

In Search of Connectivity: How Authentic Learning with Technology Engages Middle School Students “Pay Now or Pay Later”

At an annual invitational technology demonstration, one of my eighth grade students, Anna, met with our state senator and explained our group's research project regarding the need for educational technology funding in the state budget. She explained the steps they took to collect information and perform research, the four surveys through which they collected data on the subject, and the impact the lack of home connectivity had on students at every levels. The senator looked at her and dispassionately told her that while he admired her passion and the thoroughness of her study, he was sure that the state budget would not fund tech education as she suggested. He offered that funding might be forthcoming in later budgets. Anna looked him straight in the eye and said, “Senator, you can pay now or you can pay later. If you don't support us kids when we are still young, ready to learn to use technology, and still happy to go to school, you will lose us. The students will never learn to use technology the way they should, the state will fall behind the others around us. Workers won't be able to get jobs because they won't have the skills, and students will drop out because school won't be a place where they learn what they need and want to learn.” As I was frantically trying to get her to soften her attack, she sweetly smiled at him and said, “Of course, that is my opinion, but I have the research and data to back it up.” He went back up to the senate chamber, and with the support of his majority party members, killed the appropriations package that she and her team had fought so hard to see enacted.

School Context

Pasteur Elementary School was built in 1926 just east of Midway Airport in Chicago. It has a current enrollment of 1,147 students from kindergarten through grade eight. Sixty-three percent of the students are considered low income and receive free or reduced pay lunches each day. The student body is 38% white non-Hispanic, 63% Hispanic, and .1% Black. Its parental base is generally supportive. Ours is a working poor neighborhood, with many first generation immigrants from Mexico and Poland.

This has become a port of entry community for families from Poland, and many of their children receive bilingual services in the school. In many of our families, both parents hold at least one job, if not more, and they work very hard to provide for their families. They make many sacrifices to provide for their children. If the students go home and tell their parents they need a computer, many families report they will try to budget and save to purchase one. Quite a few students report that they either had broken computers at home, or that the Internet fees had become too costly for the family to maintain. The economic downturn has hit our community hard.

Review of Literature:

As articulated in William Glasser's book, *The Quality School Teacher*,

"Few students in traditional schools do quality work, because they do not believe in what they are asked to do and/or how they are asked to do it does anything to improve the quality of their lives. Choice Theory holds that all human beings have five basic needs: love, power, freedom, fun, and survival. They are built in our genetic structure, and from birth we must devote all our behavior to attempt to satisfy them. Quality, therefore, is anything we experience that is consistently satisfying to one or more of these basic needs." (pgs 14-16)

It has been my experience in the past twenty-three years that technologically based instruction meets many of these basic needs. Students often find themselves empowered by their competency in using technology. In my experience, they are usually far more open to the exploration and search for knowledge that the Internet

offers than are the adults in their lives. Adults are often far more reluctant to explore and allow themselves the opportunities to seek out, fail, and revisit the search for critical information. This search allows our students freedom in deciding how to attain their goals and the “right ways” of conducting their explorations. They find it fun to discover new information, sites and sources and to share their knowledge. Studies have shown that within twenty-four hours of one student gaining what might be considered a “key” skill or site for using the Internet, at least ten of his or her peers will be given that information. Students love to share what they know and they gain in stature in their peer groups by successfully getting around in cyber-space, even if it is on instant messaging programs. For today’s students, technology skills are not luxuries; they are essential if they are to do well in school, have access to information, and enhance their ability to gain employment throughout their lives. However, the lack of equity in access creates subcultures among our students and needlessly deprives many of rich and full learning experiences that transcend borders, languages, geography, and economic circumstances.

In analyzing the possible effects of this digital divide, I found that the relevant reading was somewhat limited. There are many suppositions being made, but few hard facts based on research were available. The Henry J. Kaiser Family Foundation performed the largest, most current, and most comprehensive study. This study, ***Children, The Digital Divide, and Federal Policy***, was published in September, 2004, and provides an enormous amount of information on the computer and Internet usage of students throughout the United States. They note that policy experts and advocates generally agree that increasing technology access for disadvantaged children is a worthwhile policy goal, yet they also readily concede that the perceived educational advantages for students with robust Internet access either at home or at school cannot be separated from other factors when reviewing student achievement. This is problematic for those of us who are concerned with disparities in student access to technology.

