Students, Teachers, and Technology Building Better Schools: Generation www.Y Project Evaluation

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EXECUTIVE SUMMARY

Generation www.Y is a program which uses partnerships between students and teachers to integrate modern computer technologies into the classroom. The program promotes the effective use of educational technology in schools, develops opportunities for student leadership, and fosters a collaborative, learning community atmosphere in schools. Rather than teaching technology skills to teachers and hoping they will use these skills to improve their students' learning, Generation www.Y trains students to form working partnerships with teachers in order to improve teaching and learning in their schools. Students become agents of change, assuming responsibility for helping to improve the educational resources available to themselves and their classmates.

GenY students learn technology skills with an emphasis on applying these skills to a real-world problem: helping teachers use technology to deliver more effective lessons. Students and partner teachers learn how telecommunications tools, the Internet, digital imaging and presentation tools, and other technologies can enhance lesson plans and curriculum units. Many Generation www.Y students and partner teachers also learn about their state academic standards and learning goals, and the process of aligning classroom activities with these goals.

Each GenY student is paired with a partner teacher (or an administrator, librarian, counselor or other educator), who decides what lesson plan, curriculum unit, or other school need will be addressed by a collaborative, technology-enriched curriculum project, which the partner teacher and the GenY student produce together. These projects are then used in the partner teacher's regular classroom, or in the library, administrative offices, etc. Through this model, participating educators receive individualized support as they strengthen their use and integration of new technologies. Students learn technology, communication, collaboration, and project management skills in an authentic, personally meaningful context, and many go on to further extend their skills through advanced school or community service projects.

The program was developed in the Olympia, Washington School District, with a five-year award in 1996 from the U.S. Department of Education's Technology Innovation Challenge Grant program. Numerous state and local grants as well as corporate sponsorships have also supported the development of the instructional model and materials, as well as dissemination of the model to schools outside Olympia. Currently, Generation www.Y classes are operating in over 150 schools nationwide. The program provides a model which can be customized to fit a wide range of grade levels, technology infrastructures, scheduling requirements, interests, and skill levels of participants. In the summer of 2000, the program was awarded "Exemplary" status by the department's Expert Panel on Educational Technology, a distinction given to only two of 134 programs.

Data from the nationwide project indicate that the program can be an effective alternative for schools wishing to integrate technology into their regular curriculum and increase their use of project-based, student-centered learning practices. The model provides individualized support for educators who wish to increase their use of technology without becoming

distracted from the essence of their jobs -- building and delivering effective curriculum units and lesson plans. Generation www.Y achieves this by giving students experience with educational technology, communication skills, and information literacy, then allowing students to act as responsible partners with their teachers in building new curriculum materials and new teaching and learning practices.

This evaluation report covers the final year of U.S. Department of Education support for the project. New data from the 2000-01 school year are presented, from 95 schools that participated in the fully implemented Generation www.Y model, including online surveys and online documentation of the collaborative projects developed at each school by teams of Generation www.Y students and partner teachers. Many of these curriculum projects were archived on the Generation www.Y Web site, and many include alignment with the Washington Essential Academic Learning Requirements or other state standards for educational reform.

Six schools were selected as case study sites for supplemental interviews, surveys, and observations. Also presented are data from a series of interviews and observations with Generation www.Y teachers who have delivered the technology integration model over the course of several years, and who provide insight into the evolution of the model and the long term impact of the program in their schools. The report also contains a statistical comparison of professional development gains in a sample of Generation www.Y partner teachers and their colleagues who did not participate in the program.

Participating teachers and students report that their involvement in Generation www.Y afforded them an excellent opportunity to improve their basic technology skills, and to develop more advanced abilities to integrate technology in standards-based lessons, projects and curriculum units. Both teachers and students report that they gained meaningful, authentic experience developing skills in technology use, collaboration, project management, and information literacy, while contributing to the improvement of their schools. Most found the Generation www.Y model to be an effective professional development strategy for teachers, as well as an effective approach to increasing student engagement, student learning, and student leadership.

Useful information regarding facilitating conditions, challenges, and keys to success emerged from this study, which should be provided to schools interested in implementing Generation www.Y. This information can help schools determine if the program is a good match for their needs, and help them prepare and develop a successful Generation www.Y program. A number of other challenges, policy issues and recommendations are also highlighted in the report.

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PROJECT OVERVIEW

Generation www.Y is a program which uses partnerships between students and teachers to integrate modern computer technologies into the classroom. The program promotes the effective use of educational technology in schools, develops opportunities for student leadership, and fosters a collaborative, learning community atmosphere in schools. Rather than teaching technology skills to teachers and hoping they will use these skills to improve their students' learning, Generation www.Y trains students to form working partnerships with teachers in order to improve teaching and learning in their schools. Students become agents of change, assuming responsibility for helping to improve the educational resources available to themselves and their classmates.

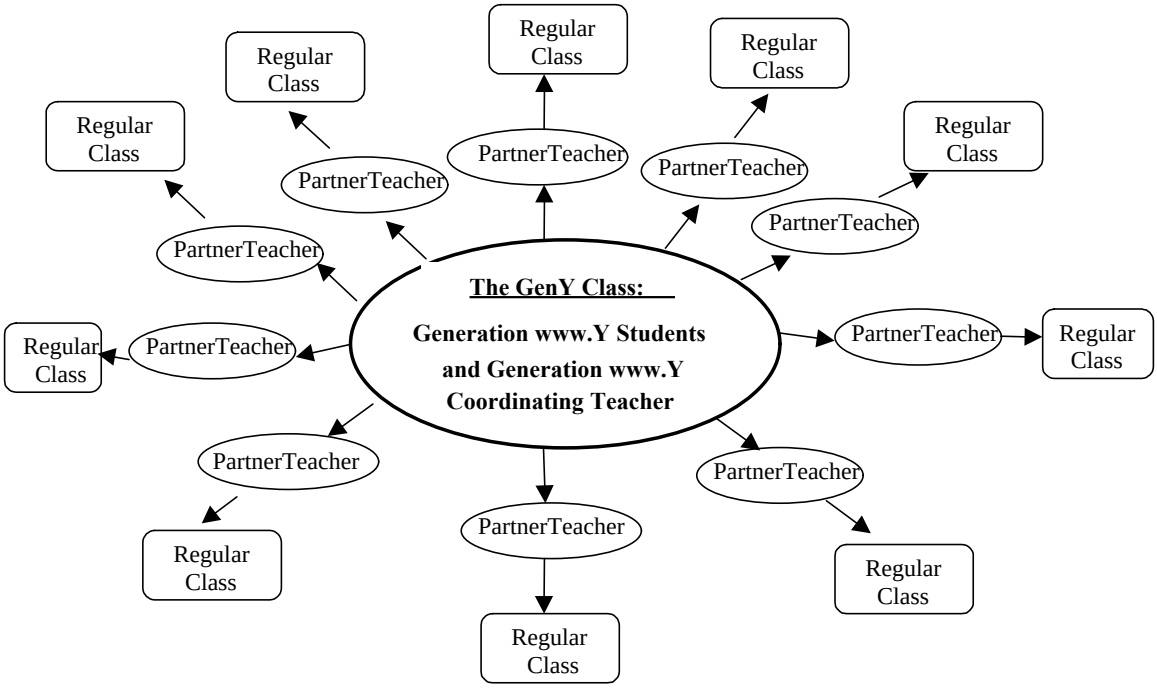
The Generation www.Y class is offered as an 18-week class in secondary schools or as a 30-week elementary school class. GenY students learn technology skills with an emphasis on applying these skills to a real-world problem: helping teachers use technology to deliver more effective lessons. Students and partner teachers learn how telecommunications tools, the Internet, digital imaging and presentation tools, and other technologies can enhance lesson plans and curriculum units. Many Generation www.Y students and partner teachers also learn about their state academic standards and learning goals, and the process of aligning classroom activities with these goals.

Each GenY student is paired with a partner teacher (or an administrator, librarian, counselor or other educator), who decides what lesson plan, curriculum unit, or other school need will be addressed by a collaborative, technology-enriched curriculum project, which the partner teacher and the GenY student produce together. These projects are then used in the partner teacher's regular classroom, or in the library, administrative offices, etc. Through this model, participating educators receive individualized support as they strengthen their use and integration of new technologies. Students learn technology, communication, collaboration, and project management skills in an authentic, personally meaningful context, and many go on to further extend their skills through advanced school or community service projects. Generation www.Y graduates, sometimes called "Gen-Dids," may go on to participate in a variety of structured opportunities in their schools or communities; see the section on "Extensions of the Generation www.Y Model."

The program was developed in the Olympia, Washington School District, with a five-year award in 1996 from the U.S. Department of Education's Technology Innovation Challenge Grant program. Numerous state and local grants as well as corporate sponsorships have also supported the development of the instructional model and materials, as well as dissemination of the model to schools outside Olympia. Currently, Generation www.Y classes are operating in over 150 schools nationwide. The program provides a model which can be customized to fit a wide range of grade levels, technology infrastructures, scheduling requirements, interests, and skill levels of participants. In the summer of 2000, the program was awarded "Exemplary" status by the department's Expert Panel on Educational Technology, a distinction given to only two of 134 programs.

For those unfamiliar with the program, the term “partner-teacher” is used throughout this report to refer to the classroom teachers who are each paired with a Generation www.Y student. These teams collaborate in the production and delivery of a lesson plan or unit, using modern telecommunications technology, to the teacher’s class. The term “Generation www.Y teacher” or “Generation www.Y coordinating teacher” refers to the teacher who works with all Generation www.Y students in a school as they work through the course; the GenY teacher also helps coordinate the relationships between the Generation www.Y students and their partner teachers, and facilitates the process of developing the collaborative projects. The core of the model is the Generation www.Y class and the collaborative projects which GenY students and their partner teachers produce for students in the partner teachers' class, as depicted in figure 1.

Figure 1. The Generation www.Y Class



The Northwest Regional Educational Laboratory (NWREL) was contracted in 1996 to provide an independent external evaluation of the project, and has continued in this role to the present. During the first two years of the project, evaluation services were provided by Dr. James Pollard and Ms. Gwen Hyatt. In September, 1998, the project evaluation was placed under the direction of Dr. Michael Coe.

Data from the nationwide project indicate that the program can be an effective alternative for schools wishing to integrate technology into their regular curriculum and increase their use of project-based, student-centered learning practices. The model provides individualized support for educators who wish to increase their use of technology without becoming distracted from the essence of their jobs -- building and delivering effective curriculum units and lesson plans. Generation www.Y achieves this by giving students experience with educational technology, communication skills, and information literacy, then allowing students to act as responsible partners with their teachers in building new curriculum materials and new teaching and learning practices.

During the first two and a half years of the project, the instructional model and associated curriculum materials, training methods and support systems underwent initial development and a succession of revisions. These efforts culminated in the formal publication of curriculum materials in early 1999 by the International Society for Technology in Education (ISTE). By the spring of 1999 the basic structure of the model was stabilized and the program was being adopted by dozens of schools across the country. The model has been widely replicated, and a new revision of the print and electronic curriculum materials was completed during summer of 2001.

Fully participating schools are provided with the following:

- A training workshop for the Generation www.Y teacher(s) and selected students
- Course materials, including curriculum guides, student workbooks, videos, CDs, etc.
- Access to online resources and consultants for the development of student projects
- Access to the searchable database of previous student projects

The program includes a series of online surveys and online project documentation facilities for Generation www.Y teachers, Generation www.Y students, and the Partner Teachers who work with the Generation www.Y students. New data from the 2000-01 school year are presented in this report, from 95 schools that participated in the fully implemented Generation www.Y model, including online surveys and online documentation of the collaborative projects developed at each school by teams of Generation www.Y students and partner teachers. Many of these curriculum projects were archived on the Generation www.Y Web site, and many include alignment with the Washington Essential Academic Learning Requirements or other state standards for educational reform.

Six schools were selected as case study sites for supplemental interviews, surveys, and observations. Also presented is data from a series of interviews and observations with Generation www.Y teachers who have delivered the technology integration model over the course of several years, and who provide insight into the evolution of the model and the long term impact of the program in their schools. The report also contains a statistical comparison of professional development gains in a sample of Generation www.Y partner teachers and their colleagues who did not participate in the program.

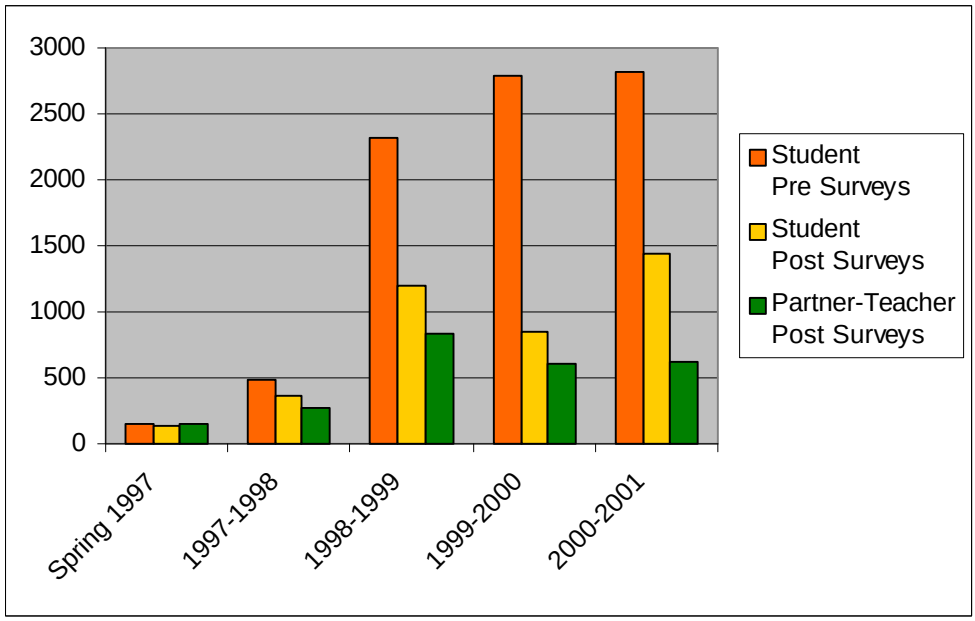
PARTICIPANTS

The Generation www.Y project has produced a model for the infusion of computing and telecommunications technology into schools. This model is designed to be widely applicable to the particular needs of individual schools. The curriculum materials and online resources can be used from upper elementary through 12th grade, and can be adapted for use with a wide range of hardware and software resources, as well as a wide range of student and teacher interests, ability levels, and special needs.

This section provides some demographic information about participants who returned their Generation www.Y surveys. Although the model is designed so that each Generation www.Y student is paired with a single partner teacher, some partner teachers elect to work with more than one Generation www.Y student. In addition, some Generation www.Y students work with administrators, school staff, or district staff. The number of partner-teachers is thus lower than the number of Generation www.Y students.

