

Project Purpose

In the fall of 2002, the after school program at the Youth and Family Center in the 5th Ward of St. Louis included computer classes in which the students would learn to use the Internet (web and Email). The classes were open to all students in the after school program (K-12). The classes started with excitement and interest among the youth. However, after attending only one or two classes, 14 of the 20 students (70%), particularly those in middle school and high school, dropped out of the class. When the coordinators inquired further, they found that the students dropped out because they could not read. They were embarrassed and ashamed, so they dropped out to avoid the humiliation of people knowing that they couldn't read.

In this neighborhood, 7 out of 10 of the kids are reading and writing below grade level (See Appendix A, St. Louis Public School annual report, 2001). Many middle school students cannot read at all. An anonymous sampling of the report cards of nineteen students in kindergarten through high school shows that only four (21%) are reading at grade level. Thirteen of the kids (68%) show little or no evidence of reading skills. Teachers' notes on report cards consistently include "Missing work," "Comes to class unprepared," "Comprehension skills are weak."

Parents are generally unavailable. Single parents head 75% of the families here. Parental involvement and support in learning activities is almost non-existent. Some are working multiple jobs and others are struggling with addiction to drugs and/or alcohol. Steven, who coaches basketball at the Youth and Family Center says, "In the three years I've been coaching, I've had maybe four parents come to a game."

The situation in this neighborhood is grim. As in many urban areas across the United States, hopelessness abounds, yet there is a glimmer of hope that shines from within the youth of the 5th Ward. The young people of this neighborhood try hard to stay in school, out of gangs and away from drugs. Their school attendance rates are above 95%. They look out for each other. Many of them come to the Youth and Family Center every day after school, where they receive supper, have homework time (though few participate), access to an Internet computer lab, games and sports. For many of the kids, this meal at 6 pm is their only meal until the next school day.

Terri, who coordinates the after school program has this to say about the youth reading levels:

"Most of the middle school and high school kids aren't reading at grade level. In fact they are several years below grade level. These kids are left behind and they are stuck. They're older and they know they should read better but they won't ask for help because they're ashamed that they can't read."

Viola, who also coordinates the program, says,

"We have several 7th grade girls who can't spell the word 'house'. The schools pass them from one grade to the next and they can't read."

The young people can't read and few people will talk about the issue. Most of the older youth will not talk about it because they're ashamed and the after school coordinators will only discuss it privately because they know that discussing this problem openly would be disrespectful to the students' dignity. Most parents are unavailable. The schools are incapable of solving the problem

alone. The youth know they have a problem and they know they're being left behind. They feel powerless to do anything about it -- but they want to do something about it. They want to learn to read and they certainly do not want to be left behind. From their perspective, they have no way out.

The problem we intend to solve is the low reading and writing levels of the youth living in and around the 5th Ward area of North St. Louis, Missouri.

Solution: St. Louis WizKids

St. Louis WizKids is a youth-directed project that will result in improved reading and writing skills of 160 students. Our project will provide a self-directed learning environment with professional support and will employ a project-based approach in combination with Internet-based feedback. Online feedback mechanisms will enable students to track their own performance and showcase their work. A high bandwidth neighborhood wireless network will provide the conduit for online performance tracking, student work showcasing, and online learning. The wireless neighborhood network will connect fifty homes, a youth and family center, a teen drop in center, and neighborhood safe houses (welcoming homes where community youth spend time). Six groups of twenty to thirty students will complete the St. Louis WizKids program.

Learning Teams: All St. Louis WizKids participants will commit to participate in specific individual and team activities. The youth will commit to participation in a 16-week program during which they will divide into learning-focused teams which complete projects and tasks related to reading, writing and communication. The youth developers of St. Louis WizKids felt that since team sports are so important to the youth, using teams in our project would be most engaging. Teams will earn points for participation in tutoring sessions, helping younger students with homework, participation in reading groups, completion of reading and writing projects (such as writing a rap, spelling contests, maintaining web logs, writing a community newsletter, maintaining the community portal) and other activities which they will design themselves with guidance from caring adults. Individuals will also earn points, but the main emphasis will be on team performance to encourage team members to support each other. Appendix B contains a list of St. Louis WizKids activities and projects created by the project's youth developers. All St. Louis WizKids will receive their own dictionary when they sign up for the program.

Performance feedback: Feedback on individual and team performance will give the students the information they need to continuously improve. Teams will work together on projects and team members will help each other. We will develop an online application for tracking student performance. Students will anonymously login to view their performance chart, which will show points earned and projects completed. We will develop a literacy-appropriate user interface with full security and privacy protection.

Community WizKids Portal: Team performance will be tracked online and presented on the community portal. The community portal will be implemented using a menu-driven, customizable, off-the-shelf portal product. The community web portal will be the primary means for accessing and displaying the products of the students work. Please see Appendix C for a description of community portal functions and features.