Even the definition of “digital divide” is undergoing reexamination. It used to mean the gap between students who have “ever” and those who have “never” used a computer or

the Internet. As technology and its role in society evolves, the concept of what “access” means is also evolving. As No Child Left Behind legislation begins to impact our students in the area of technology, we are required to revisit our technology plans and what it means to be technologically literate. Basic access is defined as a student’s ability to get to a wired computer “somewhere” at some time. Technological literacy refers to the degree to which students know what to do on-line, how many applications they know how to use, and how easily they can apply prior knowledge to learn new programs. Educational technologists are also concerned with students’ access to useful content. Are students able to access information and software that will help them complete their school work, protect their health, or get a job? Child advocates argue that the ongoing inequities in meaningful access have real implications for our students’ educational and economic opportunities. A Michigan State University study found that after low-income children were given home Internet access, their overall grade point averages and, in many cases, standardized reading test scores improved. Greater improvements were found for those students who spent the most time using the Internet. Researchers attributed the increases in scores to the increased reading opportunities that students gained through their use of the Internet. Ninety-three percent of teachers surveyed expressed the belief that Internet access gives students an educational advantage. There are also strong indications that home Internet access can enhance and accelerate learning. Several studies have found that students with access both at home and at school do better than their counterparts with only school access.

One approach to increasing children’s access to technology is to increase its availability in public settings. These locations might include public libraries and schools after hours. Some advocates have argued that putting technology and trained personnel in neighborhood settings is essential because this initiative would put children where they are comfortable, at hours when they are not in class, supporting youth development and national educational goals. H.R.1396, “The Digital Dividends Trust Fund” has also been suggested as a means for more expansive usage. The fund would make wireless connectivity available at the local level, by creating free access zones, or “hot spots” like

some businesses and communities have already introduced, such as Starbucks, New York City's Bryant Park, and a low-income housing project in Boston. The effectiveness of these "Spectrum Commons" remains to be assessed. The case for universal Internet access is likely to grow stronger every year – at least on paper. It is clear, however, that the quality and quantity of accessibility is inextricably linked with funding. Federal, state, and local policies have the power to advance the content and skills development of our students.

Our children need the skills, content, and applications that can help them learn and succeed in life. As the first generation of students raised with the Internet enter the work force, we will learn more about the effects of the digital divide. Word processing and e-mail are now fundamental tools in most colleges and workplaces. According to the Children's Partnership, eight out of ten of the fastest growing occupations are computer related, and workers who use computers earn roughly twenty percent more than those who do not. Andrew Trotter, in *Teaching Students To Think*, a 1998 Editorial Projects in Education publication, noted that:

"Research is thin with respect to technology's contribution to higher order thinking skills. Improvements in these areas usually require many pedagogical changes, making it difficult to isolate the impact of technology, and making progress vulnerable to mistakes in implementation. Nevertheless, the research does suggest that some applications of home and school computers, email, and multimedia projects lead to success in advancing courses as well as to gains in higher-order thinking skills of critical thinking, solving complex problems, such as multi-step word problems, understanding the scientific method, and synthesizing different points of view."

Almost all educators, however, will agree that schools have a responsibility to prepare students to function in a digital world. Technology is a perfect medium for meaningful preparation for real life skills through its integration with authentic learning activities. It can also be successfully and seamlessly integrated with best practice learning activities as articulated in the book, *Best Practice: New Strategies for Teaching and Learning in*

America's Schools. The authors identify thirteen teaching/learning behaviors that serve as the building blocks for authentic activities. They are: student centered activities, experiential, holistic, authentic, expressive, reflective, social, collaborative, democratic, cognitive, developmental, constructivist, and challenging. These ideas go back to the time of Dewey and the Chicago Lab School, but are more founded in what we now know about development and cognitive growth. Based particularly on the psychological studies of Bruner and Vygotsky, authentic learning is student driven and allows for creativity and discovery in and outside of the classroom. The stated student goals according to *Best Practice* are: 1) to assemble prior knowledge from diverse sources appropriate to the problem, 2) create their own tools, 3) articulate the questions as they see them, 4) assess their questions, construct an understanding, and overcome problems, 5) research and investigate the question they have identified, and 6) increase their understanding of how their question impacts the world around them. Thus enabled, students have a firm grounding in the nature and usefulness of knowledge derived from earlier learning and are more receptive to acquiring new information that builds and elaborates on those concepts. Technology is a very effective conduit for this type of authentic learning experience, the type Dr. Glasser might describe as "quality". The educational goals I have set for my students are rooted in these concepts.