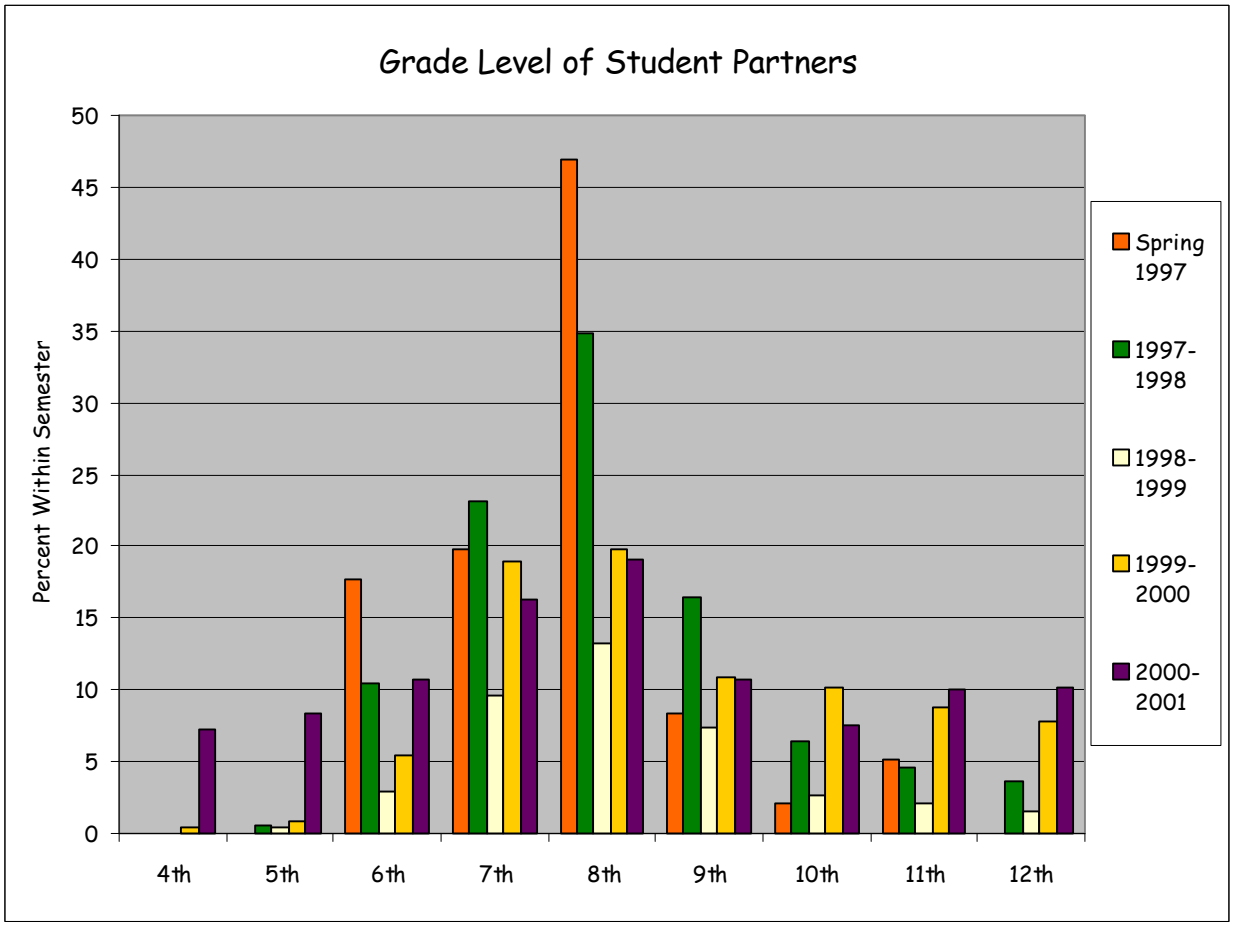
During the 1999-2000 year, a new surveying system was designed and fully integrated into the new online database system for tracking Generation www.Y classes and collaborative projects. This system was placed online in August 2000; some debugging and troubleshooting continued through the year. At present, all students and partner teachers who fully participate in the online components of Generation www.Y also participate in the integrated system of surveys and project documentation. Figure 2 displays the number of surveys returned over the five years of the project.

Figure 2. Students and Partner Teachers Who Responded to Project Surveys, 1997 – 2001



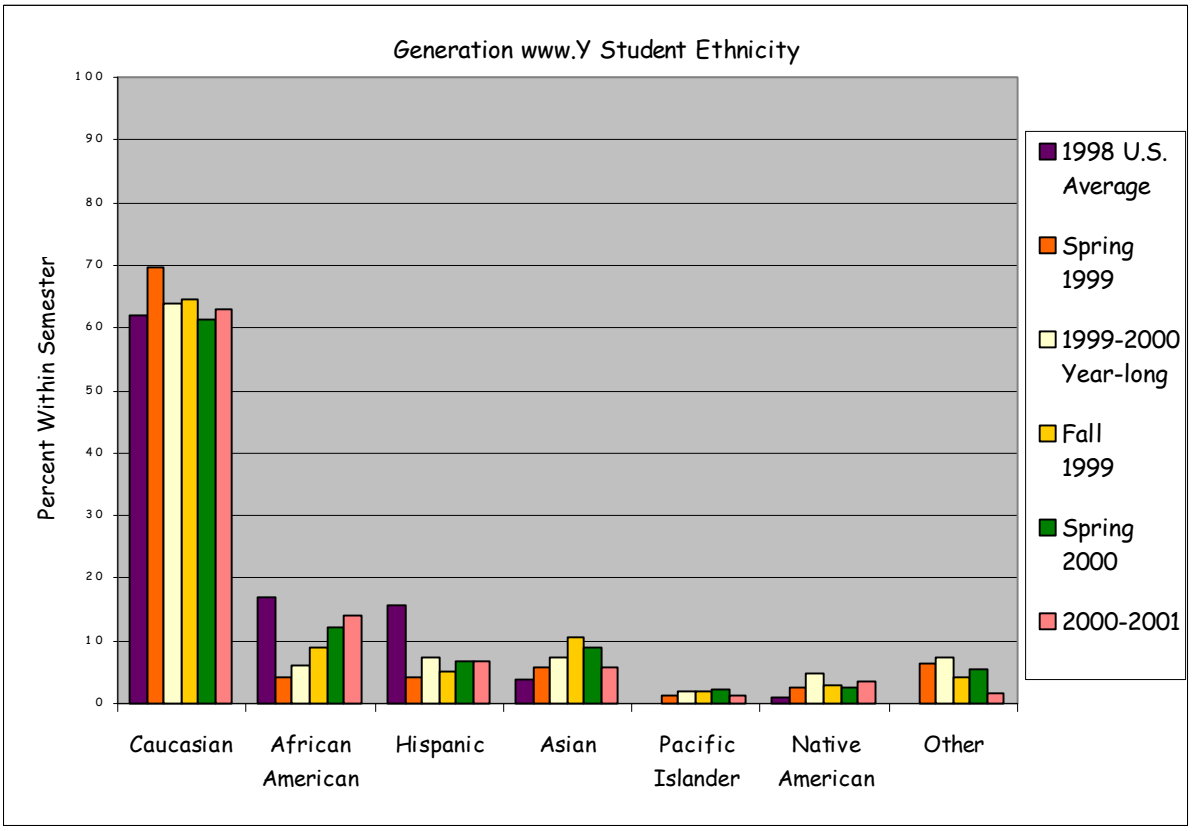
The Generation www.Y course has been taught in upper elementary grades through 12th grade. Generation www.Y classes have been most frequently delivered in middle schools, although high school and elementary classes have gradually become more widespread. The distribution of student grade levels among students who returned preliminary surveys is displayed in Figure 3.

Figure 3. Grade Level of Generation www.Y Students, 1997 -- 2001



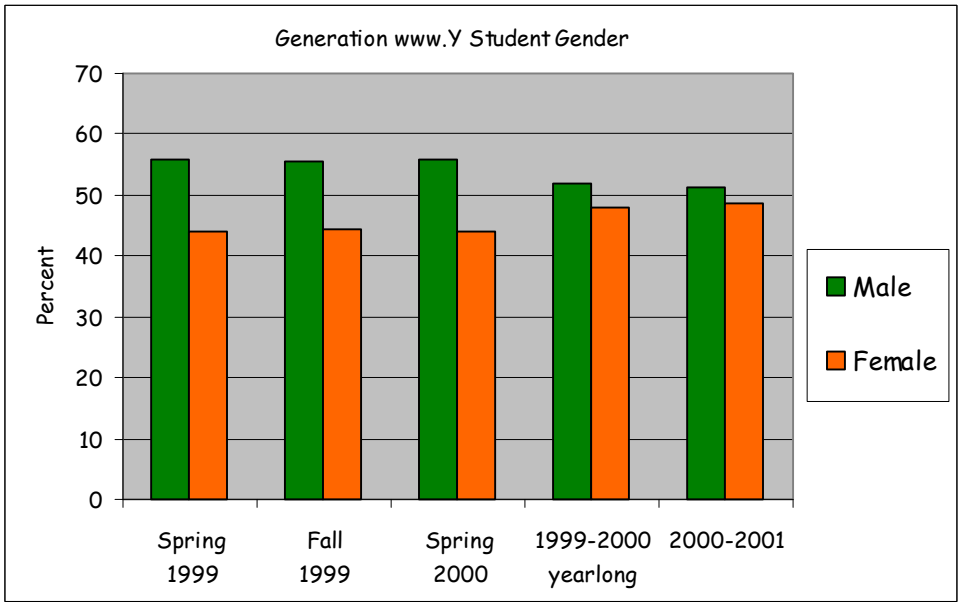
Student participants in Generation www.Y classes closely match the ethnic profile of the general student population. Figure 4 shows percentages of student ethnicity in comparison to the United States school population figures reported in the National Center for Educational Statistics Common Core of Data for 1998. During early years of the project, Hispanic and African American percentages were somewhat lower than the national averages, and Asian and Native American percentages somewhat higher than the national averages, as would be expected for a sample weighted toward the Pacific Northwest. The distribution has shifted more toward the national student population distribution as the program has become popular nationwide, although the relative number of Hispanic student participants is still somewhat lower than expected.

Figure 4. Ethnicity of Generation www.Y Students, 1999 -- 2001



Many schools make a concerted effort to insure that girls are not under-represented in Generation www.Y classes. This is reflected in the nearly equal numbers of boys and girls in the survey group, shown in Figure 5.

Figure 5. Gender of Generation www.Y Students, 1999 -- 2001



SURVEY FINDINGS

Implementation

In order to successfully complete the course, students must find a way to enhance their school or community in partnership with a teacher, staff member, or school administrator. Students were required to satisfactorily complete classroom activities and curriculum units in the following technical skill areas:

- Electronic Mail
- Netiquette, Copyright, and Citing Internet Resources
- Researching on the Internet
- Digital Imagery
- Publishing on the Web
- Forums, Newsgroups, and Mailing Lists
- Presentation Tools
- Real-Time Communications

In addition, students complete four curriculum units covering an overview of the GenY collaborative model, the collaboration process, project planning, and project documentation.

The central theme of the course is the application of these technical skills to an authentic, real-world problem: assisting teachers in building new or improved lesson plans and/or curriculum units, which include well-integrated uses of modern technologies, and which address their statewide learning goals or academic standards. Each student is required to plan and deliver a project, in collaboration with an adult educator, addressing a particular unit of study in one of the content disciplines. Alternatively, some students build projects in collaboration with a school counselor, staff member, or administrator, addressing other needs in the school or community.

Table 1 summarizes the course units and activities used by the Generation www.Y teachers who completed evaluation surveys at the close of the 2000-2001 school year. The data is reported by class, and some schools held more than one class during the year. A majority of classes did not include the units on Real-Time Communications and Forums, Newsgroups, and Mailing Lists. About three quarters of the classes were full implementations of the Generation www.Y model, including partnerships with teachers and collaborative projects. Half of the classes included a public forum for demonstrating the collaborative projects to the school community at large, parents, etc.

Table 1
Course Units and Activities Used in Participating Classes

Generation www.Y Curriculum Unit or Activity	Percentage of Classes Using Unit or Activity [of 121 reporting]
Unit 1: Introduction	74 %
Unit 2: Electronic Mail	84
Unit 3: Netiquette, Copyright, and Citing Internet Resources	84
Unit 4: Researching on the Internet	86
Unit 5: The Collaboration Process	79
Unit 6: Digital Imagery	81
Unit 7: Project Planning	86
Unit 8: Publishing on the Web	52
Unit 9: Forums, Newsgroups, and Mailing Lists	16
Unit 10: Presentation Tools	78
Unit 11: Real-Time Communications	19
Unit 12: Writing the Project Final Report	75
Partnerships with Partner Teachers	83
Collaborative Curriculum Development Projects	72
Online Consultation for Project Proposals	56
Online Documentation of Final Project Outcomes	64
Online Surveys of Students and Partner Teachers	74
Project Show and Tell or other project demonstration forum	50
Student Workbooks	60

Strategies for selecting GenY students and matching them effectively with partner teachers are important variables in the implementation of the program. Students with existing skills in using technology, and who are otherwise advanced in their abilities to tackle complex, independent projects, may be more effective at helping partner teachers rebuild curriculum units or lesson plans to integrate technology. However, the Generation www.Y course experience may also be considered a valuable experience for students, regardless of their individual effectiveness at helping teachers or administrators with school improvement and technology integration efforts. These considerations are somewhat conflicting, and schools may strive to satisfy either or both constraints. Currently, the Generation www.Y curriculum materials and training leave these decisions entirely to school administrators and teachers.

During the 2000-2001 school year, teachers used a variety of methods to recruit or select students who participated in the Generation www.Y class. A sample of these strategies are reported verbatim in Table 2, to illustrate the variety of approaches taken at participating schools. Three broad types of selection strategies are apparent:

1. Assignment to the course by school administrators with no student self-determination
2. Invitations given to all students, then self-selection by student and/or parent interest
3. Teacher recruitment of students

The first method includes random selection, assignment of entire grade levels, etc. The latter two methods often were combined, along with attempts to screen students for computer skills and interest, availability for extracurricular scheduling of activities, maturity, initiative, responsibility, or other characteristics that were considered important so that students would follow through and complete collaborative projects that would truly be useful to their partner teachers. Other schools specifically avoided such a screening method, in the interest of giving all students access to the experience. A number of schools used equity considerations in their selection process, striving to stratify the class according to gender, ethnicity, or other factors, with or without additional screening or selection techniques.

Table 2
Methods for Recruiting or Selecting Generation www.Y Students

All eligible students are invited to participate; some students are given specific invitations at teachers' requests. An application must be made which includes a brief questionnaire about skills/background, and at least two teachers are required to sign that a student is qualified academically to participate.
Half the class consisted of 8th graders selected by various teachers in the building. We looked for the tech savvy students. The other half was recruited from the 6th grade at our feeder elementary schools. I asked for feedback from 6th grade teachers as to who would be good candidates. I selected a couple of students from each of those schools for the class.
We have a very popular and successful Gen www.Y program. We have more students interested than can be accommodated in the class, so we use a lottery system. We are careful to balance by gender and grade level. I hold an evening meeting to introduce and explain the program to parents.
Students were selected from grades 6-8 with attention to sex and race. Because our school is under a federal consent decree, we must satisfy these criteria and the class was balanced that way.
Students self-select the class -- a technology-based elective. There are no minimum entry requirements.
They just had me use the smallest class I had.
The counselors randomly selected students. There are no special criteria necessary to get into this class.
Students did not have a choice on taking this class. All the 8th grade students participated.
Students were selected by myself and the intermediate teachers. Since we are in a "bus dependent" rural school, I needed to select students that could get to school before the regular buses. That was the only special criteria for selection. I asked for students that were independent and interested in working with computers.
Students were selected by lottery adjusted for gender and grade level equity.
I invited certain students from 4th through 6th grades to join. I chose students whom I felt would be successful and also several whom I felt needed to feel a part of a group like this one.
Teacher recommendations and then counselor, principal recommendations and then the students finally selected had to complete a computer skills task for me.
They applied by writing an essay about why they wanted to be part of this group. Parents had to attend an info meeting and sign an application agreeing to get their students to a zero hour class regularly all year..
Each student filled out an application and completed an essay about why they should be considered for Gen Y.
Students were recruited by teacher suggestion. It was helpful to find out which teachers were interested in the program first. Then we tried to select capable and interested students in those teachers' rooms.
Notes were sent home to all 4-6 grade students announcing a parent meeting. Parents heard of the commitment involved, length of program, and plans. We took all those students whose parents signed the agreement.
They volunteered. We had more than we could take, so the first round was limited to twenty 7th and 8th graders that were chosen by lottery.
Each of our three 4th grade teachers nominated four students to be in the class. Some were chosen for leadership; others because teachers thought it would be good for them.
Students were selected based on applications they completed They were asked about meeting deadlines, working on lengthy projects, etc. Students listed teachers who might recommend them for such a course. Based on their responses on the application and teacher input, we created the Gen Y class.
Students were asked to apply for the class by filling out an application with questions about technology awareness, time commitments, and why they wanted to participate. Information about Gen Y was sent home with students who expressed interest. Teachers then made recommendations from the applications returned.
The students in the class were recruited from the programming class I taught the semester before.
Students were selected in grades 6, 7, and 8. Selection was balanced according to race and gender.
This is part of the Honors Computer Course. Students tested into the class with basic computer knowledge. They still had to complete a segment of the regular Computer Applications curriculum.
Seventh and eighth graders who did not choose any elective were put into the Generation Y class.
We allow anyone who wants to sign up to do so because we feel everyone can contribute in some way, no matter what their level of technology knowledge.