Educational Software and Services: A team of students will choose which software products are used by the St. Louis WizKids. They will seek out recommendations from their teachers and they will test different online and offline products in the Youth and Family Center lab. Many of the students currently use off-the-shelf products at school. Please refer to the initial list of software to be examined in Appendix D. Each of the home computers will have a full array of K-12 reading and language arts software and a links to online tools via the community portal. In this way, a 9th grader, for example, will be able to complete the 3rd grade modules and *learn privately without fear of peer ridicule*.

Broadband Access: Over the course of the 3-year project, 160 students will complete the St. Louis WizKids program. Seventy students will be provided with broadband in their homes and ninety will participate in the program at the centers connected to the neighborhood broadband wireless network.

The seventy middle and high school youth who will have broadband at home will complete community projects to earn their home computer. The ninety youth who will participate in St. Louis WizKids, but will not receive home computers, includes the elementary school children who are less prone to peer pressure and more able to learn in a semi-public setting and older youth who are outside of the wireless range. All students will be required to take an Internet Safety class and a class on basic computer use. These required classes will be taught at the reading levels of the students. Appendix E contains a more specific outline of the 16 weeks of program activities.

Expert Review: Literacy experts from the St. Louis Public Schools will review the St. Louis WizKids progress and ensure that the students' approach meets the criteria of the St. Louis Public Schools and of the President's No Child Left Behind policy.

Celebrate Success: Each 16-week session will culminate with a grand celebration event to showcase the students' work. Local dignitaries chosen by the kids will be invited. Prizes will be given to every team, with the highest performing team getting the most sought after prizes. We will secure contributions of prizes from local businesses and organizations.

Outcomes

The St. Louis WizKids project team will work in concert with literacy professionals from the St. Louis Public School District to measure improvement in the reading, writing and communication skills of students in the 5th Ward of St. Louis. The primary outcomes of the St. Louis WizKids project will be *an improved learning environment* and *higher overall academic achievement*.

Improved Learning Environment

Participants in the St. Louis WizKids project will have learned to learn. They will have acquired new tools and skills for inquiry and they will have practiced communication in many forms. They will have discovered that, together, they are capable of accepting challenges to learn new things and this will be reflected in improved self-esteem.

1. St. Louis WizKids' overall academic performance will improve by at least 20% (one grade level e.g. average grades from "D" to "C") in the first year following participation.

2. Students will read more books in the year following participation than they did in the year previous.
3. Middle school and high school students who were not previously comfortable saying out loud that they need help will be able to ask questions and ask for help. They will have realized that they are capable of learning.

Higher academic achievement

4. Upon completion of the St. Louis WizKids program, 50% of the participants will improve their grades in all reading and writing related subjects. This includes Reading, Writing, Language Arts, and Social Studies. As an output, we will measure grades in specific subjects and, thus, the outcome is an overall improvement in all reading-related subjects.
5. Students will demonstrate an increased attentiveness to school and studies. Teacher comments about student preparedness, homework completion, and student attention will be less negative.

Targeting Underserved Communities

The young people of the 5th Ward of St. Louis, Missouri have it rough. St. Louis is the most dangerous city in the United States¹. There are 360 gangs in the St. Louis area. 5th Ward neighborhoods are characterized by high unemployment (11%), violent crime, public drug use, deteriorated buildings. 75% of the families here are headed by single parents. Only 2 out of 10 families own their home. 33% of the housing units are vacant. 28% of the live births are to teen mothers. 86% of the people living in the 5th Ward are African-American. The median annual income is \$19,186. 3,125 of the 11,845 people living in the 5th Ward are between the ages of 5 and 19

Keith, a 17-year old resident, high school student, and advisor to this project offers this characterization of the neighborhood:

“The 5th ward neighborhood is a good neighborhood. We depend on each other a lot and we do for each other as if we were all related. We have a neighborhood park that is four blocks long but we can hardly use it because of the fighting and the drugs that run through it every day. The Youth and Family Center is an excellent place that helps the kids keep safe and a stable mind. Kids in this neighborhood go through a lot of problems (bad grades, peer pressure to get into trouble, family problems, etc.).”

The St. Louis WizKids project will serve youth ages 5-19 living in and around the 5th Ward area of St. Louis.

Innovation

St. Louis WizKids is innovative in many ways, primarily in the lens through which we are viewing the compelling community (and nation-wide) problem of poor academic achievement. *We are asking the students what they need from us in order to learn to read and to perform better in school.* The students are the problem solvers.

¹ Morgan Quitno Press 2002 Annual Survey of United States cities and major metropolitan areas.

