns that were in place were sufficient to assure that the tutors could find out what the children needed and could find the resources to learn what they needed in order to meet these needs. For example, one child wrote

that he would like to learn to use Power Point. The children also had more abstract and ambitious learning goals. One child wrote, for example, that she would like to use the Internet to learn "the meaning of life." Similarly, another wrote that he would like to learn "anything I can." Though the tutors and resources of the SHELTRS project cannot, of course, provide easy answers to such transcendent questions, they can, however, serve to remove barriers to the information that might exist given the children's life histories and circumstances.

Time Sheet Data

The second formal instrument that was continuously used to evaluate the SHELTRS project was the computer time sheet. The time sheets helped to monitor computer and Internet usage and were key to the successful reporting in SHELTRS quarterly reports. Over the course of the SHELTRS project, 4,614 separate instances of children using computers were recorded. The vast majority of the recorded usages included a tutor named as having provided help to the children experiencing homelessness in using the computer and the Internet. The range of duration of computer usage was from a few minutes to over four hours at a stretch, with the typical tutoring session lasting just over half an hour. Given that no tutoring and virtually no access to computers at all were available to children at project sites prior to the SHELTRS program (and especially given the fact that tutors and staff regularly reported that the computer sheets underrepresented the amount of computer and Internet usage that took place), their place under the umbrella of the SHELTRS project made a significant impact on the environment of the project sites.

PROJECT GOAL SUMMARY

The SHELTRS project had two overarching goals—first "to provide new technology resources and expand existing technology resources at four homeless shelters in Austin" and second "to develop a model that can be used across Texas and the nation to encourage the innovative use of technology to remove educational barriers faced by children, youth, and families in homeless situations." The data collected through the surveys and computer time sheets unambiguously establishes that the first goal has been met. The materials for the replicable model are still under development and thus not available for process evaluation at this time. Nevertheless, enough information, expertise and evaluative information has been collected over the course of the past three years to ensure that a useful and informative replicable model will assuredly be developed. The program coordinator, Tim Stahlke, has been actively mentoring others interested in developing similar programs through conference attendance, personal communication, and private meetings for the past couple of years. A website providing detailed information about the project has been up and running for almost two years, and is updated regularly. A reliable plan for continuing this work in an advisory capacity has been developed. The SHELTRS project is currently a nearly unique project in the United States. Hopefully, this will soon no longer be the case.