The Story Behind This Research Study: How My Students and I Got Here

My Concerns and Questions

I am the instructional technology teacher at my school. In 1991, I designed an enrichment program, called the Kid Vid Demonstration Team, that provides additional technology-based activities for interested students. The team meets with me for two to four hours a week before school. Each year, over two hundred students apply to participate in the program because they are interested in learning more about technology than I can cover in the course of a regular instructional period. Thirty students are selected for the program for a variety of non-scientific reasons. More than half of them have connectivity at home. Some have demonstrated the need for more

interaction with adults: they are students whose parents leave home at 7:00 am and are in the parking lot when I arrive at school. They want to come in and talk, ask for help, or just hang out. Others are simply “geeks” who don’t fit in any group, and are constantly asking questions that do not necessarily fit the topic under discussion. They love to lose themselves in computers and games. Others are organizers who love to step in and establish order in the midst of chaos – leaders in the making. Still others are happy to have been selected from a very large pool to be part of one of the few groups/clubs that still exist in our school. All these students share a common characteristic: they all question and examine ideas – sometimes to their detriment. They have demonstrated the urge to dig deeper, to do it better, or understand differently than other students. I find myself drawn to these learners.

As part of a nationwide student survey on technology in 2003, my school's students were invited to answer a wide variety of questions regarding technology usage both at school and at home. According to my students' responses, less than 30% of our students of Hispanic background (as defined by their school registration forms) had computers in their homes and only 22% had Internet access. Students who spoke English at home reported much higher usage levels and almost 50% of the Polish language bilingual students had Internet access at home. I was stunned, and expressed my concerns to the school's administration. The students only have four years of technology classes under the current scheduling system in our school (grades three through six).

Teachers throughout our complex have access to wireless Internet connectivity, and they work on the assumption that the students are sufficiently proficient in surfing the Internet for information. In fact, they require that the students create and print documents, spreadsheets, and PowerPoint presentations. When I began teaching students to use technology in kindergarten and continued their instruction through eighth grade, they were able to do so; but a four hundred percent growth in our enrollment in the past ten years has made that impossible. I shared my concerns with the Kid Vid team this fall as we prepared to select a topic for our annual learning

activity. They felt the problem was serious enough to require further study and investigation.

My own questions about how they would tackle this digital divide issue made it an ideal topic for action research. I wanted to know what would happen as these students undertook a project to make adults aware of the disparity in usage and access to connectivity. I was impressed by the depth and breadth of their questions and concerns, and the enthusiasm they had for a topic that did not affect many of them directly. I became interested in how they approached the tasks and whether their interest would be sustained. In November, the Kid Vid students chose to conduct a **survey of parents** to determine the level of technology accessibility in our community. The students duplicated the questions formed as a city-wide usage survey (that had been placed on the Internet) and spoke with parents in their own languages as they picked up their children's report cards. Based on their findings, the students agreed on three courses of action. They conducted an **Internet search** to determine what could be done to increase computer usage in the homes. They created a **school webpage** that they hoped would be an impetus for parents to obtain home access to the Internet to keep current with school activities. They decided to make the information available with Spanish and Polish translations. They also planned to **conduct parent classes** in technology usage. In December, the team felt that their parent survey results might not adequately or correctly reflect the true state of affairs in our school community, so they went back and created an on-line student survey to find out what the students would report on the same questions. They surveyed over three hundred students from grades three through six using Northwestern University's Collaboratory. These student researchers also wanted to see if their work on the website throughout the school year made a difference and wanted to measure whether parents had purchased or upgraded their hardware during the school year, so the students created one last survey. As a group, we planned to meet with the alderman immediately after testing in May and he agreed to help the students make the case to install a W-Fi tower in our neighborhood. They also plan to invite members of the Office of Technology Services to our school in order to present their findings to them as well. A small group of students also met with

the director of CPS eLearning to make their case, and share their data. She has promised to meet with them in the fall to determine if she could assist them in some way.