Another way our project is innovative is that we are *providing low-income families broadband access and thereby access to high quality content for learning*. A recent study on children's Internet use from the Corporation for Public Broadcasting (2002, Connected to the Future) found that Internet use by all children in the United States increased 59% between 2000 and 2002. However, when examining broadband use, the study found that the average annual income of families with broadband is \$72,000. Furthermore, 23% of children using broadband reported that they got better grades² and 36% watch less television. The report goes on to suggest that if the learning tools of the future are more dependent on high bandwidth, then we are at risk of creating a new "divide" of quality content.

The St. Louis WizKids project team recognizes that parents are often not a part of their children's learning environment. *While the St. Louis WizKids project will keep all doors open to parental involvement, we have developed a project, which is not dependent on parental involvement for success*. The youth of our neighborhood are on their own in many ways and the St. Louis WizKids project will enable them to take control of their learning experience with support from caring adult volunteers and staff.

Several projects in the United States are providing broadband access in lower income communities. These projects are focused primarily on community development. Appendix F contains a description of these projects and how they differ from the St. Louis WizKids project. The St. Louis WizKids project is an access project with its core focus on reading and literacy, rather than community development. *St. Louis WizKids is innovative because we are using broadband access to improve students' learning environment by promoting local connections (the youth teams) and overcoming the "embarrassment barrier" to literacy achievement*.

Other wireless and broadband projects in New York, Washington, Portland, Ore., San Francisco and Chicago are providing access to low income residents of public housing developments. *Another factor that makes the St. Louis WizKids project innovative is that we are providing access in a neighborhood of independent homes, rather than in a development of apartments*.

Community Involvement

Partners in the St. Louis WizKids project include the St. Louis Public Schools, the North St. Louis Neighborhood Association, Seeds of Change Community Center, members of the St. Louis Brownbag Technology Collaborative, St. Louis Vision for Children, the City of St. Louis, and the St. Louis Wireless Users' Group. The St. Louis Brownbag Technology Collaborative (BTC) is an association of community technology focused organizations in the St. Louis region and the members participating in St. Louis WizKids are Computer Village (computer and internet training), Web Innovations (computer hardware and recycling). Throughout implementation, project partners will work with community youth in a series of regular face-to-face meetings and online forums.

Because the project is led by community youth, attention will naturally be paid to the skills, needs and living conditions of the youth in the neighborhood. Continued engagement and participation will be assured because youth will select projects, software and activities of interest.

² 13% of parents reported an increase in grades, which is still 6 times as many as reported decreases.

Through ongoing professional support from technology experts (St. Louis Wireless Users' Group, Web Innovations), trainers and educators (St. Louis Public Schools, Computer Village, St. Louis Public Library), and youth development experts (St. Louis Vision for Children, Mothers' Way), we will ensure that our implementation will meet the varying needs of individuals and the community at large with respect to learning and personal and collective growth. The St. Louis WizKids project is aligned with the St. Louis Children's Agenda Community Wide Quality Standards for Youth Program, the region-wide effort of youth programs to move toward a common set of standards.

We are committed to making all St. Louis WizKids projects accessible for people with disabilities. We will utilize online tools for testing web sites and we will follow guidelines established for accessibility by organizations such as Knowbility Inc, the premier organization focused on barrier-free access to technology.

We will provide continuous training for end users, and complete orientation for our many volunteers to make sure that everyone involved is supported, understands the goals, and is able to use the technology-based learning products. St. Louis Public Schools and St. Louis Vision for Children will review overall progress, support testing for measurement of literacy, and recommend changes to continuously improve the program.

The project team will form a national Advisory Council of 15 well-respected experts on educational technology, community technology, and youth development. These experts will review our work, share their experiences with us, and offer valuable recommendations for our program. Through their ongoing involvement, the Advisory Council will facilitate development of St. Louis WizKids as a model project.

Two of the youth project developers, Keith (age 17) and Nakeitha (age 15) have provided valuable insights into what features will engage the youth and foster an improved learning environment. Keith led a focus group of youth in March 2003 to identify the advantages they would gain from the use of high broadband Internet. Their responses included: ability to complete research papers, better grades, research Black history, improved spelling and grammar, opportunity to participate in science projects, access to reading books, and the ability to find the best prices on clothes. A complete description of the pre-application meetings and pilot project is in Appendix G. Our pre-application research demonstrates that demand for this project with its opportunities for online learning is high. Project partners are involved and engaged and eager to develop a national model for student-led learning using advanced technology and online tools.

Evaluation and Dissemination

Evaluation

The independent evaluator for St. Louis WizKids is Ms. Julie Fesenmaier of the Laboratory for Community and Economic Development at the University of Illinois at Urbana-Champaign. Evaluation will be ongoing and will follow a Plan-Do-Check-Act³ cycle during which the project

³ Plan-Do-Check-Act, developed by Dr. Stephen Covey and one of the few surviving concepts of the Total Quality Management trends of the 1990's.

team will continuously improve project strategies and modify activities to maximize the extent to which we will achieve our outcomes. Ms. Fesenmaier has been involved in the design of the St. Louis WizKids project and has developed a thorough Evaluation Plan, which can be found in Appendix H.