The Generation www.Y model is designed so that each student collaborates with a teacher or administrator (usually in their school but sometimes in another school or district office) to complete a collaborative project. These are usually units or lessons for a teacher's regular classroom, but may include a variety of other projects that build the capacity of the school or community to improve, by leveraging digital resources and student engagement. In some cases pairs or teams of students may work together on single or multiple projects. Table 3 gives average numbers of students and projects reported by participating schools. Class sizes ranged from two to fifty-four students, and most students completed and delivered collaborative projects with their partner teachers.

Table 3
Average Numbers of Generation www.Y Students and Collaborative Projects Reported by WA TLCF Schools

Generation www.Y Teacher Survey Question	Mean (SD)
How many students completed your GenY class?	13.5 (8.8)
How many collaborative projects were begun by your students?	11.7 (7.6)
How many projects were delivered to a partner teacher's class?	8.8 (7.6)
How may projects weren't delivered to a partner teacher's class but will likely be delivered later?	3.7 (3.0)

Delivering the Generation www.Y course can be a very challenging experience, requiring GenY teachers to facilitate the development of student technology skills, and also requiring them to foster relationships and projects with other faculty and staff throughout the school building and throughout the daily schedule of school activities. Teachers were asked about the difficulty of implementing the Generation www.Y model for collaborative projects. Table 4 displays their responses; over half of the Generation www.Y teachers found this an "easy" or "OK" task, though a substantial number had difficulties, and predictably it was sometimes difficult to nurture and manage numerous relationships and projects around the school with diverse and dispersed teams of students and teachers.

Table 4
Difficulty of Managing Collaborative Partnerships and Projects

	Very Difficult	Difficult	OK	Easy	Very Easy
How difficult was it to find partner teachers interested in participating?	11.1%	17.1	34.2	22.2	15.4
How difficult was it to make good matches between those teachers and your Generation www.Y students?	4.3	12.0	47.9	28.2	7.7
How difficult was it to nurture and manage the working partnerships between your GenY students and their partner teachers?	12.8	25.6	41.0	16.2	4.3
How difficult was it to adjust the class for students and partner teachers with varying levels of expertise with computers?	6.0	13.7	47.9	27.4	5.1

Note. N = 117; figures in table are percentages.

Teachers were asked about particular difficulties or problems they encountered. A sample of responses, slightly edited for clarity and anonymity, are presented in Table 5. The primary difficulty encountered was related to time and scheduling constraints (for both the Generation www.Y teacher and partner teachers). Another group of teachers noted difficulties in orienting potential partner teachers to the Generation www.Y model and the role and responsibilities of partner teachers in the model. This was a particular difficulty for first-time Generation www.Y teachers; a common comment is that the program becomes much easier to deliver the second or third time the class is held, partly because other teachers in the school have learned how to participate. A significant number of teachers had infrastructure problems which are not noted in the table (Internet access problems, shortage of hardware or software, restrictive network privilege policies, etc.)

Teachers were also asked to describe noteworthy success stories or positive outcomes. A sample of responses, slightly edited for clarity and anonymity, are presented in Table 6. Common themes in their responses include meaningful, useful projects that teachers use in classroom work with other students, increased affective and motivational outcomes (confidence, engagement with learning, enthusiasm for school and work) and increased experience with authentic project work (meaningful and useful projects, life skills, work skills, teamwork).

Participating Generation www.Y teachers were asked to describe noteworthy lessons they learned about kids and teaching. A sample of responses, slightly edited for clarity and anonymity, are presented in Table 7. Common themes in their responses include praise for the student-centered Generation www.Y curriculum model and high student engagement, motivation and responsibility resulting both from the model and from technology integration in their schools.

Table 5
Difficulties or Problems Encountered

Students and teachers had a very hard time meeting and setting times for meetings.
It was difficult to recruit students this semester due to schedules and student interests. Partner teacher expectations of projects aren't always realistic given student abilities.
We learned the hard way at our middle school. It was not effective to use "at risk" students the first time I taught the Gen Y class. These students came with virtually no skills and our class progressed at too slowly a pace. It was impossible to cover the material in 18 weeks under these circumstances.
It is hard to find time for both the students and teacher to get together during the school day.
Our teachers are very busy and a lot of pressure is put on them to score well on standardized tests and our district promotion policy.
Many of the partner teachers were unwilling to spend extra time with the students in order to work on the project.
This program was new to our school so the teachers did not know what to expect. Many did not understand the concept at first or lacked technology skills to be able to understand the uses for Web pages, presentations, etc.
I feel that one of my most difficult problems was getting partner teachers to take an active role in their students' work. If I didn't arrange for student and teacher to meet - they didn't.
Teachers need to be fully on board with the aspects of being a partner teacher. If the support is not available then the students are left without a project.
It was very difficult to get the partner teachers time to work with the students. Teachers are overloaded and have very little extra time to devote to a project such as this.
This program was new to our school so it was difficult to find partner teachers. I think that next year that there will be more interested teachers.
This was a very low academic class, thus was harder than normal to get teachers involved because they knew the quality of work these kids are normally are capable of.
We had a lack of experience with the program, mostly. We think next semester will go much better.
We found that we started the class too late and needed more time for the students to work on their projects.
The problem was scheduling. Some students needed to work with the partner teacher during inconvenient times for either the student or the teacher. The students sometimes had to miss another class to complete the project.
Scheduling at the elementary level gets to be a little tricky. Also at the fifth grade level some of the writing requirements are difficult.
The hardest part is to get the teachers to understand that this program is not just a student-centered project. They find it hard to grasp the fact that they are involved too.
Some individuals (both teachers and students) were not very responsive to collaboration.
The biggest problem we had was finding time to get the teachers and students together to plan the project. It required getting the students out of class during the partner teacher's prep time. I felt bad about asking teachers to let the students do this. Most of my students work or participated in extracurricular activities after school or the teachers were not willing to meet after school. Thus we had limited face to face contact to plan our projects. We used e-mail instead. This was not ideal. This same problem limited the amount of teaching my students could have "teaching the teachers" about how they did the projects. I need help in this area. I also found out that my students are not skilled in oral presentations to groups. Next year we are making speaking skills a priority. I am planning more instruction and practice in speaking skills. We did not practice this enough this year.
The difficulties I encountered were primarily getting teachers who would give that extra time to work with a GenY student. Teachers are faced with problems that have left them uninterested in anything that calls for extra time and effort. I had to explain to them that the projects actually helps make the lessons much more interesting and that if they were to give it a try, they would not regret it. Most of them decided to do it, and was pleased with the results.
Time was a large factor, teachers find themselves overwhelmed with mandated curriculum.

Table 6
Noteworthy Success Stories

We have some great projects that will be schoolwide resources. One student created a Web page for our band program with many resources for different instruments, a calendar of major events, and it even has recordings of the band embedded on it. Another student created a Web page on digital cameras and scanners that anybody in the building may now access. Several quality digital presentations were created, assisting teachers and students in science, math, and humanities classes.
The growth in students was amazing, especially their increased confidence in presenting and using the computer.
I had a larger number of ESL students than usual this semester. I was quite pleased with the projects they completed. Two of the partner teachers have been doing this for a while now, and they are really starting to learn how to write their own web pages and publish information over the Internet. It's great to see.
Many of the low-achieving students were able to complete the class with a better understanding of the partner teacher's class. They did more work in order to understand and present the material. As a result, the student learned more in the subject area.
The staff has been very positive in their feedback and the waiting list of kids wanting into the class is huge. I think this says a lot about how well it is going.
The easiest project had perhaps the greatest impact on a teacher. This 25-year vet has never used anything but a traditional grade book. Virtually all teachers at our school use electronic grade books. Our student coached this teacher with great success, and the joy of discovery fueled the instructor's desire to learn more. She now uses many facets of the program and the student feels that she made this aspect of teaching easier for this instructor.
Wow. Where do I start? Some great projects; they were every one very, very good. I am extremely proud of each student and what they have contributed to this district in technology enhancement.
Tremendous creative projects--all so meaningful and useful.
The librarians have a wonderful Web site that they are able to maintain. Several teachers have PowerPoint presentations that they can use repeatedly. Several of the students displayed their efforts at the SOITA Conference at the Dayton (OH) Convention Center which created much interest in the area.
GenY generated lots of discussion by teachers about what the students were doing in GenY--pros and cons. About six really good projects emerged as models for the future. We definitely shook up some traditional thinking about technology training!
The kids' confidence really soared. Another plus was taking 9 kids to the college. We showed some of our projects to students in a college class (pre-service teachers), and then worked with them as partners to show them how to do the things we had done in our projects like PowerPoint, Internet research, setting up Web sites, etc. Everyone enjoyed this and learned a lot.
The students and teachers both benefited from this process and technology moved forward in our district.
Many of the teachers are glad to have projects that were developed by the students that they can use this year as well as next year.
They seem to have loved having what they consider to be "real-life" projects to work on, and have liked the rather independent project approach of the class.
This class produced the most "usable" projects of any group I've had. Teachers and students made great choices for projects that will see more than a single use.
Integration of technology into a classroom where no previous technology was being used.
We had some terrific projects completed, and when other teachers saw what out students had done, they wanted to know how they could be a part of our program. Also, we saw great success with the students in the projects that were presented in the classroom.
Excellent projects built for teachers, who are now more interested in working on computers with students.
While students need guidance in understanding what a teacher's plans are, they have a great insight and comfort with computers. They easily help teachers integrate technology in the lessons they teach.
A non-profit group wanted students to help develop a project about our county. A GenDid and a new GenY student created a model program that they will be taking to other schools. They have created a long-term community based collaborative project using Web and FTP sites on the Internet.
Students learned multiple life skills they had never encountered or knew existed. This was a lot of information for fourth and fifth graders. They took this seriously, realizing each of them had good ideas. Collaboration was a challenge, but in the long run a real winner.

Table 7
Noteworthy Lessons Learned about Kids and Teaching

Don't try to confine them, let them be creative, they will amaze you.
Let students be creative, work at their ability levels.
I learned that it is possible to be even more hands-off with young elementary students than I would have believed. In my absence (working in another location fulltime), the students turned to each other even more readily and with incredibly successful results. We teach them to do so, we create an environment to support these relationships....but it is such a joy to see it work day in and day out.
Just because they do not have a computer at home and have never seen a word processor, doesn't mean they cannot graduate as a Gen Did and become a very valuable resource to our teachers.
I love the "real world" aspect of this class. Once we've gone through the skill lessons, kids work at their own pace. I communicate with them individually via e-mail, as well as during class. I like the environment of personal responsibility and initiative.
Go out on a limb and really try to think outside the box. Let some of your best students expand your realm of thinking. Guide the students but give them the freedom....it is amazing what that you can learn from them.
Help just enough to get them started then stay out of their way. Some students didn't realize what they knew until we started putting it together. It was hard for some to manage their time. The next time I teach this, I will make more deadlines in the project process.
This is closer to a coaching assignment than a typical classroom situation.
When the students hold most of the responsibility for a project, they are much more productive.
Cooperative teaching methods worked well. One student would teach the next and continue until all had the knowledge. Each student was given a project to teach the other students in the class.
I learned that the students do not need to be the top students in the school to participate in this program or any program dealing with computers. The two students that I expected to have the most difficulty did the best research and presentation.
I had a number of college students, pre-service teachers, come to my class for help with digital presentations. My kids did a great job of teaching them how to use PowerPoint.
I am enthusiastic about what the kids learn how to do. We have become a community of learners and teachers. Every time someone finds out how to do something new, (like import movies to PowerPoint or set up links, etc.) It is an unspoken rule that they have to teach me. This in turn gets the other students interested and we teach each other. My computer skills have increased ten-fold this year.
It is possible to teach a class in which you know less than some of the students, but it takes considerable self-confidence and a well-developed relationship with the students.
The best change I made this quarter is to let students take sole responsibility for finding a partner teacher. I've always had a hand in pairing, but this time, the kids and teachers worked together to choose, and I think the results are the improved projects.
Once the students began working on their projects I pointed them in the right direction of resources, and then only helped as much as needed, most of them took the ball and ran, it was wonderful to watch.
I learned my students need to be in front of a group speaking more before they present or help present a lesson to the partner teacher's students.
Students can take a minor assignment and go places with it that you can never imagine.
I confirmed my belief that students can achieve at higher levels in my content area when they have access to technology. Because they worked with laptop computers, students were able to "personalize" their hardware, which gave them yet another vested interest in the class.
Kids learn better from each other at times and they also learn well by simply leaving them to work on their own with the teacher as a facilitator.
It gives me so much joy to see the GenDid students playing such an important role. Because of their help, other students were able to excel not only in GenY, but in other classes and areas of their lives.
It is always special to see how GenY students appreciate teachers more after completing their projects.
Kids are very motivated when they are doing something they like. Kids are really fun and can be very responsible.

The Generation www.Y model is designed to help schools leverage even minimal levels of technology infrastructure, and to provide support to enhance other school improvement efforts, technology projects, or curriculum and instruction efforts. However, a certain level of infrastructure development and administrative support is necessary for the model to be implemented successfully. GenY teachers were asked about these contextual issues in their schools. Responses, generally positive, are presented in Table 8.

An issue of continuing concern is that overly stringent network security policies prevent students from having adequate network access in a significant number of school buildings. Administrative and structural issues (scheduling, policies) that impose barriers to collaborative partnerships between teachers and students were also noted in many schools.

Table 8
Infrastructure and Administrative Context

	Strongly Agree	Mostly Agree	Mixed	Mostly Disagree	Strongly Disagree
The computer and network infrastructure at our school is adequate.	30.2%	35.3	26.7	3.4	4.3
Students have adequate permissions and privileges to use our computer and network resources, e-mail, and the Internet.	42.2	30.2	14.7	9.5	3.4
Our teachers are enthusiastic about the Generation www.Y model, in which they work in partnership with students to create curriculum and instruction materials and projects for other students to use.	12.1	42.2	35.3	5.2	5.2
The schedule and administrative structure and processes at our school are flexible enough to allow creative and varied collaboration between students and teachers.	21.6	37.1	25.0	11.2	5.2
Generation www.Y is viewed in our school as a serious professional development and technical support model for teachers who want to integrate technology in their classrooms.	15.7	28.7	38.3	14.8	2.6
Generation www.Y projects are used to support other special initiatives in our school aimed at technology integration, professional development or curriculum development.	21.7	38.3	22.6	13.9	3.5

Note. N = 116; figures in table are percentages.

As a further check on the school context, teachers were asked about any special circumstances that either hinder or support Generation www.Y in their school. Responses emphasize the importance of administrative support, time to implement projects, technology access, a schoolwide emphasis on technology integration, and the time and motivation of partner teachers. These themes also emerged from the case study sites, as discussed later in this report.

Participating Generation www.Y teachers were asked to respond to a series of questions about the GenY model and their experiences implementing it, including the service received from the Generation www.Y central staff. Responses are displayed in Table 9.