As engaged students involved in an authentic learning activity, the Kid Vid students formulated appropriate questions for the answers we were seeking, found ways to resolve the problems we identified, and determined ways to share their findings with appropriate policy makers. I was interested in just how this would happen, whether they would complete the task, and what impact this type of learning might have on them. Some of the kids have a long history of minor behavioral problems. I wondered if participation in this study would make them take responsibility for their grades and behaviors. I remember reading *Pygmalion in the Classroom* as a young teacher, and thinking that students would rise to the level of our expectations for them. Does the Pygmalion theory apply in this case? Would these students do better in school because they felt they were “hand-picked” and therefore “more worthy” of belonging to a group that is considered elite by their peers? Our students have had far fewer opportunities to express their individuality as the school has grown in size. We require them to wear uniforms, we expect them to walk silently through the halls in straight lines, and we want them to conform to our expectations. What happens when we give them ownership of their own learning (even on a limited basis), make them feel special and unique, and set them aside from other students? From these concerns, as I indicated earlier in this paper, I developed my action research question and prepared subquestions to focus my research.

My Action Research on the Students’ Learning Activities

Data Collection

To determine how the students were reacting to conducting their connectivity study and to answer my questions, I used six different measures. I set up **email resources** so the students could communicate with me as they had ideas or concerns. I also monitored their activities in the group through **observation check-lists** in which I recorded behaviors, engagement in the activity, and comments from individual students. In

examining their activities, I used these checklists to measure what they were doing at a particular time during each of our meetings. My goal was to track whether the students were productively engaged in activities the group had assigned, or whether they were surfing the Internet for their own purposes. They completed an **on-line survey** that asked for honest self-reporting on their engagement and accomplishment of self-selected tasks. I further monitored both behavior and grades through **progress reports**. Progress sheets were distributed every five weeks and they measured each student's achievement and behaviors as reported by their teachers. I also **interviewed each of their teachers** to determine if there were any specific problems or concerns. I also **journalled** to record my own thoughts and reactions.

E-Mail Resources

Through e-mail, the student/researchers shared annoyances, aspirations, concerns, and questions with me. We conversed weekly in this very private manner, and they wrote what they had done and what they hoped to do. This was their first year using the e-mail system, and it began slowly. In the fall, they wrote in one or two sentences to convey their thoughts. They were apt to send very general greetings without being very specific or providing any insight into their thinking. By spring, their writings became more complex and personal. Their grammatical constructions were still often suspect, but they conveyed ideas and insights. They went from simple reporting to sharing and hypothesizing. Sometimes they wrote just to request a "restraining order" against another student/researcher who was bothering them. The fifth graders were particularly involved in this type of disagreement. This is common for the grade level, and in a positive way, they are learning to manage disagreements without resorting to physical violence or the annoying, nagging behaviors that are often evident in their homeroom groupings. Jessica wrote:

Mrs. M.

Make Marco stop, he's soooo annoying. I want to put out a refraining order on him. Last year I would have punched him – maybe I still should. Make him stay away so that I can get my work done. What a pain! I want to kill him sometimes. Being in the same room that he is in a PAIN! Help! (November, 2004)

When one student was being bullied, another student in Kid Vid rose to his defense, even though he is not a favorite. Mohammad, a small Arabic fourth grader, reported in his email:

Christian was picking on me and he wanted my stuff so he book checked me. Carlos walked up and grabbed him. He's a really big dude! And he pushed him and made him stop pushing me. I was really surprised, but he made him stop and said I had better get my butt out of there. We're both in the program and he said he had my back. What do you think?????? (January, 2005)

Mohammad's protector was a very large Hispanic student in the same homeroom and also a member of Kid Vid. They normally did not associate with each other, and their reactions to each other were very unexpected but welcome. Again, Mohammad's communication simply relayed information: he reported the incident without giving any real clue as to what he thought. I replied to him by email and asked him if I should say something to either Carlos or Christian. Mohammad responded that everything was okay and they had handled it themselves.