Project evaluation is an integral component of the St. Louis WizKids project and goes beyond evaluation of our project. A key outcome of our project is an evaluation toolkit for urban community technology projects. We expect that the format, approach, and implementation of our evaluation will become a widely used standard for evaluation of community technology projects.

Dissemination

St. Louis WizKids is an attractive project for other communities because it offers a flexible and effective way to improve the learning environment for youth and improve academic performance using cost-effective advanced technologies. Although Federal spending on K-12 education has steadily increased, student reading proficiency has remained flat⁴. Communities are eager to find effective means by which to improve reading proficiency.

The St. Louis WizKids project will employ advanced technologies along with conventional means for distribution of information about our project. We will proactively provide information both inside and outside the neighborhood.

Inside the Neighborhood: To publicize events and program enrollment periods, we will distribute flyers through the schools, by sending them home with youth at the Youth and Family Center and the Seeds of Change teen drop-in center. We will also distribute information through area churches, community centers, and the St. Louis-based Black World History Museum.

Outside the Neighborhood: The project manager will dedicate time weekly to maintenance of a public web log (blog) where we will provide current information on our progress, our successes and our challenges. We will publicize our blog on web sites, electronic lists and in printed materials. We have been assisted, during project development, by teachers from EduBlog, a popular blog among leading edge educators; we expect continued distribution through EduBlog. The community portal will be used for distributing project information (both inside and outside the neighborhood). Student work will be available online through the community portal in the form of web pages, audio files (streaming and downloadable), e-cards and neighborhood newsletters which will enable educators, community technology professionals, and other students to see the quality of the work and use it as a model to generate ideas in their communities.

We will issue press releases at least quarterly and develop national and local email newsletters and discussion forums. Our national distribution list will include sector-specific newsletters and journals. We will track visits to our community portal from outside our neighborhood to determine the effectiveness of our diffusion efforts. We will prepare, and submit for presentation, a report at the Community Technology Centers Conferences in June 2004 and 2005.

Research Involving Human Subjects: Our project and evaluation will conform to all Federal guidelines regarding research involving human subjects.

⁴ U.S. Department of Education, The Nation's Report Card, Fourth Grade Reading 2000, 32% of fourth graders read proficiently while Federal spending on education increased from 5 billion dollars in 1980 to 22 billion in 2000.

Project Feasibility

The wireless neighborhood network will be built using advanced technologies currently in use by the private sector. The portal software is a complete package requiring only menu-driven customization. Educational software, as stated, will be chosen by the youth; they will choose from products and online services currently in use and thoroughly market-tested. The wireless neighborhood network will be built upon the existing network infrastructure at the Youth and Family Center and will expand the existing network to provide broadband Internet access to the Seeds of Change Teen Center and the 50 homes within a 1-mile radius of the Center.

Our technical plan (Appendix I) has been developed by a technical team from Networkz, Inc, a St. Louis networking company and the St. Louis Wireless Users' Group. We have conducted a site survey to ensure feasibility of the wireless network.

Project personnel include a project manager with extensive experience with access projects in disadvantaged communities and technical staff and volunteers experienced with wireless networks. Each of our two lead program staff has worked with the 5th Ward youth for over 20 years. We will employ tutors and volunteers who have direct experience with disadvantaged youth and we will provide them with full support through orientation and ongoing training. Resumes of all key personnel are in Appendix J.

Implementation of the St. Louis WizKids will be phased with the build out of the wireless hub at the Youth and Family Center and server installation to occur in Phase I. Also during Phase I we will meet with the St. Louis Public Schools literacy team to identify testing methods to measure the students' success and the success of our project. Our Implementation Plan is in Appendix K.

Students' privacy will be protected through secure login procedures in the portal and performance tracking system. Research data and reports from our project will contain only summary data and will not contain any identifiers of specific youth. The technical plan (Appendix I) includes details of our high network security measures.

After we complete our first year of the project, the youth and project staff will develop a sustainability plan using the model developed by CompuMentor, an award-winning nonprofit organization specializing in technology assistance for community-based organizations and schools. Ideas for sustainability include selling ads on the portal and offering a sliding scale access fee. Since we will use volunteers extensively, we expect that project volunteers will have ideas for broader community support to sustain the St. Louis WizKids project.

St. Louis WizKids will demonstrate effective means by which to apply advanced technology to improve the learning environment for St. Louis youth. Future replication of the St. Louis WizKids project in other communities will be evidence of a sustainable project and demonstrate cost-effectiveness over the long term.