Table 9
Generation www.Y Teacher Ratings of Success and Impact

	Strongly Agree	Mostly Agree	Mixed	Mostly Disagree	Strongly Disagree
The GenY model is a good way to help teachers integrate technology in their classrooms.	54.3%	34.5	9.5	.9	.9
The GenY model is a good way to make school more engaging and meaningful to students.	59.5	34.5	5.2	-	.9
The GenY model is a good way for students to learn technology skills.	67.0	23.5	8.7	-	.9
The GenY model is a good way for students to practice solving real-world problems.	55.2	35.3	6.9	.9	1.7
The GenY training I received was adequate to prepare me to teach this course.	27.4	37.2	23.0	8.0	4.4
The GenY central office staff has been responsive and helpful when I have requested assistance.	73.0	15.3	7.2	1.8	2.7
The GenY Curriculum Guide has been very useful to me in delivering the course.	39.8	29.2	23.0	3.5	4.4
The GenY Student Workbook has been very useful to me in delivering the course.	27.3	31.8	24.5	9.1	7.3
The GenY CD has been very useful to me in delivering the course.	21.5	31.8	24.3	15.9	6.5
The GenY Video has been very useful to me in delivering the course.	21.8	40.0	20.9	10.0	7.3
The GenY Web site has been very useful to me in delivering the course.	42.5	31.0	15.9	6.2	4.4
The GenY online system for registering schools, teachers, classes, and students has been easy to use.	36.8	36.8	15.8	6.1	4.4
The GenY online Classroom Management tools have been easy to use and helpful to me in delivering the course.	33.9	33.9	20.5	9.8	1.8
The GenY online Project Proposal, Feedback and Final Report system for students has been easy to use and helpful to me in delivering the course.	28.2	38.2	17.3	11.8	4.5
The online Archive of GenY collaborative projects has been easy to use and helpful to me in delivering the course.	33.0	38.5	17.4	6.4	4.6
We will continue to offer Generation www.Y classes at our school in the future.	47.7	23.9	22.0	4.6	1.8
I would be willing to serve as a trainer for teachers in my region who want to begin Generation www.Y programs in their schools.	34.3	25.5	21.6	4.9	13.7

Note. N = 116; figures in table are percentages.

Generation www.Y teachers who completed end-of-course surveys gave overwhelming support to the Generation www.Y model as a means of supporting technology integration by classroom teachers, and as a way of making school more engaging and meaningful to students. The model was viewed by nearly all teachers as a good method for students to learn technology skills and to practice solving real-world problems.

A significant minority of teachers did not feel adequately prepared by their training to conduct the course. This issue may be partly addressed by new curriculum materials prepared for future school years; however, additional enhancements to the Generation www.Y teacher training sessions may be warranted.

Likewise, a significant minority of teachers report mixed or negative responses regarding the usefulness of the Generation www.Y curriculum materials and online resources. Since these materials have since been upgraded, further monitoring will be needed to gauge the impact of these new materials and tools.

Partner-Teacher Outcomes

Six hundred twenty-seven Generation www.Y Partner Teachers provided feedback at the end of the term, answering questions about the collaborative projects they built with their GenY student partners, their use of computers for personal productivity and classroom teaching, and their beliefs and attitudes about educational uses of technology. Sample size varies slightly on individual survey items.

A total of 1843 collaborative projects were archived in the GenY online database during the 2000-2001 year; titles and academic subject areas of these projects are included in the Appendix. Table 10 displays the courses, taught by partner teachers, for which these projects were developed.

Table 10
Courses Supported By GenY Collaborative Projects, 2000-2001

Content Area	Percentage of Projects
Social Studies	17.7%
Science	17.2
English/Language Arts	16.9
Other	14.8
Mathematics	8.7
Technology	8.7
Health /PE	4.2
Business Education	4.1
Foreign Language	3.1
Music	2.1
Visual Arts	2.0

Note. N = 1843; figures in table are percentages.

Partner teachers were asked about changes in the frequency of their use of computers due to their participation in GenY. These data are reported in Table 11. Increasing the personal use of computers by teachers is not a direct goal of the Generation www.Y model. However, it appears to be a secondary outcome of participation in the program. Partner teachers were also asked about changes in their comfort level with certain uses of computer and network technologies; these data are displayed in Table 12.

Table 11
Self-Assessed Change In Computer Use by GenY Partner Teachers

How has the frequency of the following changed as a result of your involvement with Generation www.Y?	More Frequently	Same Frequency	Less Frequently
You use computers to prepare for class, maintain class records, or do other school-related work.	35.7%	63.3	1.0
You use computers for personal business, learning, or fun.	32.6	66.9	.5
You use e-mail.	28.3	70.7	1.0
You use the World Wide Web.	36.1	62.9	1.0
Your students use computers during your classes.	43.8	54.1	2.1
Your students use computers outside of class to complete assignments for your class.	39.1	60.2	.7

Note. N ranges from 606 to 622 for individual items; figures in table are percentages.

Table 12
Self-Assessed Change In Partner Teachers' Comfort Using Technology

How has your comfort level with the following changed as a result of your involvement with Generation www.Y?	More comfortable	Same level of comfort	Less comfortable
Using computers.	39.7	60.3	-
Integrating computers into the curriculum.	50.1	49.9	-
Helping students use computers.	41.5	58.4	.2
Using e-mail.	23.5	76.3	.2
Using the World Wide Web.	32.9	67.0	.2

Note. N ranges from 620 to 624 for individual items; figures in table are percentages.

The primary Generation www.Y activity for both students and partner teachers involves the planning, construction, and delivery of a collaborative project that uses computing and telecommunications resources to address a student learning goal in the regular classroom of the partner teacher. For these projects, the partner teacher provides the overall vision and purpose, and guides the form and content of the lesson. The Generation www.Y student provides technical expertise, which may include electronic searching for updated course content or other resources, building a multimedia presentation or Web site to aid the teacher in delivering a particular curriculum unit, or a variety of other forms of assistance. Student reports and evaluator observations concerning the collaborative projects are included in the section detailing program impact on student participants. These data are closely supported by the survey data from partner teachers.

One issue critical for partner teachers is time. The intention of the Generation www.Y program is to provide cost-effective and time-effective support for teachers, so that they can efficiently and effectively increase their use of technology without taking on large additional time commitments, while continuing to focus on teaching, not technology. Partner teachers were asked how much time was spent working together on the collaborative projects; these data are reported in Table 13.

Table 13
Time Spent by Partner Teachers on Collaborative Projects

	2 hrs or less	3-5 hours	5-8 hours	> 8 hours
Partner Teachers: How much time, in total, did you spend working with your GenY student this semester?	31.6%	40.0	14.8	13.6

Note. N =627; figures in table are percentages.

Survey questions displayed in Table 14 asked about the collaborative projects, the use of these projects in classroom teaching, and the overall experience of partner teachers in Generation www.Y. Answers to these questions reveal very positive project outcomes for the majority of participating partner teachers, who responded enthusiastically about the particular projects that were built, as well as about the process of rebuilding their curriculum units with the help of Generation www.Y students.

Over ninety percent of responding partner teachers reported that a successful technology integration project was developed for their class(es), and that the Generation www.Y model, engaging students to collaborate with teachers, is a good method for providing support and assistance to teachers as they integrate technology. Over ninety percent also reported a desire to continue in the program and to continue rebuilding lesson plans to make more use of educational technology.

Approximately 15 percent of teachers reported that they or their students did not learn about technology itself as a result of their participation in GenY. This is not surprising, since the focus of the projects is generally on technology integration to support learning in regular academic disciplines, rather than to focus on technology education.

As in previous years, almost ten percent of partner teachers disagreed with the statement "My role as a partner teacher was clear to me." Particularly in schools with first-time Generation www.Y teachers and classes, it is challenging to convey to all faculty an understanding of the model and the role of partner teachers. This area should continue to be a focus for Generation www.Y teacher training and curriculum resources.

Table 14
Partner Teacher Evaluations of the Generation www.Y Experience

Please indicate your level of agreement with each of the following:	Strongly Agree	Agree	Disagree	Strongly Disagree
My student-partner completed his or her project.	69.2%	26.5	2.9	1.4
My student-partner's project was of high quality.	59.8	34.4	4.7	1.1
I will use the lesson/Web page/presentation with which my student-partner helped in the future.	62.9	30.4	5.1	1.6
I would like to continue developing or refining this project in the future.	57.0	37.8	4.0	1.1
Choosing a project was relatively easy.	54.3	40.4	5.0	.3
My role as a partner-teacher was clear to me.	50.4	40.2	8.5	1.0
As a consequence of Generation www.Y, I learned more about technology.	40.8	43.2	14.0	1.9
As a consequence of Generation www.Y, my students learned about technology.	46.9	41.1	10.0	2.1
As a consequence of Generation www.Y, my students learned about some content area.	50.2	40.1	8.1	1.6
Generation www.Y is a good method for providing support and assistance to teachers as they integrate technology into their classes.	63.9	34.2	1.6	.3
My experience in Generation www.Y this semester will change the way I teach some lessons in the future.	35.7	49.3	13.5	1.6
I would like to work with another Generation www.Y student in the coming year.	53.0	40.4	5.5	1.1
I will continue rebuilding my lesson plans to make more use of educational technology.	51.2	44.9	3.6	.3

Note. N ranges from 617 to 627 for individual items; figures in table are percentages.

Most partner teachers spent less than five hours in total on the collaborative projects. Nevertheless, they were able to implement a new or improved lesson plan or curriculum unit, using technology to a greater extent than they had before. In addition, they enjoyed the process, and would like to continue it on several levels: they would like to continue using and refining the project that was built during the past semester, they would like to continue rebuilding lesson plans to make more use of technology, and they would like to continue participating in collaborative relationships with Generation www.Y students.

These findings are quite positive given the history of computing in K-12 schools. Many teachers have had negative experiences in the past, have avoided using computers in their teaching, or have taken workshops with little ultimate impact on their teaching. Partner teachers in this program were also asked some final questions about their attitudes toward educational computing, and how they thought these attitudes had been affected by Generation www.Y. In general, more than half of partner teachers who responded to surveys in 2000-01 reported that their experience with Generation www.Y has improved their opinions about technology in education, as well as their interest in learning to use new educational technologies. With few exceptions, the remainder did not change their previously held positive attitudes. These data are displayed in Table 15.

Table 15
Partner Teacher Attitudes Toward Educational Computing

Please rate your opinions regarding the use of technology in education:	Strongly Agree	Agree	Disagree	Strongly Disagree	Due to my experience with Generation www.Y, I:		
					Agree more than before	Agree less than before	Haven't changed my opinion
I see definite benefits to students from integrating technology into education.	76.5%	22.7	.8	-	59.9	1.2	38.8
Technology facilitates positive changes in classroom teaching and learning practices.	63.1	34.1	2.6	.2	54.4	2.6	43.0
I want to learn more about using new technologies.	68.3	30.5	1.2	-	61.2	3.2	35.7

Note. N ranges from 600 to 621 for items in the first four columns, 412 to 484 for items in the last three columns; figures in table are percentages.

Partner teachers were also asked "How has your experience with Generation www.Y changed the way you think or feel about school and students?" Their responses demonstrate a very high regard for their partner students, the Generation www.Y program, and the changes in school experience the program has brought to both students and teachers. Responses are displayed in Table 16.

Table 16
Partner Teacher Changed Perceptions of School and Students

I am thrilled with the involvement of the students with my curriculum. I believe they experienced learning through association without me forcing a topic upon them.
I have discovered a willingness of the student to share and learn in genuine "usable" projects especially when they are given credit for having done it.
I have always enjoyed learning various things from my students. My GY student was terrific.
There is great potential out there but we need more in the way of guidelines for teacher participants in this program.
I think it is great that students are completing projects that can actually be put to use, especially for other students' benefit rather than just "busy work" to teach a particular skill. My math students should feel spoiled by using the forms that are fairly authentic rather than the poor excuses for forms we have used in the past. In this way, we all benefit from this process. Hopefully more teachers will take advantage of what students can offer in the curriculum school-wide plus the added bonus that the students directly involved can take that skill with them for future application.
This was an outstanding experience. My GenY partner student is a very intelligent person and helped me a lot. She really pushed me to rethink my approach to this subject. We plan to work together next semester on a project in my Health class. Thank you for allowing this to happen.
I love the way my GenY student becomes a resource for teaching me more about computers and Web pages. It creates a two-way street of communication and education rather than the traditional teacher-teaches-student model.
I believe it is a wonderful tool that will help everyone learn and grow together if we all have access.
This experience has most definitely changed the way I think about school and students. First, as a tech teacher this experience made me realize that my students can help their teams and teachers create projects that use technology more. It takes some load off my shoulders. I can't support three teams and projects by myself. Second, I also learned that much of the content in my students core classes can incorporate technology in many different ways. This makes the content more interesting to students. It also provides students with an array of tech skills which are becoming very important. I also found the Gen-Y students acted more professionally when they knew that their performance really mattered.
I will be more willing in the future to trust students to work with curriculum.
I feel more comfortable to try new and different technology lessons in class because I know I have a Gen Y student or two in class to help out.
I have a new appreciation for the how technology can enhance educational experiences.
Because I know that there are many ways for students to learn and to express what they know, the GenY program has helped me develop ways for students who are especially kinesthetic, verbal, and visual learners to do so. With the use of technology, students find learning fun and exciting. The results of their efforts are so spectacular; they feel good about what they do. Student enthusiasm/motivation is higher. They also feel a sense of pride in being able to discover new things with technology and in being able to share that with their peers and their teachers. GenY has brought students and staff together in positive relationships as they've worked together to design and create projects. School is a fun, interesting, and dynamic place to be!
My thoughts and feelings have not really changed, rather just been affirmed. I think students can be great teachers and can help others acquire both information and skills. I continue to see positive ways in which technology can be integrated into the school day and curriculum, but my own lack of skills is a barrier to more extensive use. I continue to learn more and my Gen Y students have certainly been a plus. I still must admit, however, that computers are of low interest to me. In addition, I am concerned about issues of inequity and believe that economically privileged districts such as Olympia further the gap between the "haves" and the “have nots". I recently heard a statistic that only one-third of the world’s population benefits from our technology-based global economy, while two-thirds of the world’s population is directly hurt by it. On a smaller scale, I see the disparity between local school districts. Call me a dreamer, but I'm still an advocate for educational equity for ALL the children.

Table 16 (Continued)
Partner Teacher Changed Perceptions of School and Students

I have taught GenY and been a partner teacher several times. I am a wholehearted supporter of the program. It is wonderful to have students in the driver's seat and guiding their own learning. It is also great for them to work with teachers as partners rather than feeders of knowledge and receiver of knowledge. The two travel together and make discoveries along the road.
I think that technology can be a big benefit to students. I also think that it can help students use a higher level of thinking and learning skills.
I learned that students are very capable of learning new technology, in this instance Movie 2, and then teaching adults how to use the technology in a very clear and well-thought-out manner.
I think it's a great way for teachers to feel more prepared to use computers in education. It's great too for students to have such a responsibility.
I continue to be impressed with the knowledge and ability of students. I believe exposing the student and myself to the amount of planning and time to create quality lessons has been good for both of us.
I think that the students are more capable of teaching all of us technology skills than perhaps we realized in the past. The classroom becomes a learning space for all of us on a somewhat equal basis.
GenY has not directly changed the way I feel about schools. However, I do believe students are quite capable and able to be "great teachers." GenY is a fantastic vehicle for students to show what they know, and contribute in a positive way to their school.
The GenY experience was enjoyable, because it provided: (1)another opportunity for me to interact with a few students, (2) a common goal, (3) an opportunity for these students to learn about the importance of the project content, (4) content material I can use to share with parents and other students, and (5)some time for me to reflect on my curriculum and instructional practices.
It has made me realize what a powerful resource students are in completing needed tasks that benefit the school. I've appreciated students learning advanced technology skills through performance-based learning that benefits the school community. This is a task I've wanted to see completed but have never had the time to do or ability to delegate to someone else.
I can see how students have learned about technology throughout the year and have been able to use computers and related equipment to prepare presentations, reports, projects, etc., for their classrooms. The level of knowledge and independence seen in the students is terrific.
This excellent program has shown me, again, that perspective colors all! Seeing these students in their "teacher" modes shows me an entirely different young person. They seem to always take their projects seriously and, I believe, gained valuable skills in the process. They have become, in our school anyway, valuable assets to teachers and students in all grades and subjects.
I think it is very exciting that the students get a chance to have higher level learning and computer experience with GenY. Also it helps the students to understand each step of planning a teacher goes through for each lesson. I wish more students could work with GenY.
It has changed the way I view the role of students. I now envision them as valuable teaching resources.
I see our students as a rich resource for helping all to implement technology into everyday school activities.
I feel the students in this GenY class can be of great assistance to the teacher, who even though they may know what they want to do, either lack the expertise or the time to implement a project or lesson into the curriculum. By using the students' expertise, you can give them the project, they develop it, and together we make any necessary changes. It gives the students a big responsibility and increases dialog in a student-teacher relationship totally different than that of just a teacher teaching and a student learning. They feel important and take pride in their project and the teacher also benefits.
I have been very impressed with the level of knowledge exhibited by our Gen Y students and can use the students as resources for technology questions. Furthermore, I believe the students feel more worthy when they have important information to share with others.
I was amazed at the depth of information students found and selected. The finalized project will be so helpful with future classes-you know, "A picture is worth a thousand words."
The program is a real morale booster and motivator for the students. It is a commitment on their part and mine. I enjoy the coaching aspect of the GenY concept.