Sometimes students just email me to share their feelings. Barbara was a concern because of her "punk" appearance and writings about feeling disconnected. She wrote about suicide, which really made me worry. She emails when she feels stressed or upset. In response to my question about whether she wanted to meet with the school counselor, she wrote:

I really like using email because I can say what I want (unless you lose it) and I know that I am not looking at you, but you see inside me anyway. She doesn't know me like you do and I don't think she will help. Sometimes I just feel sad and alone and lonely. I like it that you write back and tell me what you think. (January, 2005)

I will lose her as a student next year, but I plan to keep the lines of communication open.

As the program wound down, the students' skills in using the email system and trusting this communication tool increased in frequency and personalization. My students wrote me to evaluate their experiences, discuss the program, and plan for the future. Their responses were similar, but positive. For example, Angel wrote:

hello mrs martinez, I love the fact that I helped make the kidvid website and more important I got to be a part of kidvid. I loved it here the hours, the teacher, and most importantly the things we did. I would appreciate it if you would let me be in kid vid next year. Over all I enjoyed being a member of the kids vid organization. Let's go get the library next (April, 2005)

A long time participant, Sharon, emailed me:

I really loved Kid Vid this year! It was a lot of fun! I really didn't mind getting up in the morning, but it did have some getting used to. But all in all I really enjoyed the Kid Vid experience. (May, 2005)

Marzena, a first year participant wrote to me:

KidVid was a great experience to me. I meet new people and got to experience and learn more about computers. I loved kidvid, everyday I would wake up around 7 and jump out of bed and get to mrs. Martinez's class for kidvid. I think they should keep having kidvid every year. Mrs. Martinez is very nice, sometimes she may get mad, but mostly she's a kool teacher. And as I graduate I will miss this dass, and I wish I coulod do this next year. Bur sadly I must graduate, and move on. (May, 2005)

Samantha's message was moving and impactful:

kidvid has improved my sister, who never liked to be on the computers scared that she might get a virus on the coputer she uses. Now she comes in the copmputer class knowing what to do. She is the "helper" in computer class. She comes home gets on the computer and plays games and is interested in learning how to type better and faster. I feel so happy that she is learning more and more about computers beaccause it will be needed for everyday uses. (May, 2005)

I chose to transcribe these responses because these students gave me their permission and they were representative of the group. They all expressed positive sentiments about the activities they had engaged in, the fact that they had been selected, and their

engagement in technologically robust learning activities. They are already planning for future activities that they feel are a natural outgrowth of their work together.

Observation Checklists

Every other week, for ten of the twenty weeks of this program, I formally observed my students. Since this was an on-going project, I only selected days when they had specific tasks that needed to be completed. They set the meeting days and times, and participants were asked to meet in their groups. I chose a ten minute period during the one hour meeting time and observed what each student was doing. I then compiled the data by grade level and sex.

Observed Behavior	Males	Females		3rd	4th	5th	6th	7th	8th
Working on materials for TECH 2005	30%	41%		14%	19%	47%	24%	59%	64%
Playing games	50%	12%		50%	63%	34%	21%	11%	4%
Sitting, talking	12%	23%		19%	14%	11%	41%	11%	8%
Doing homework	8%	34%		17%	4%	8%	14%	19%	24%

Using ten observations, I believe I captured representative results. The females were more engaged in behaviors that were school related. They were chosen to be heads of the committees and were more engaged in the activities for TECH 2005. The males, who were predominantly in the fourth and fifth grades, tended to play games on line. It was interesting that the females were much less apt to play games on the computers than the males - national studies concur with this finding. The girls voluntarily worked on the typing program to improve their skills while the boys would not do so even if coerced. Girls were also inclined to use our meeting time to do homework after getting help or support from other members of the group. Many were also volleyball players and had many evening games and practices which might have accounted for not completing their homework prior to coming to school in the morning. Generally, the older students were more on task than the younger students.

One exception was the group of sixth grade girls who became heavily involved with a faster group of boys and whose behavior deteriorated throughout the year. We brought their parents in to school, but the parents did not believe that our concerns were a problem. As the year ended, two of these girls' IOWA scores dropped forty-two percentile points each and they were sent to summer school. These are the only two whose behavior and effort were not acceptable, and on whom I was not able to make a positive impact.