Student Outcomes

During the 2000-01 school year, a total of 3634 students registered in the Generation www.Y online database, 2825 completed the preliminary student survey, and 1438 completed follow-up surveys at the end of the year. Forty-nine percent of students completing the preliminary survey were girls; 63.0 percent reported their ethnic identification to be Caucasian, 3.5 percent Native American, 5.6 percent Asian, 6.8 percent Hispanic, 14.2 percent African-American, 1.4 percent Pacific Islander, and 5.5 percent Other or "American," a common write-in category. Data in this section are based on responses from the 1438 students who completed follow-up surveys.

Table 17 shows the percentage of students who had previously learned a skill, who learned it as part of their GenY experience, who learned it during the GenY semester from other sources, and who have not learned that skill. Table 18 displays the amount of practice with each of these skills accumulated by Generation www.Y students.

Most students entered the course with some prior knowledge of basic computer skills including keyboarding, word processing, use of e-mail and basic Internet searching. They reported gaining many hours of practice at these basic skills. In addition, 35-50% of students reported learning and practicing more advanced skills in digital imagery, presentation tools or Web design.

Table 17
New Skills Learned by Generation www.Y Students

When did you learn how to:	Knew how before this semester	Learned this semester in GenY	Learned this semester from other sources	Don't know how to do this
Use a keyboard to touch-type at least 15 words/minute	79.0%	7.0	6.3	7.7
Use word processing software	83.0	12.1	2.5	2.4
Search the Internet	90.7	7.0	1.9	.4
Send and receive e-mail	81.2	15.0	2.4	1.4
Use PowerPoint or other presentation software	49.8	40.9	4.7	4.6
Troubleshoot basic computer problems	43.5	32.2	7.2	17.1
Use a scanner to digitize a picture	43.7	37.2	4.7	14.5
Use a digital camera	43.0	43.3	4.0	9.7
Create a Web page or Web site	32.7	45.8	4.9	16.6

N = 1436; figures in table are percentages.

Table 18
Practice Gained in Computing Skills by Generation www.Y Students

During your work this semester as a Generation www.Y student, how much practice and experience did you get:	None, I didn't do this at all	Just a little; 2 hours or less	Some; 2 to 10 hours	Quite a bit; 10 to 20 hours total	A lot; more than 20 hours total
Using a keyboard to touch-type at least 15 words/min	12.0%	19.2	17.7	15.8	35.3
Using word processing software	8.5	27.8	28.1	19.1	16.6
Searching the Internet	3.4	11.8	22.5	27.8	34.5
Sending and receiving e-mail	8.4	27.3	24.4	19.6	20.4
Using PowerPoint or other presentation software	13.0	17.7	23.1	23.1	23.1
Troubleshooting basic computer problems	28.5	36.4	18.1	9.9	7.1
Using a scanner to digitize a picture	32.1	38.4	16.7	7.7	5.1
Using a digital camera	24.5	39.2	19.3	9.9	7.2
Creating a Web page or Web site	29.3	16.7	21.6	15.5	16.9

N = 1436; figures in table are percentages

Generation www.Y students learn technical skills and skills for collaboration, teamwork, and pedagogy for a particular reason: to enable them to build projects which support the classroom instruction of their partner teachers. Toward this end, they must form good relationships with partner teachers, and use communication and planning skills to understand what will be helpful to the partner teacher and how to accomplish a suitable project in a practical, effective manner, given time and resource constraints.

This experience is designed to be helpful to the Generation www.Y students and the partner teachers on a number of levels, as well as being helpful ultimately to the other students and teachers in the school. Ideally, partner teachers receive cost-effective, individualized technical support as they increase their use of computing and telecommunications resources, and as they update their curriculum units and lesson plans to align with state and local learning goals and standards. This personalized support for technology integration is intended to allow teachers to gradually increase their effective use of technology, while continuing to focus primarily on curriculum and teaching issues.

For GenY students, the collaborative projects are intended to increase the involvement and engagement of students in the educational process, giving them an authentic role as co-creators of lesson plans and curriculum units. These projects ideally include a number of components which parallel the experiences of adult professionals in the workplace, since the students are involved in doing the real work of the school. Included in this experience are:

- Working with a diverse variety of partners and stakeholders – communicating, partnering, understanding the perspectives of people of varying ages, ability levels, and cultural backgrounds.

- Planning and implementing a project which serves an authentic, real-world purpose, including specifying the problem, exploring alternative solutions, planning a feasible solution, researching and deploying necessary resources, getting feedback on prototypes, refining and completing an educational "product," and supporting the use of this product by teachers and other students.

- Making decisions and taking action to blend multiple disciplines and skills in the service of a particular goal.

- Taking responsibility for one's own learning, work flow, time management, and resource use.

- Seeking and using feedback to help guide decisions and work patterns.

During the 2000-01 year, Generation www.Y students reported building projects that were primarily multimedia presentations (47.7 %) or Web pages (24.8%), the content of which was under the direction of their partner teachers and which served the instructional goals of those teachers. Other primary types of projects included direct development of the technical skills of other students (8.7%) or teachers (7.7%), development of the Web-searching skills of other students (4.8%), or other types of projects (6.3%).

The figures in the preceding paragraph are student reports of the "one best category that describes your project." However, most of the collaborative projects included more than one of these components. Table 19 displays the percentage of projects which included each of these components, as well as the percentage of projects (already noted above) which primarily addressed this component.

Table 19
Types of Collaborative Projects Built By Students and Partner Teachers

Project Type	Projects that included this component:	Projects that were mainly focused on this component:
GenY student created or updated a Web page that was used by my partner teacher's class	33.2%	24.8
GenY student helped other students search the Web for information on a class topic	34.5	4.8
GenY student developed an educational presentation using PowerPoint, HyperStudio, or other software	70.6	47.7
GenY student taught technology skills to a teacher	63.0	7.7
GenY student taught technology skills to other students	50.0	8.7
Other	9.4	6.3

N = 1474; figures in table are percentages

Interestingly, while the majority of collaborative projects were deemed to help teachers learn technology skills, comparatively few projects were aimed primarily at this outcome. This is in keeping with the core idea of Generation www.Y: development of teacher skills in technology need not be the primary goal of a technology integration program, but can occur as part of the process while teachers focus on teaching.

Similarly, few of the projects were primarily concerned with teaching technical skills to other students, but the majority did include instruction for the general student population on technical skills or skills relevant to Internet search strategies. Again, this is in keeping with the goal of the program, that technical skills are primarily used in the service of other content disciplines or improved information literacy, rather than focusing on technical skills per se.

When these projects were used in the regular classrooms of partner teachers, the presentation itself was delivered collaboratively by the GenY student and the partner teacher in many cases. In other instances, the partner teacher delivered the lesson to his or her class without the participation of the GenY student, or the GenY student delivered the lesson to other students solo. The distribution of these project delivery formats is reported in Table 20.

Table 20
Delivery of Collaborative Projects

	Only Me	Only my Partner Teacher	Both of Us Together
When the lesson was delivered to your partner-teacher's class, who taught the class that day?	27.9 %	27.8 %	44.3 %

N = 1077; figures in table are percentages

Table 21 includes student responses to a block of questions about their experience in Generation www.Y, focusing on the process and outcome of the collaborative projects, including the mid-project feedback received from the Generation www.Y online project consultation service. Like their partner teachers, students generally reported completing successful collaborative projects. Students overwhelmingly reported positive experiences in the program, though some found that their partner teacher was unable to meet with them regularly.

Table 21
Student Self-Assessments of Their Collaborative Projects

Mark the answer that best describes your experience in Generation www.Y:	Strongly Agree	Agree	Disagree	Strongly disagree	Not sure, N/A
I completed my project.	67.4%	24.3	2.9	.9	4.5
I am proud of my project.	61.2	31.6	2.1	.6	4.5
As a result of my project, other students learned about technology.	28.1	37.6	11.1	1.8	21.4
As a result of my project, other students learned about a subject (e.g. history, math, English, etc.)	40.8	35.1	7.4	2.5	14.2
The feedback about my project proposal I got online was helpful.	28.5	36.5	10.5	4.8	19.7
My partner-teacher's expectations of me were clear and realistic.	45.3	42.8	4.8	1.5	5.7
My partner-teacher was able to meet with me regularly.	35.0	41.8	15.6	3.6	3.9
My partner-teacher and I worked together well as a team.	44.2	39.9	7.3	2.1	6.4
Overall, Generation www.Y was a good experience.	58.1	31.9	3.3	3.2	3.5

Note. Ns ranged from 1422 to 1432 for individual items; figures in table are percentages.

Student self-assessments are supported by the reports of the partner teachers. These teachers reported being pleased with the projects, using them in their classrooms, intending to continue using them and developing them further, desiring to work with more Generation www.Y students in the future, and being pleased with the support they received for integrating technology in their teaching. Details on these findings are included in the section on program impacts on partner teachers, and these patterns also emerged in the case studies.

Student enthusiasm for the program can be seen in the answers in Table 25. Although students are asked to master a variety of difficult new skills, and to apply them in a time-consuming project that is largely meant to serve someone else's needs, they generally report very positive feelings at the end of the course. Another block of survey questions answered by students at the end of the semester includes items that ask whether they would like to continue using these skills to improve education or help others in their community; again the answers are largely affirmative, as detailed in Table 22.

Table 22
Future Intentions of Generation www.Y Graduates

In the future, how will you use the skills you learned in Generation www.Y?	Strongly Agree	Agree	Disagree	Strongly disagree	Not sure, N/A
I hope to continue working with my partner teacher.	29.0%	39.0	9.3	2.6	20.0
I would like to help other teachers use technology in their work.	35.5	43.5	7.4	2.6	11.0
I would like to help members of my community learn to use technology.	29.2	41.1	10.9	2.3	16.5
I want to help people who are becoming new teachers use technology in their lessons.	33.2	42.1	9.0	2.5	13.2
I would like to help other students learn to use technology.	40.8	43.1	5.9	2.2	8.1

N = 177; figures in table are percentages

The Appendix lists the curriculum areas and titles of collaborative projects which students described in their online final project reports.

CASE STUDIES

Several states have used Technology Literacy Challenge Fund allocations to support Generation www.Y classes in their schools. During the 2000-01 school year, the Washington Office of the Superintendent of Public Instruction supported implementation of the Generation www.Y program in a group of 35 Washington schools through the Technology Literacy Challenge Fund. Six of these schools were chosen as case study sites.

The case studies provide a rich understanding of the dynamics involved in implementing Generation www.Y at schools that are struggling with issues related to student achievement, technology needs, children in poverty, and/or student demographics. The background and contexts of Generation www.Y classes were studied in order to learn about the complexities of implementations at specific sites. The comprehensive understanding gleaned from these studies provided insight into facilitating and hindering conditions to implementation, identified "keys to success" for integrating Generation www.Y into comparable schools, and substantiated survey findings through illustrative examples and anecdotes.

Sites were selected to sample Generation www.Y implementation at schools of varying sizes and locales, with a variety of grades. To select sites, a thorough review was conducted of data collected during the pre-implementation site visits that occurred during the spring of 2000. The review assured that all case study sites had some critical facilitating conditions. These prerequisites were: (1) interest in project-based learning, (2) administrative support, (3) commitment to holding the Generation www.Y class, (4) and a willingness to participate in an in-depth faculty survey. Three elementary and three middle/junior high schools were selected. The selected case study schools do not necessarily comprise a representative sample of the 30 schools which implemented Generation www.Y under TLCF. However, they do demonstrate the spectrum of challenges and opportunities faced by sites.

Three site visits or in-depth interviews were conducted at each of the schools. The first occurred during the fall 2000 term, the second occurred mid-implementation, and the third took place at the culmination of the Generation www.Y class in the spring. Site visits included interviews with Generation www.Y teachers, and teacher-student partner teams. In addition, the Generation www.Y classes were observed and ongoing projects viewed. The first visits aimed to briefly orient the school faculty to the evaluation component of the project, interview/observe the Generation www.Y teacher, and administer the teacher surveys to the entire faculty. The fall site visits occurred during a staff meeting in order to streamline the survey administration process. The mid-implementation visits investigated important variables, processes, and interactions that influenced the project during the year. Spring visits asked participants to 1) reflect on their experience in implementing the program, including the nature of the projects, teacher-student partnerships, and the online support; 2) draw out successes they planned to build on; 3) consider sustainability of Generation www.Y at the site; and 4) complete the post-implementation surveys.

This section first tells the stories of Generation www.Y at the six case study schools. These stories point to factors that deserve further study, or program recommendations. The commonalties are drawn out at the end of the section.

Elementary School A (School A)

School A is a rapidly growing suburban elementary school of 720 students, and about 30 classroom teachers. The student body is somewhat diverse including many students from military families, which results in a fair amount of student turnover. The school has a modern, well-equipped computer lab that is used by the computer technology teacher during the day. The district also uses the lab for teacher training. However, teachers reported a disparity among classrooms in technology access and an overall need for software throughout the school. School A has received several technology grants in the past few years such as the Technology Infusion Project (TIP) and Generation www.Y, but not all teachers have been involved. Staff members were receptive to Generation www.Y, recognizing that the program could result in benefits to teachers who have not received new digital tools or training through recent grants.

The Generation www.Y teacher was also a TIP teacher during the 2000-01 school year as well as the previous year. She was an enthusiastic and creative advocate for the integration of technology in the school. About one-third of her sixth grade students were in her class last year and had already developed some skills with digital tools. Generation www.Y was implemented with two groups at School A. The teacher took all of her homeroom sixth grade students through the Generation www.Y curriculum, but those homeroom students were not all matched with partner teachers. The other group was the designated Generation www.Y class. This class met after school and was co-taught by the experienced Generation www.Y teacher, another teacher, and three GenDids from last year. The after-school class enrolled 25 very busy students in fourth through sixth grades. The class was taught in one of the Generation www.Y teachers' classrooms, with hands-on time in the computer lab. The instructors very successfully tailored the Generation www.Y curriculum to be developmentally appropriate for their elementary students, which developed strong technical skills among Generation www.Y students. During the spring semester, students were partnered with teachers. Some examples of curricular adaptations and projects follow.

- The Generation www.Y teachers found that the Generation www.Y Curriculum Guide "required a lot of reading" so they have worked to integrate games, activities, and challenges into the topics. For example, when learning about e-mail, students went to the Blue Mountain Web site and sent an electronic card to someone. This provided an engaging activity and prompted responses from card recipients.
- In one of the first projects completed by the class, a team of students developed a PowerPoint presentation for a Veteran's Day assembly. Students researched the holiday, then collected digital photos from Web sites as well as scanned images from print resources. Images and text were combined to give students an appreciation for veterans. This served to demonstrate one type of project which Generation www.Y students would later be able to develop for partner teachers later.
- Another team of students took digital photos for an ongoing slideshow during the Technology and Curriculum parents' night. Students collaborated with teachers to capture images that represented key programs and curricula at the school. The slideshow was then presented during the parent open house.

- Along with ongoing slideshows for special events at the school, students were partnered with teachers to develop classroom Web pages. Generation www.Y students met with partner teachers, interviewed them, and developed class Web pages linked to the school Web site. Completion of the projects was a challenge since computer lab time was at a premium by the end of the school year when Generation www.Y students were trying to finish their projects.

Challenges faced by School A revolved around making the curriculum age-appropriate for elementary students. Without an elementary activity section or separate elementary curriculum guide, the Generation www.Y teachers were constantly revising the lessons. The Generation www.Y teachers reported that this time-intensive reworking of the curriculum could easily have consumed half of the workday for one of them. They are hoping that the new curriculum guide will provide more elementary level activities. The young age of the students also translated into a slower pace for progress. Everything seemed to take longer—from setting up e-mail accounts to project completion, the elementary students were on a different timeline than middle school or high school students. They were able to register students online but did not complete the online project proposals or reports. A final challenge was developing the consulting skills of young students, who found it difficult to move into an "expert" role with their partner teachers.

As School A continues with Generation www.Y in the coming school year, they may find increased success as they:

- Continue to start the year with group projects that may serve as advertisements for what the Generation www.Y students can produce for teachers
- Refine curriculum adaptations while integrating the new Generation www.Y Curriculum Guide into the class
- Further the expertise among GenDids as well as experienced partner teachers
- Build on the Web pages initiated during the 2000-01 school year, to make them more interactive
- Find ways to increase access to the computer lab and/or other state-of-the-art computers around the school
- Initiate projects with student-teacher teams that integrate technology into the curriculum more than occurred with static Web pages or all-school presentations

Elementary School B (School B)

School B is a rural K-6 elementary school of just over 100 students with one teacher per grade level. Located on the edge of a national park, the school shares a principal with two other elementary schools—each many miles away. Typical of small rural schools, teachers at School B wear many hats and are stretched to volunteer their time and energy to a variety of school and community initiatives. Staff members were concerned about socio-economic as well as educational issues at the school. Generation www.Y was one of three technology-related projects at School B last year. Teachers were also involved in another TLCF project, Technology Infusion Project for the 21st Century (TIP21) and the University of Washington project, Contextual Teaching and Learning (CTL).

The integrated use of digital tools in the school has been limited to a few classrooms. One of those was the classroom of the Generation www.Y teacher. Despite her self-appraisal as "not a technology guru," her room was well equipped with six modern computers, two laptops, and a class set of AlphaSmarts—the perfect homebase for a Generation www.Y class. Although she did not teach sixth grade, the Generation www.Y class was composed of six sixth grade students who met twice a week before school for about an hour and a half. Students were selected on the basis of proximity to school (within walking distance) and home support to ensure that those students "would get to class on a regular basis." Because the school is so small the Generation www.Y teacher had taught these students in earlier grades and knew them. She was energetic, dedicated, and modeled side-by-side learning as students and teacher learned to use digital tools together.

Generation www.Y students participated for the full school year, which the teacher felt was a reasonable timeline for elementary students to learn technology skills and have an opportunity to apply them to collaborative projects. Completing the online registration and proposal work as well as taking a leadership role with their partner teachers challenged these younger students. The Generation www.Y teacher could not find technology lesson plans geared for younger students so she modified lessons from the curriculum guide to be more engaging for elementary students. Teachers were asked if they would like to participate and students then selected partner teachers to work with. The Generation www.Y teacher encouraged students to take responsibility for setting up meetings with their partner teachers, communicating through notes or e-mail, and keeping them updated on project progress. Ultimately, each student was partnered with a School B teacher and completed a project. Collaboration with partner teachers varied. In some cases, by June the partner teacher had not reviewed any of the project. In other cases, by June teachers had already reviewed, recommended changes, and used their projects.

Although teachers at School B were struggling with effective uses of digital tools in their classrooms and felt they had few ideas of age-appropriate uses, the teams of Generation www.Y students and partner teachers developed a rich array of projects that matched instructional needs of the teachers with technical expertise of the students. Some project examples follow.

- To aid in teaching a game for Physical Education class, one partner student took digital photos of children playing the game. Photos were then used to create a VHS tape that

included key steps in the game, examples, and an assessment. The student then presented the video during class and taught students how to play the game. The partner teacher plans to use the tape again next year.

- As a celebration of the year, the teams for two different grades created individualized yearbooks for each of the students. The teachers were strong technology users and the Generation www.Y partners, "very good students." The project drew on all of their skills. Digital photos were taken of significant events during the year and individual student work was scanned. PowerPoint slides were made as transition pieces. The digital products were then used to create a unique VHS tape of each student's school year and significant work samples. These ambitious projects required a significant time commitment on the parts of both teachers and Generation www.Y students. The complexity of this project prompted one partner teacher to suggest that in the future—especially for elementary programs—the Generation www.Y teacher should be given substitute time so that she could work with student-partner teams at least one day per quarter throughout the year. The partner students were proud of their products and felt that they had learned useful technology skills, problem solving, and that "there will be glitches along the way" in projects of this magnitude.
- To support student research reports on U.S. presidents, one partner student developed a PowerPoint program for the partner teacher. The presentation included Web links to information on each of the ten presidents highlighted. The partner teacher felt that the product had potential for next year as a resource and something to be built on. Involvement with Generation www.Y moved this partner teacher to think about how to effectively incorporate computer use into the classroom with only one computer for the class. The partner teacher also noted that should he have another Generation www.Y student he would coordinate better with the partner student, and set aside time to review project progress during the year. The partner student discovered that it was hard work to develop a useful product but liked the idea of completing a project that another Generation www.Y student could add to next year.
- The resource room team developed a PowerPoint presentation on fractions. The teacher planned to use it with three or four students to supplement their instruction. He felt that the resource room was an ideal venue for this type of project since he has one computer available for each student and students are accustomed to doing remedial/tutorial programs on the computer. The partner teacher also felt that the partner student had benefited from learning about his remedial students and working collaboratively with a teacher.
- The school counselor had a need for a way to reinforce refusal skills that she teaches students to use. Working with her partner Generation www.Y student, they videotaped roleplays of two key skills. The student partner arranged for students to act out the parts and he put them together as an instructional video. Since the partner teacher is only at the school two days per week, she used lunchtime and after school time to meet with her partner student. She found the project to be time intensive but was very pleased to have something useful as a final product. The partner student reportedly "learned a lot" about making a video as well as the content of the videotapes.

- One partner teacher had a new student from an Asian country that students knew little about. His Generation www.Y student developed a PowerPoint presentation with Web site links about the country, its animals, schools, culture, and popular sports. The presentation also included a bibliography and map of the country. The student partner was in her partner teacher's class so she found collaborating easy, but struggled with technical challenges such as including sound.

The diversity and age appropriateness of projects at School B demonstrated how Generation www.Y can raise expectations and use of digital tools in a small rural school. They also may serve as a menu of possible projects at the elementary level. Most projects provided a foundation for teachers to build on. The projects with the Physical Education teacher, Resource Room teacher, and School Counselor demonstrated how digital tools could be used to add to the library of resources for specialists. The U.S. presidents and Asian project also serve as examples of files that can be added to in the future. The quality and nature of these first year projects were critical to alleviating a key challenge faced by the Generation www.Y teacher—providing examples of elementary level projects that teachers with little access to advanced digital tools could use in their classrooms.

Implementing Generation www.Y at School B prepared teachers to increase the benefits of a program of this nature by using several strategies in the future. Suggestions included:

- A timeline for student-teacher teams.
- Activities for partners to complete through the year that would provide students an opportunity to share technological expertise and expose partner teachers to what students were learning as well as possible applications to their projects.
- Release time for the Generation www.Y teacher to meet with partner student-teacher teams (once per quarter).
- Higher visibility for the program by the district "taking it in" and nurturing it.
- Making the online services more doable for young students. School B was the only case study site in which all the Generation www.Y students registered online and completed the proposal and report forms. However, students completed these tasks with intensive help from the Generation www.Y teacher or their partner teachers.

Teachers felt that Generation www.Y was facilitated by factors such as the energy and enthusiasm of the Generation www.Y teacher, modifications of the curriculum to be age-appropriate for elementary students, and the synergistic role it played with other grants such as TIP21 and CTL. The Generation www.Y teacher noted that the projects complemented each other since TIP21 provided the school with necessary computers and Generation www.Y gave them something authentic to do with the computers.

Elementary School C (School C)

School C is an urban elementary school of about 270 students in kindergarten through fifth grade. The school is involved in numerous community-based programs. Teachers at the school have not been strong technology users and have not integrated technology into their classrooms on a regular basis. The school staff has worked for two years to acquire funding and support for modernizing and integrating digital tools. The principal was supportive and staff receptive (particularly since trying to use the old computers in the labs frustrated them). The 2000-01 school year may have signaled the beginning of a technology transformation at School C. The school moved from having old computers housed in a lab, to equipping two classrooms with state-of-the-art digital tools, to placing new computers in every classroom next year. In addition, the school was wired for Internet capability and secured significant funding for professional development in the use of digital tools for next year.

A lead teacher at the school taught Generation www.Y. Without his leadership, commitment, and vision, Generation www.Y would likely have failed at School C. Fortunately, he shepherded the program through its first year. Implementation of Generation www.Y was predicated on having two classrooms newly equipped with modern digital tools at the beginning of the school year (through another grant). Unfortunately the equipment was not installed until October, which delayed the start-up of Generation www.Y. By the time the digital tools arrived, the demands of other programs and responsibilities had set in. The class was scheduled to meet before school but suffered from numerous problems in getting started and being sustained. During a month of testing in the winter, the principal put a moratorium on all before and after-school programs to prevent students from getting over-tired or over-extended during testing time. It was spring before the class was seriously underway.

The Generation www.Y class at School C consisted of twelve young students. Seven were in second or third grade, the remainder were fifth graders. Students were selected on the basis of proximity to school so they could walk to class before school. The Generation www.Y teacher reported an interesting twist in student leadership that grew out of the class. He selected students to attend the summer Generation www.Y training who he "thought were leaders," and they were—in their own classrooms. They attended the training session with him "but they haven't turned out to be the ones who really got excited about it." Students who were not necessarily leaders in their classrooms took on responsibility and leadership roles in the Generation www.Y class. Notably, a couple of students became real leaders in spite of behavioral problems outside of Generation www.Y. Their involvement with Generation www.Y gave them skills as valuable contributors to the school that they would not have otherwise had, and School C teachers and students gained an appreciation for their abilities. Similar cases have been reported by many other Generation www.Y teachers—students who were "wallflowers" but who took on significant leadership roles during their Generation www.Y participation.

Students met in one of the technology-rich classrooms; for many of them this was their homeroom as well. The Generation www.Y teacher used the Generation www.Y Curriculum Guide, and students learned basic technology skills. The Generation www.Y

class focused on developing a yearbook for the Generation www.Y teacher's homeroom class. They took digital photos of special events that occurred during the year for inclusion in the yearbook. Students completed the online registration but none of the project-related reports. However, the yearbook was completed and put on a VHS tape.

The challenges of implementing Generation www.Y at School C were both technical and logistical. Primary factors were:

- Delayed acquisition of computers, scanners, digital cameras, and software required for implementing the program.
- Most teachers' lack of expertise and access to digital tools. This meant that the Generation www.Y class could not go on without the new equipment, and developing digital materials for teachers was problematic.
- Competition with many other programs at the school—for teacher time, resources, and students.
- The age of the students. This group of Generation www.Y students was very young. They needed consistent guidance and meeting times in order to make progress with acquiring technology skills.

The school finished the 2000-01 academic year with an interim principal and has a new principal for the 2001-02 school year. He clearly is a technology user since he has placed new information on the site over the summer and plans to keep parents posted through the Web site. Unfortunately School C will not be continuing as a Generation www.Y school in the coming year. The instability in leadership, lack of equipment, and competing interests have undermined the ability of the Generation www.Y teacher to build on the first year accomplishments. However, in many ways the school is ready to take off with Generation www.Y now. Several changes took place at the school during its Generation www.Y year that will facilitate integration of digital tools at the school. Key facilitating factors include:

- Each teacher has at least one new state-of-the-art computer in the classroom. The Generation www.Y teacher saw this as a major success of the year.
- The school has an Internet presence, with plans to use the Web site as a dynamic communication tool. It had no Web site last year.
- The principal values the use of digital tools.
- There will be numerous professional development opportunities for teachers to learn how to use digital tools in the coming year.
- The school also has a major grant to extend the daycare program and involve the community. This means that technology classes such as Generation www.Y may have a "home" within the structure of the daycare program in the future.

Junior High School D (School D)

School D is a suburban junior high school of about 750 students in grades seven through nineand over 40 teachers. The school is becoming increasingly technology-rich. Outreach to students extends beyond traditional classroom boundaries through after school and community activities. The 2000-01 school year was the final year of a three-year 21st Century Community Learning Center Grant that provided federal funding to extend the school day. The grant provided opportunities for students to participate in activities such as the rehabilitation of natural resources on the school campus, building a green house, after school homework clubs in math and general academic subject areas, weight lifting and physical fitness activities, and Technology Club. In addition to this grant, the school also implemented grants from Digital Tools, The Gates Foundation, and GTE/Verizon.

With administrative and grant support, School D is growing an academic culture that increasingly integrates digital tools into teaching and learning. The school received a donation of 20 computers during the academic year which enabled most teachers to have computers in their classrooms. Each classroom has Internet access through their network. Grant activities and increased access to computers sparked greater interest in applications and technology-rich pedagogy among staff. The Generation www.Y teacher noted that "some teachers learned a lot" about technology during the year. She had Generation www.Y students teach the Gates Grant teachers (and others) how to use various equipment from the Digital Tools grant such as digital cameras, scanners, and microscopes. Teachers and students shared technological expertise during inservices throughout the year and continuously built on what they know.

The technology class that included Generation www.Y was a dynamic class of about 34 students each semester. Just over half of the class was working on Generation www.Y projects while the remainder focused on the school yearbook. Most students took this elective course for both semesters of the school year. The class met in one of the school computer labs with about 30 computers, only one of which had Internet connection.

As an experienced English and technology teacher, the Generation www.Y teacher had developed numerous classroom management strategies to support learning with technology and collaboration with partner teachers. An effective signal system was used by students to avoid "getting stuck." A stack of three upside down plastic cups were used on top of the computer monitors to communicate when students were progressing along fine (blue cup), had asked a classmate for help but were still struggling (yellow cup), or had come to a standstill and could not move on without teacher assistance (red cup). The teacher also used hangtags for each Generation www.Y student so they had a hall pass to take photos, meet with teachers, or work on projects around the school as warranted. For the last 10-15 minutes of each class, students made journal entries on project progress that day. Entries were then printed out and handed in to track daily work.

The class fostered independent initiative and responsibility supported by collaborative learning of advanced technical skills. The Generation www.Y curriculum as well as other resources such as the Internet Drivers License by Classroom Connect were used to provide

material for students to read about skills or topics needed for their projects. The Generation www.Y teacher then drew those three or four students together to do a mini-lesson on that topic. The classroom balanced student interest with group work and teacher needs.

Students worked on a variety of projects during the year. Some students worked independently with partner teachers, others as part of a team with a number of teachers. Examples of projects follow.

- A key project for several students was the development of teacher pages for the school Web site. This project allowed teachers to partner with Generation www.Y students without having to commit too much time. The Generation www.Y teacher had met with some resistance in recruiting partner teachers due to concerns about the time commitment. Because School D teachers had up to 35 students in their classes and taught multiple classes during the day, individual time with students was at a premium. The Web site project alleviated this resistance. Teachers were interviewed using a guideline, digital photos were taken and teacher pages developed. The content was primarily focused on personal interest. The existing Web site for the school was limited, so the teacher pages will add significantly to the depth of the site.

- One Generation www.Y student partnered with a school administrator to develop a PowerPoint presentation for the school board. The presentation highlighted current grant initiatives at the school. The student discussed content with her partner administrator and key staff involved in each grant. She learned to use the digital camera and took pictures to show ongoing activities within each of the grant areas. The photos were combined with supporting text to document grant implementation, and the presentation was used during a school board meeting. The administrator reported that board members were impressed and commented on "how neat it was to work with students and teachers as partners." They saw Generation www.Y as fostering important connections between students and teachers that may have long-term impacts. The partner administrator had used a PowerPoint presentation a few years ago but was excited about working with a Generation www.Y student and thought the novelty and action in the presentation added interest to the topic.

- Another student worked with a science teacher-partner to develop a PowerPoint presentation on how to use PowerPoint. The slideshow prepared students to complete the presentation requirement for their research projects. The presentation was used with students who were not comfortable using PowerPoint (about half the class). As more and more students enter junior high school with experience using PowerPoint, the partner teacher plans to use the presentation as a tutorial.