Interviews with Teachers and Progress Reports

I gathered academic and behavioral information on my students from previous years through their cumulative record cards. I kept track of attendance, achievement, effort, behaviors and scoring for all thirty students who ended the year as part of the Kid Vid program, and worked with the school counselor to monitor school-wide trends. These thirty students were housed in two different facilities, but I managed to meet with all of their instructors at least bi-weekly. We discussed their classroom behaviors, attendance, academic efforts, general events in their lives, and their overall performances as learners, as defined by their content area instructors. All of the team members, except one, maintained acceptable grades, and many reported having better grades than in the previous year. Slightly more than half joined the group for the first time, so the expectations and demands on them were new. All but three had report cards that were the same or better than last year, and there were fewer discipline referrals, as evidenced by their records. Three self-reported that their teachers have complimented them on making behavioral improvements.

My interviews with the teachers supported the students' verbal and written observations. Their teachers, for the most part were anxious to use me and the program as a means of threatening or coercing better behavior, especially at the fifth and sixth grade levels. The students knew that I spoke with their teachers at least weekly, and they were always anxious to get a report on our conversations.

I had a number of conferences with the group of girls previously mentioned for behavior and attitude problems, as well as academic difficulties. I also held a conference with a student failing to keep up in class: this breakdown was actually caused by issues at home that distracted him. We established a strategy for him to make up past assignments and the familial problems were referred to the school social worker for further assistance. Unfortunately, he failed a class (French) at the marking period and his parents removed him from the team for the fourth marking period as punishment. His behavior, attitude, and work habits have gone downhill since then and I am very worried about where he is headed as a learner. He has withdrawn from us all and has created a new group of friends. As detailed here, my team is not perfect, but the middle grade boys in particular have shown marked improvement in their grades, behavior and attendance. They have over 97% attendance in this before school program and greater than 96% attendance overall. This is 22% higher than any other extended day program, and their daily attendance is 3% higher than the school average.

	Better than Last Year	Worse than Last Year	Same as Last Year	Schoolwide Trends Info
Daily attendance	16	2	12	Decreased slightly
Report Card Grades	13	3	14	Decreased slightly
Iowa Test Scores	24	5	1	Decreased slightly
Behavior/Discipline	16	3	11	Increased slightly
Student Progress Reports	15	4	11	Increased slightly

On-line Student Open-Ended Survey

In an on-line survey, the students were asked to respond to open ended questions. I wanted to discover what they felt they had learned as opposed to what I had observed or had been told by others. A sixth grade male, Angel, reported, “We must work as a family and help each other out any way we can.” I found this most interesting since he has a long history of being a loner and exhibited disruptive behaviors in class. The boys in our school have had fewer productive outlets for their energy because of budget

deficits and programmatic cuts, and they are becoming more destructive as a result. Yet, as a member of the team, Angel has been especially good at working in groups with the really hyperactive fourth and fifth grade boys on the team.

Below is a summary of the student responses.

Survey Question	Positive Response	Neutral/Not Sure Response	"Nothing" Response
What do you think you have learned as part of Kid Vid this year?	19	0	1
What would you like to know or do that we haven't done this year?	13	2	5
What, if anything, are you still confused or unsure about?	5	1	14
What was the best thing about having your own web page?	20	0	0
How do YOU think you are getting along with your teachers?	20	0	0
What do you think is the most important skill that we should teach the adults when we begin our classes with them?	19	0	1

Students reflected that they have learned about responsibility as a result of participating in this process and they "have to give respect to get respect". Joanna remarked: "Nothing is ever as easy as it seemed when we started." She was one of the leaders of the writing groups and was charged with trying to get the information she needed from each of team. She was frustrated with having so many members and an increased number of students who were first year participants. As a fourth year participant, she was well aware of what needed to be done before we met with the legislators. In the past she had been a member of various committees: this year she was the overall project coordinator. As a learner, she is extremely goal oriented, and has a difficult time making allowances for others who are not as committed. The excellence of the end product is most important to her.