- One Generation www.Y team developed a Web site for math tutorials. Two students worked with a math teacher to develop the site. They met with the partner teacher and clarified the teacher's goals for the site. Math students will use the Web site outside of class time to reinforce concepts and "see it rather than just sit and listen." The second semester, one of the student partners was not in the Generation www.Y class and the remaining student noted how much easier it was to work with a friend and how progress

on the project had slowed down considerably with only one person working on the development.

- An advanced Generation www.Y student worked on the ambitious project of converting the Generation www.Y curriculum into an online tutorial. He worked with the Generation www.Y teacher to develop the program and hoped to "sell" the idea to the Generation www.Y staff. He was enthusiastic and proud of the skills he learned and applied to the program.

- Students in the School D Generation www.Y class were also involved in a number of "on-demand" projects as needs arose from the faculty. Teachers, administrators, and coaches brought technology needs to the class. Projects ranged from flyers for upcoming school events to database development for record keeping. Students who were at a convenient stopping place in their own projects picked up the on-demand projects.

The busy tone set by the Generation www.Y teacher at School D enabled students to take initiative and responsibility for their projects. Students learned skills as needed for their projects, some even learned advanced technical skills—two students at the school were already Microsoft Certified, two others were close. In addition, partner teachers gained examples of technology integration. Generation www.Y seemed to enhance the impact of all the technology grants at the school and allowed students to show teachers how digital tools could be used in teaching.

Several challenges arose as School D implemented Generation www.Y. While not resolved during the first year they will be areas to work on in the coming year and for others to be aware of as they begin implementation. Key challenges that the project faced were:

- With only one Internet connection in the Generation www.Y classroom, completing the online project reports and surveys was problematic. The Generation www.Y teacher was not bothered by glitches—she knows they happen when using digital tools—however, the amount of time and connection time required to complete the online portion of the project was significant. By the end of the school year, Generation www.Y students at School D had registered but did not complete the other online pieces.

- For Generation www.Y to be taught in a more student-centered way, the Generation www.Y teacher felt she needed more material for students to read and work through independently. The revised version of the curriculum guide may address this need. On the other hand, she wanted less to read from the Generation www.Y office. The amount of text received via e-mail was overwhelming to her. She suggested messages be honed down to basic communication using bullets to highlight key items.

- Teachers with large classes and many student-contact hours in the day were resistant to spending 40 minutes or more with one Generation www.Y student who may not even be in their class. In order to overcome this reluctance it will be necessary to demonstrate to teachers the value of working with a Generation www.Y student.

The implementation of Generation www.Y at School D was facilitated by a school-wide interest in integrating technology, complementary grants, supportive administrators, and a Generation www.Y teacher who was experienced in student-centered practices.

Junior High School E (School E)

As a suburban junior high school, School E has just over 800 students in grades seven through nine. The administration supports authentic learning and many staff are interested in project-based learning. The school has two well-equipped computer labs as well as a technology-rich library and new computers in each teacher's room. Unfortunately all the hard drives have been removed from the computers in the labs to reduce vandalism. Students do not have e-mail access and viruses plagued the school network through the year. The school applied for several technology-related grants for the 2000-01 school year but were only awarded funding for Generation www.Y.

A teacher who struggled with the philosophy of the program was assigned to teach the Generation www.Y class. He did attend the training but did not embrace the approach. Generation www.Y was integrated into an existing semester-long elective technology class. The class had about 30 students each term. They began by rebuilding computers, and moved on to developing students' technical skills. Students did partner with teachers and worked on mini-projects toward the end of each term. Most of the projects (60%) were Web site development, some created PowerPoint presentations and a few helped teachers with specific digital tools such as Geometers Sketchpad.

The Generation www.Y teacher felt that "partnering with teachers was excellent and infused technology into the curriculum while lowering the intimidation factor for teachers." He used several strategies to maximize learning and manage the class projects. Strategies included:

- Students developed storyboards for their projects to work through the process from beginning to end.
- Students completed weekly progress updates.
- A rating scale was used by teachers to assess their partner students and the final projects. Students were rated on: 1) collaboration, 2) meeting frequency, 3) degree to which the product met their needs, 4) degree to which the product showed knowledge of the EALRS, and 5) the overall product.

The Generation www.Y teachers' concerns with the program included:

- Parts of the training were described as "less than stellar."
- Issues with the Generation www.Y Curriculum Guide. He felt it was "too fluffy" and focused too heavily on vocabulary. He would like to see it include more "real lessons" and "open-ended projects" for students to complete. (The Curriculum Guide has been thoroughly updated for the 2001-02 school year.)
- Feedback from student online proposals was not helpful. For feedback on student proposals to be effective the Generation www.Y teacher felt it would need to be more timely and given by teachers who know more about the context and content of what students at School E were doing.
- By not including digital tools with the grant, there was a perception that the school did not "get anything for the program."

The lack of buy-in on the part of the Generation www.Y teacher prevented success with several aspects of Generation www.Y at School E. He was not the original instructor for the program and without a basic commitment to the approach and structure of Generation www.Y the grant became more of a burden than an opportunity. This lack of enthusiasm for the program translated into negative communications with staff about the program, which further weakened the grant efforts. Without appreciation for key aspects of the grant such as the online and technical support, students and teachers were complacent about the program. Generation www.Y students did not complete any of the online components of the program.

On the other hand, other staff members who were initially enthusiastic about the grant still believe that Generation www.Y could be an important aspect of the School E curriculum if a few basic conditions were in place. Conditions mentioned were:

- The staff knows early enough in the spring that Generation www.Y will be available to include it in the planning of courses and scheduling so that it is a significant part of a class
- Staff members decide that Generation www.Y meets needs they have (building on teachers' technology skills, collaborating with students, or integrating digital tools into their instruction)
- The administration assigns Generation www.Y to a teacher who wants to teach it and values the philosophy and curriculum model
- The Generation www.Y teacher builds interest and high expectations for the program

Middle School F (School F)

School F is a middle school of about 420 fifth through eighth grade students. Staff members report that there is a lot of technology in the school as well as administrative support for project-based learning. Faculty spans the spectrum in their technology skills and approaches to teaching/learning. School F participated in TELDEC (Technology and the Essential Learnings: Developing Effective Classrooms) for the previous four years. TELDEC is a staff development model that promotes best teaching and learning practices. It aims to develop classroom models where technology is used as a tool to support integrated curricula that cross the Essential Academic Learning Requirements (Washington state's learning standards). Teachers who were involved with TELDEC gained strong skills with technology and experience with authentic applications.

The Generation www.Y class at School F used a semester-long format and was taught by two different teachers in the fall and spring semesters. Classes were small, with six students in grades six and eight participating in the fall, meeting three times a week. During the spring term five students in fifth and sixth grade met twice a week. Students applied to Generation www.Y using an application that asked candidates to respond to four open-ended questions and find two teachers/community members to write letters of recommendation for them. Potential participants also had to be willing to stay after school for the class since it was housed in the after-school program. During both semesters the class was held in the library, which was used exclusively for Generation www.Y during that time.

The Internet connection at School F was problematic. In the fall the class was frustrated by trying repeatedly to register students online, and failing. Eventually, they gave up on the online portions of Generation www.Y and tailored the program to meet their needs locally. During the fall, the Generation www.Y teacher took students through the first five chapters of the Generation www.Y Curriculum Guide, in a sequence that matched their needs for project completion. In the spring, the class focused on Web site development and converting PowerPoint slides to movies. Highlights of major projects follow.

- During the fall, students developed a presentation on the after-school program to build awareness and community support for the program. Generation www.Y students researched various after-school activities and created a PowerPoint presentation. The students presented to civic organizations such as Rotary and Lions as well as the school board. The students were proud to be doing a “real job” for the after-school program. The Generation www.Y teacher reported that some students “really came out of their shells” as a result of their Generation www.Y work. They took leadership roles and their work particularly “helped the eighth graders to see how to present themselves to the community at large.”

- The major spring project was the creation of an after-school program Web site. The after-school program needed a Web site and Generation www.Y provided the perfect venue for developing one. The school does not have a Web site so students particularly felt there was a genuine need. Students were partnered with School F teachers and interviewed them for Web site information. They also researched the after-school

program as a whole. Generation www.Y students took the "job" seriously because they knew that their names as well as the school name would go on the Web site and would be available to the entire Internet world. Teachers were proud of the Generation www.Y students and interested in their projects. While the final version of the site has not been posted yet, administrators have reviewed it and reacted positively. Hopefully it will be posted in fall 2001.

- Some of the Generation www.Y students who learned how to convert PowerPoint slides into a movie shared their skills with other students. They took the initiative to show classmates in their communications class how to create a movie from their PowerPoint presentations. Those students then applied their new skills to communication class final projects.

These projects built skills among Generation www.Y students while creating needed products for the school. The Generation www.Y teachers felt that the beauty of Generation www.Y was that it was flexible enough to accommodate local needs. They also felt that the program "was a good outlet for the kids and that they wouldn't have otherwise had that opportunity."

Challenges faced by Generation www.Y at School F included:

- Implementing the program in a way that remained true to some basic Generation www.Y expectations but suited the needs of students and staff at School F.
- Time constraints. The fall class planned to finish the PowerPoint presentation early in the year then partner with teachers and develop projects for the remainder of the year. As is so often the case, they just ran out of time.
- Staff changed from the trained Generation www.Y teacher to an untrained teacher for the spring term. The online portions of Generation www.Y fell by the wayside.

Generation www.Y was not implemented at School F as it was at schools that adhered more tightly to the model. The lack of reliable Internet connection and need for a couple of large scale projects steered Generation www.Y in a unique direction at School F. Yet, by taking the Generation www.Y idea and "making it their own," Generation www.Y teachers accomplished many of the same goals as schools with high fidelity implementations. Students worked with partner teachers to interview them and research activities, they produced authentic projects, shared skills with other students, and moved the school and broader community forward in their expectations and expertise with digital tools.

Instructors at School F liked the curriculum and felt their students enjoyed the activities. Under budget constraints, they greatly appreciated that the program was free and felt that the state system should continue to support Generation www.Y in schools because their school "just can't" afford it. They would like to see Generation www.Y fully funded by the state again next year. In lieu of state funding, elements of the Generation www.Y class will be incorporated into a "Computer Club" as part of the Talented And Gifted program.

Integrated Analysis of the Case Studies

The case studies of Generation www.Y implementation among the case study schools illuminated successes, challenges, and the unique ways in which each school made Generation www.Y their own. An analysis of findings across sites was conducted to identify emergent themes.

Across all the sites it was clear that Generation www.Y students acquired new skills with digital tools and applied those skills to meaningful projects that met real needs in their schools. All schools found teachers to be willing teammates with students. Each site also relayed accounts of how Generation www.Y made a difference to individual students and teachers. For most sites, the program raised the bar for expectations of technology use and integration.

Elementary School B and Junior High School D succeeded on nearly all aspects of the Generation www.Y program. Schools A and E, while reporting success within their own contexts, were not able to fully implement the program as envisioned during this year. Two schools (C and F) failed to effectively carry out several Generation www.Y program components, largely due to infrastructure challenges. At each site, various conditions facilitated or challenged the implementation of the program.

Facilitating Conditions

To accomplish these impacts, sites found that several conditions were required. The following conditions for high fidelity implementations were identified or apparent at the most successful sites. Conversely, for the sites that had low fidelity in their implementations, one or more of these conditions were not in place.

- An enthusiastic, capable Generation www.Y teacher was assigned to teach the class for the whole year (either as a yearlong course at the elementary level or for each term during the school year at middle schools). The teacher embraced the philosophy and valued key aspects of the program.
- Generation www.Y was implemented in conjunction with other projects that created a positive synergy such as co-implementation with TIP, Contextual Teaching and Learning, or a school-wide emphasis on professional development that focused on technology use. This approach magnified the impact of all the grant efforts.
- A minimal set of digital tools were accessible on a regular ongoing basis. In order to complete Generation www.Y online components, this included reliable Internet access.
- The school culture supported technology integration and project-based learning, and staff embraced the opportunity to learn from Generation www.Y students.
- The school and district administration found ways to support the program and ushered it through the infrastructure. "Nurturing" by the district was seen as crucial to success in some cases.
- The class was dedicated to Generation www.Y rather than integrated into a pre-existing course with an already full syllabus.
- Generation www.Y teachers tailored the program to meet local needs.

In addition to the previous facilitating conditions, effective Generation www.Y teachers used similar teaching strategies to further insure program success. For example:

- Selection of students who had an interest in the program and ability to attend class regularly.
- Maintaining a high visibility of the program by promoting Generation www.Y through school announcements, newsletters, or agenda items at staff meetings.
- Sites completed a project early in the year—usually in small groups or as a class—which served as a demonstration project. These projects were often presented to community groups, the school board, or parents and built strong early approval of the program.
- Class management tools were used to keep students on track, such as timelines, storyboards, journals/weekly updates, and partner teacher feedback forms. Systems were also developed for students to move around the school building, meet with teachers, or access equipment (standing hall passes, e-mail, equipment check-outs).
- Generation www.Y was incorporated in school planning for the year, including classroom assignments, scheduling, and student enrollment.

Challenges

Faced with implementing a new and innovative program such as Generation www.Y, sites encountered common challenges as well. Some challenges were unique to elementary sites, while others were faced by nearly all the implementation sites. Successful sites found ways to overcome these challenges, others did not. Challenges specific to elementary sites were:

- Modifying the curriculum to match the developmental needs of elementary students. Elementary teachers keenly felt the need to revise activities to include more games, challenges, and hands-on experience. For some teachers this came naturally, for others it was more of a challenge.
- Developing consulting skills among very young students. This was a difficult role for nearly all of the elementary students. Generation www.Y teachers supported students by designing interview sheets, encouraging students to set up meeting times with their partner teachers, and inviting partner teachers to drop-by the GenY class. Taking the lead as a consultant proved difficult for most elementary students, but effective Generation www.Y teachers found ways to mentor both student and teacher teammates.
- Completion of the online portions of the program. Completing many sections of the proposal was also beyond the capabilities of many elementary students. No students at the elementary sites were able to independently complete these sections.

Additional challenges faced by most sites were:

- Time commitments. Although most Generation www.Y teachers felt their time was well invested in the program and reported numerous positive impacts, they also recognized they dedicated a significant amount of time to Generation www.Y. This was viewed as an important consideration for administrators as they make teacher assignments.

- Competition with other extra-curricular activities. Most sites noted that Generation www.Y was competing for student time and attention whether it was an elective or held before/after school. In fact this was the only factor (other than transportation issues) that compelled students to drop out of Generation www.Y.
- Long e-mail messages. All sites expressed frustration over weeding out vital information embedded in long e-mail messages from Generation www.Y staff. They recognized that much of the information might be important but noted that more succinct messages would be more effective, and would model best practice in electronic messaging.

Keys to Success

Several keys to successful Generation www.Y classes emerged. These were approaches or instructional strategies that facilitated implementation of the model and helped sites avoid pitfalls faced by some schools. Common emergent keys were:

- Develop projects that match student skills with teachers' needs. When the projects had long term applicability for the partner teachers they seemed to be more willing to invest time and energy into their development. Partner teachers also appreciated projects that could be extended or elaborated on in the future.
- Create a Generation www.Y classroom culture of co-teaching and learning. This experience translates into practice in teaching technology skills and working collaboratively that will be valuable as students begin working with their partner teachers and sharing skills with students in other classes.
- Some elementary sites might want to begin by creating projects with a common structure that students could build on, such as Web sites or PowerPoint presentations.
- Build on teachers' expertise by using technologies that teachers are familiar with to expose them to new digital tools. For example, VHS tapes with embedded PowerPoint presentations, microscopes with digital photo capabilities, or specific software such as Geometers Sketchpad. Tap into how digital tools can enhance a teacher's curriculum.
- Use GenDids and Generation www.Y students to teach classes for other students as well as inservice for teachers. This provided additional teaching experience for Generation www.Y students and exposed the school community to the program.

The case studies highlighted ways that Generation www.Y programs can fall short of program expectations, as well as ways in which they can succeed beyond expectations. Perhaps the most revealing aspect of this investigation was insight into how local sites defined success. Even in sites where the program did not include some of the basic components of Generation www.Y, teachers reported high value of the program at their schools. Although these sites were not implementing the program as envisioned or designed, they were integrating aspects of Generation www.Y into their local contexts, tailoring it to their needs, and "making it their own." Regardless of fidelity with the model, all case study teachers were proud of their accomplishments and felt that Generation www.Y had made a positive difference for students, teachers, and technology integration at their schools.