Universally, the students reported that their web pages were their favorite activity. Under the activities page of the school website, each team member designed their own web page. This was something they wanted to do as a reward for all of their hard work and extra hours spent on this project each week. They created a template that each followed – to be fair – but they individualized them with graphics, backgrounds, and clip art. Samantha’s observation about her pride was that “I got to design it.” Stephanie wrote (in all capital letters for emphasis), “THAT PEOPLE KNOW IM IN KID VID AND THINK IT IS COOL”. “This way I feel that people trust me. I am also more responsible,” was the way Erica characterized web page ownership. Many indicated that they brag about having their own page and I find them showing their classmates their pages as we work on the Internet in class. Angel summed it up by writing, “MY OWN WEB PAGE!! What’s mot (sic) to like”. They frequently update their pages when they find another background or animation that they like. We use Dreamweaver to design our pages, which has a high learning curve, but the students were willing to put in the time and effort to learn to manipulate the various features of the software.

Journaling

I also **journalled** at least three times a week to monitor my own questions, reactions and behaviors. As I review my writings, I note they often are centered on specific groups of students and how they interact with each other. In mid-December, I wrote:

The fourth and fifth grade boys are making me crazy. Everyone else is working on the questions and the curriculum and posturing about who will be in what group. Mohammad has just joined the program (because his parent goes to work early and they need a place where he would be safe in the morning) and he has just made Cartoon Network his destination every day. I really don’t think I want them playing around on the Internet, but they are at least not running around and making everyone else crazy. Each of these guys just sits down by himself and plays the available games. They do exactly what they are asked (forced) to do and no more. Is this what I can expect from them? Is it a matter of their sex and immaturity (what a sexist observation!) or the fact that the girls “push” them out because they don’t do things up to their

specifications, or because they just don't get it? I'm not sure what to do – step in and force the issue or just let them come into the process naturally? (December 13, 2004)

However, by March, the entire group of boys who were problematic had worked out their own arrangements for the time they were in class, and worked cooperatively with each other. They were not engaged in the larger project, but they challenged each other on topics of their own choice.

They are still not fully engaged in the process of gathering and disseminating the information on technology usage, but work pretty willingly when approached with the various tasks to be done. They have stopped choking each other and generally roughhousing around, but they are still reluctant - resistant- to work on the handouts. I do find it interesting that they are the most vocal about not including in the credits anyone who is not still attending regularly. They say that they show up every day and are ready to help if asked, and so should anyone else who wants to be included. I find it interesting that they feel they are contributing just because they are here. What does that say about their commitments and how they view work in general? Is it okay just to show up and be available as opposed to actually being engaged in the designated activities? Is it okay just to be there? I always tell them that 70% of life is just showing up, but perhaps they have taken it a little too much to heart. Maybe I am sending them a very faulty message? Then again, perhaps they are just not ready to engage in this type of activity. They are working cooperatively – not choking or smacking each other around, and that is a great improvement. They are working on the computers in a “responsible” way, and that is also an improvement. Am I diminishing my standards and expectations just to get along? God, I hope that's not the case... There is so much of that, and I certainly don't want to be part of that problem... (March 17, 2005)

Unexpected Difficulties

The Kid Vid students have met obstacles from within our school that we had not anticipated. Some teachers were very resistant to having a web page that outlined their philosophy of education and their email addresses. Others refused to help with

translations of web pages because they did not have the time. We did not anticipate the skepticism of the selection committee from the state board of education about the possibility of students successfully undertaking this venture. Our school will become a year round school with the start of the next fiscal year, so these students will not even attend classes at the same time, which has caused much concern. They want to know if the demonstration team will continue next year, and I cannot ensure that it will. The school system faces a shortfall of more than one hundred seventy five million dollars, and extended day programs that are not strictly remedial are usually the first to be eliminated. This program is in jeopardy even though the students have shown growth and development in social responsibility as well as their technological and academic skills.

Summary of Findings

The students on the demonstration team have considered the problem of connectivity in our school community, embarked on a plan of action, and have learned to work cooperatively towards that goal. While most of the literature refers to student/researchers at the high school level, these are relatively young children. They are in third through eighth grade, yet they believe that they can make a difference. Students in this select group learned to work cooperatively towards a common goal, with students of varying ages, ethnic backgrounds and experiences. The various measures that I used indicate that participants achieved grades that were better than in previous years, and returning Kid Vid students maintained academic excellence. All students learned to market themselves and their ideas to an adult audience using data that they gathered and analyzed. The three students who journeyed to Springfield as representatives of the group spoke with legislators and enjoyed great success. They were praised for their knowledge, self-confidence, and professionalism as student lobbyists. Their growth as learners and investigators is evidenced by their self-analysis, the objective measures presented, and the observations and verbalizations of the adults with whom they came in contact. The students encountered a number of negative forces throughout their journey, yet they overcame them by either working around them or ignoring them all together.

Kid Vid is an enrichment program intended to provide students with authentic and engaged learning activities. It is technology-based because I believe that the more capable our students are of using current and emerging technologies as a tool, the more successful they will be in future endeavors. This research indicates they feel a sense of empowerment through the determination of the study to be undertaken, control of the process, and ownership of the final product. I have extremely high standards for my students in the areas of behavior, effort, achievement, and engagement in learning activities. I believe that students rise to meet (and often exceed) our expectations. Their sense of social responsibility, empathy, and wonder is both invigorating and humbling.

Where Does Kid Vid Go From Here?

Even after the program ended for the year, the students still appeared each morning to use the computers to do homework, undertake research, and visit with each other. They came in at the end of the day to “check out” a computer to take home even if they really had nothing to do. There are very few games on the computer that are not learning games, but as Juana says, “I can always improve my typing skills.” This is reflected in the survey of what areas the students think they need to improve. They are already planning for next year – what will we do, who will participate, will I take them back, and how soon can we start? Why can’t we meet in the summer to train parents since three tracks will have classes in July and August? I am not scheduled to work until September, but the Kid Vid students want to continue. It was a stretch to get the program funded for this year, and further cutbacks are anticipated for 2005-2006.

The students have decided to take on the Chicago Public Library system next year. Their findings indicate that students heavily use the library when they do not have Internet connectivity at home, yet the library is closed when the students are available to use its facilities. The library is closed on Sunday, in the evenings, and on school holidays. The students intend to share their findings with the library board and the local

politicians to see if they can impact local library policies to benefit the students of Chicago.

Policy Implications

- ✓ Students in the middle grades can effectively participate in engaged learning activities that impact their school community. Programs that provide students with these opportunities should be encouraged and funded.
- ✓ Teachers need to be encouraged to guide students in engaged learning activities since the research indicates that students demonstrate improved academic achievement when engaged in activities that are meaningful to them.
- ✓ Educators should be assisted in developing authentic learning opportunities since this type of learning activity can improve the students' sense of self-worth and social responsibility.
- ✓ Students need to be provided with enrichment opportunities since research indicates they have demonstrated exceptional attendance records.
- ✓ Students have demonstrated that they are capable of being effective lobbyists for causes that concern them and these opportunities should be provided.
- ✓ Policy makes need to recognize that there is a demonstrable digital divide between Hispanics and other ethnic groups, and those gaps should be addressed in this technologically intensive society

Conclusion

When the students and I selected the title for our study, which is also the title of this paper, it referred to the concerns we had about the families in our community not having Internet access at home and how that affected the academic achievement of our students. As I continued my research, the title took on a whole new meaning. Everything in the literature indicates that our students benefit from Internet connectivity, but also through feeling connected to other people. Gangs in our city are rampant, and they are swiftly moving into our community. Schools are providing fewer - and less meaningful opportunities for socially appropriate activities. My students blossomed this year because they felt important, special, and they had a mission and a vision. The

benefits of programs such as mine are that students are given an opportunity to have input on the focus of their own learning. The programs do not have to be technologically based – that was a result of my position as instructional technology teacher – but they do have to guide students in extending their knowledge and understanding. The data indicates that their grades improve, they attend more regularly than their peers, and their behavior improves. They learn to overcome obstacles and to work cooperatively – to connect with adults and their peers.

The connectivity that I believe occurred as a result of this program occurred among children of different ages, sexes, ethnic groups, and learning styles. They learned lessons about caring for the needs of others, marketing their ideas, marketing themselves and their beliefs, and seeking a greater good. These types of activities, hopes, and aspirations are not unique to one school or community. I believe that students learn best by becoming active participants in designing some of their learning opportunities and being rewarded for their efforts. They do not seek monetary compensation, simply acknowledgement of their worth. Programs that achieve results should be made available to our students rather than being eliminated. Statistics have shown that Internet connectivity helps students achieve better and with greater depth, but personal connectivity is also critical to making our students active, lifelong learners. My students had it right in all respects. We must always continue to search for connectivity.