INTERVIEW FINDINGS

Interviews with Long-Term Generation www.Y Teachers

During the months of May and June 2001, interviews were conducted with teachers and program coordinators in the State of Washington who had been continuously involved with the Generation www.Y program since its inception. This cadre of twelve teachers was selected based on their unique experience as senior Gen www.Y teachers. They all began as Gen www.Y teachers during the first or second year of funding and have all continued as teachers, curriculum writers, and/or coordinators with the program.

Most interviews were conducted over the phone, requiring about 25 minutes to complete each 13-question interview. Four respondents submitted answers to the questions via e-mail due to time constraints.

A content analysis of the responses was conducted to identify emergent themes and the scope of answers related to each question. The following sections highlight clusters of responses. For some questions interviewees identified multiple examples or responses, resulting in total response numbers of greater than twelve for those items.

Involvement

Of the twelve teachers who were interviewed all were highly experienced Gen www.Y teachers. Nine interviewees have taught or coordinated Gen www.Y since 1996, three since 1997. One interviewee was part of the original grant writing team. Five of the twelve have moved from teaching Gen www.Y to coordinating the program, either for their school, or for the entire district. Several have written portions of the Curriculum Guide, designed advanced Gen www.Y material such as the GenDid curriculum, and/or been involved at an organizational level.

Strengths and Weaknesses

Respondents unanimously supported the Gen www.Y model as a sound one that empowers students and teachers to work together and be flexible in their working relationships. Teachers typically identified several strengths of the program primarily focused on increased student skills or positive impacts on students. The following table shows response clusters.

Number of Responses	Gen www.Y Strengths
15	Increased student skills/abilities
8	Positive impact on teachers and school
6	Flexibility of the program

Key areas identified in which student skills/abilities increased were:

- Learning to communicate and work with a partner teacher
- Using students' expertise
- Working with teachers
- Technical skills

Impacts on the school were reported as:

- Getting teachers involved with technology integration in their own subject areas
- Equalizing student-teacher roles in the school
- Changing the school culture to one where technology is more regularly integrated and the Gen www.Y model is used for other programs such as curriculum planning
- Greater sense of students' involvement with their own learning

Flexibility of the program was recognized as a strength through its student-centered approach that can build on students' knowledge and skills as well as the program's ability to tailor projects to specific needs and skill levels.

Weaknesses

Respondents noted that revisions to the curriculum have resolved some previous weaknesses and that the program has continued to be responsive to feedback from the field. Current perceived weaknesses centered around pressures the program places on Gen www.Y teachers, the level of the curriculum, and issues related to partner teachers. Identified weaknesses clustered into the following categories:

Number of Responses	Gen www.Y Weaknesses
6	Pressures on Gen www.Y teachers
5	Curriculum geared toward middle school
5	Commitment of partner teachers
2	Scheduling classes challenging

Pressures. As long-term Generation www.Y teachers, these interviewees recognized the pressures Gen www.Y placed on their time and abilities. Respondents noted that in addition to time required to defuse technical problems, they often have the burden of resolving problems between student-teacher teams, staffing classes with teachers who understand the model, and continuously updating their knowledge to keep pace with technological innovations.

Curriculum Level. There was general appreciation for the Gen www.Y materials and online support, though strong feelings from nearly half of the respondents that the curriculum and materials need to be extended to match the needs of high school students. Some teachers mentioned a mismatch among program goals and the goals of some high school students who enroll in the class. It seems that at some sites high school students enter the class with their "minds made up" regarding a project they would like to undertake for the class, and some are unwilling to tailor their projects to the actual needs of a partner teacher.

Partner Teacher Commitment. Commitment from the partner teachers is critical to successful completion of Gen www.Y projects. To be effective, partner teachers need to be willing to be involved on a consistent basis, comfortable going to students for help, and able to spend time and energy collaborating with their partner student. Developing a pool of partner teachers who are committed to being involved at this level has been a challenge for several teachers.

Scheduling. Finding an optimal time to offer the Gen www.Y classes has been difficult for some teachers. If the class is offered as an elective, respondents find that it competes with other classes students wanted to take. However, it is difficult to attract students when the class is offered outside the regular school day.

Perceived Impact of Gen www.Y on Schools

All respondents reported a positive impact of Gen www.Y on their schools in a variety of ways. Nearly all the teachers interviewed mentioned changes in the interaction patterns among the school community as a major impact. The nature of this interaction often became more collaborative with teachers more open to asking students for assistance with technology. Gen www.Y was also attributed to increased technology use, integration, and enthusiasm for digital tools by nearly all the interviewees. Teachers reported that the program had increased the availability of digital tools in their schools (along with competition for those tools.) In addition, several teachers noted that Gen www.Y was responsible for "raising the bar" for the level of technology classes offered and expectations for technical support. These patterns may be seen in the following table.

Number of Responses	Changes or Impact on Schools
11	Interaction patterns among students, teachers, and colleagues more collaborative
10	Increased technology use, integration, enthusiasm for tools
6	Increased quantity and quality of digital tools and competition for resources
4	"Raised the bar" for technology classes, technical support

Changed Interaction Patterns. Teachers recognized to varying degrees that Gen www.Y had impacted the culture of their schools. Most gave examples of how the program had changed the way students and teachers interact. Interviewees responded with comments such as:

> "The whole environment of the school has changed…parents, teachers, kids, administration. The struggle now is who gets to use the labs and computers."

"Teachers are now asking kids for assistance. Most of the teachers are getting comfortable with working with kids in a more collaborative way."

"Success in the classroom depends upon whether the teacher can change their attitude toward kids. Some just want the work, and then it is over."

"It has changed the culture of the school in how teachers and students communicate and work together in developing curriculum."

Increased Use of Technology. Most teachers also noted that Generation www.Y had increased the use of technology by teachers and that they were enthusiastic about integrating digital tools into lessons. Responses are captured by quotes such as:

"The technology that teachers use and are willing to use has expanded."

"Our staff has become much more familiar and comfortable with using technology in their everyday lessons."

"The teachers have been impressed just how well some of the students can handle the newer technologies. Student ease with running some of the technology is somewhat infectious."

Increased Available Digital Tools. By implementing Gen www.Y many teachers found that it became an impetus for moving their school forward in terms of connectivity, tools, and administrative policies. In addition, it was a motivator for administrators to clarify policies. Teachers commented:

"It [the program] was the push that got the school connected…Internet, etc."

"The program helped formalize some of the policies for administrators."

Raised the Bar for Technology Classes, Technical Support. Some teachers also recognized that the program raised expectations among the school community for more sophisticated technology classes and continued support. They noted:

"Lots of kids are now able to help and they are looking for the next step in technology…what is the next thing they can tackle?"

"Administration is really the key…having [the endorsement of] those people and tech support, too, that is essential for success of the Gen www.Y program."

Generation www.Y as an Effective, Serious Professional Development Model

Effective Model. Responses to these questions were mixed. For three of the respondents' schools, the professional development through the Gen www.Y program has been very effective and is taken quite seriously. For over half of the interviewees (seven out of twelve teachers), the impact has been limited to only some teachers. Two teachers felt that the program had not been an effective professional development model at their schools.

For those who saw the program as very effective and serious (25%), they attributed the impact to the change in the culture of the school or changes in the use of technology at the

school. For those who qualified its success by noting that it had been effective for some but not all teachers (58%), they identified barriers to greater effectiveness as:

- Dependence on the quality of the student-teacher relationship
- Limited access to digital tools
- Teacher or student resistance to the paradigm shift

Interviewees who did not see the program as an effective professional development model (17%) all taught at the high school level. They had not seen a collaborative culture develop, therefore either teachers just wanted students to do the project (without teacher involvement) or students did not want to help teachers with projects that were needed by teachers.

Serious Model. Half of the interviewees reported that Gen www.Y was viewed as a serious model for professional development at their schools, half did not see it that way. The key factor that aided in its perception as a serious model was administrative support. The primary barrier to the model's perception as serious was that it was seen as student-focused rather than truly focused on professional development. Other barriers were implementation challenges related to:

- Teachers' lack of acceptance of digital tools/resistance to integrating technology in their teaching
- Limited access to digital tools
- Insufficient "buy-in" from teachers or students

Increasing Technology Literacy and Technology Integration

All interviewees identified ways in which Generation www.Y was helpful in increasing the general level of technology literacy and technology integration at their schools. Teachers specified examples that included increased use, interest for, and access to digital tools. Examples fell into the following categories:

Number of Responses	Examples of Increased Technology Literacy and Integration
10	More technology-based projects integrated into content area classes such as PowerPoint, multimedia presentations, E-pals
7	Increased use of Internet/Web sites especially for research
3	Greater access and support for technology, trouble shooting
2	More interest among students and teachers in taking advanced courses in technology

Student Impact

The next set of questions asked interviewees about how helpful Gen www.Y had been in increasing the level of student engagement, teaching effective technology literacy skills, and whether there were opportunities for student leadership within their schools. Teachers overwhelmingly agreed that Gen www.Y had increased student engagement and technical skills at their schools. About half of the teachers recognized that students were already

generally successful but that Gen www.Y added to student engagement. Five teachers thought this was an area where the program had a profoundly positive impact. They cited successes with increased student confidence, success with at-risk students, and improved communication skills among students. Respondents were very positive about the impact of the program on students' technology literacy skills reporting that Gen www.Y students:

- Have been hired for technology positions outside the school
- Took advanced technology classes
- Judiciously applied technological tools to projects
- Effectively used productivity tools such as the Internet in other classes

Half of the teachers gave examples of leadership opportunities available to their students such as:

- Committee positions
- Conference presentations
- Community service
- Student aides/district technology positions

Among the remaining half of the interviewees, three saw limited leadership opportunities at their schools, and three did not think there were significant opportunities for students in this area at all.

Support for Other Technology or Curriculum Initiatives

Most interviewees identified ways in which Gen www.Y provided support for other technology or curriculum initiatives in their schools or districts. This support was evidenced through the help that students provided on school Web sites, participation in community technology projects, and specific programs that students learned. Technology/curriculum initiatives with which teachers noted Gen www.Y student involvement were:

Number of Responses	Technology/Curriculum Initiatives that Involved Gen www.Y Students
4	Specific technology applications such as GIS, graphics programs, programming languages
3	Web site design
3	Community service projects

Three teachers did not see specific ways in which Gen www.Y had supported other technology or curriculum initiatives at their schools.

Value of Online Project Planning

As evidenced in other evaluation feedback, appreciation for the online project planning component of Generation www.Y was mixed. In fact responses were divided equally among those who valued this component and those who expressed reservations about its value. The

five respondents who valued the online components explained their responses by noting that this feature:

- Helped students develop a sense of responsibility and accomplishment
- Forced kids to think through their projects and organize their thoughts

These interviewees also appreciated the changes that have been made to the online component over the years and thought this component continued to get better in response to feedback.

The five teachers with concerns about the value of the online pieces commented:

- It's difficult for younger students to use
- Students are negative when they receive negative comments from the consultants
- Searching for the EALRs (correct standard for Washington state) is "a pain"
- It's hard to get student buy-in. They don't always respond to consultant recommendations
- I don't use it

Adaptations and Improvements

The final interview questions targeted adaptations teachers have made to the model to make it more effective with their students and recommendations for improvements to make Generation www.Y better. All teachers provided examples of modifications they made to the program and many suggested improvements.

Adaptations. Most adaptations that teachers made facilitated Gen www.Y implementation at their schools. Six teachers provided examples of this type of adaptation such as:

- Matching students and teachers interests with district requirements
- Modeling how technology benefits /enhances learning for students and teachers
- Making sure the Gen www.Y teacher is qualified
- Making Gen www.Y part of the regular school day

Three teachers adapted the model by:

- Partnering Gen www.Y students with other students
- Partnering 2-3 Gen www.Y students with a single teacher to work collaboratively on a project
- Using longer-term Web-based projects that other Gen www.Y students can build on and will benefit students and teachers throughout the school/district

An additional three teachers modified the curriculum by:

- Cutting many units/adapting them for younger students (2 teachers)
- Coming up with supplemental projects rather than using the Curriculum Guide

Improvements. Specific suggestions for improvements were minor. The highest number of responses in this area suggested the need to continue offering funding for Gen www.Y to

make it affordable to most schools. The other predominant theme focused on the need to continue development of the GenDID curriculum or extensions for high school students. Itemized responses are shown in the table below:

Number of Responses	Examples of Increased Technology and Integration
5	Need outside funding to continue
4	Develop GenDID or High School materials
3	Specific revisions to program components
3	It's good

Summary of Interviews with Long-time Generation www.Y Teachers

The interviews with teachers who have been involved with teaching and coordinating Generation www.Y classes for the past several years substantiated findings from other evaluation strategies. In summary the findings provided additional evidence of the following:

- The major strength of Gen www.Y is that it increases students' skills and abilities with digital tools.
- Key weaknesses of the model are that it can be time-intensive for the Gen www.Y teacher and experienced Gen www.Y teachers see the need for high school level extensions or curricula.
- The greatest impact of the program is in changing the interaction patterns within schools to a more collaborative one among students, teachers, and colleagues. Additionally benefits include increases in technology use, technology integration, and enthusiasm for digital tools.
- As a professional development model, Gen www.Y is very effective in sites where the school culture changes with the program. Effectiveness is tempered by the quality of student-teacher teams, access to digital tools, and the school culture.
- Gen www.Y is viewed as a "serious" professional development model in schools where it has strong administrative support.
- The program provided support for other technology/curriculum initiatives such as specific technology applications, Web site development, and community service projects.
- This group of highly experienced Gen www.Y teachers adapted the model to suit local contexts and needs.

Interviews with Virgin Islands Generation www.Y Teachers

Several schools in the Virgin Islands were original sites for the Generation www.Y Project. By the final year of the project, all secondary schools in the islands were participating. In February 2001, the project evaluator conducted interviews with teachers at each of these schools. The interview protocol used open-ended prompts to ask about the school context and technology infrastructure, as well as about the partnerships of Generation www.Y students and teachers, and the impact of the project on teachers, students, and the school as a whole.

These schools serve student populations that are almost totally of African-American descent. Labor disputes in the past year have soured the atmosphere and lowered teacher enthusiasm for any special projects at some schools. The schools generally have very limited technology infrastructure and poor Internet access. One school was described as having "one of the best" connections to the Internet, which was only in service about half of the days in the academic year; sometimes the school was completely cut off from Internet access for weeks at a time. The majority of these schools have recently acquired new computers for their labs, but are lagging in software purchases, projection devices, software, training, and other key elements of technology infrastructure. In many instances, all computers in a school are concentrated in one or two fortified labs in order to prevent theft. This limits the opportunity for teachers to work toward classroom integration of technology in their own rooms. Many teachers do not use computers at all in their work, even for email or word processing.

Teachers described some hurdles with implementing the model, which reflected the typical mix of difficulties that Generation www.Y teachers report in other parts of the United States. These issues include time constraints, infrastructure problems, scheduling issues, difficulties managing particular pairs of student and teacher partners, and building initial teacher interest in participation. As at many schools where technology integration is in early stages, the majority of students and teachers have focused on projects that involve digital presentations, using software such as HyperStudio or PowerPoint.

Effects on Schools

In this context, the Generation www.Y classes were nevertheless described as essential to furthering technology integration at the schools. Teachers at several schools reported that the program increases the general level of technical support available to teachers, students and administrators, since many students learn skills that allow them to train others or troubleshoot technical problems. Teachers also reported that this "improves the kinds of projects that are done in other classes" and that schools are changing their curriculum to build keyboarding skills earlier, so that students are prepared to use computers more effectively by the time they are in middle school. One school official called the project "very beneficial" and reported that "students and the GenY teacher can do all the training we need, which saves us money." Most of the comments from Virgin Islands educators focused on specific benefits for teachers and students.

Impact on Teachers

In general, the Generation www.Y model is perceived as very beneficial for teachers in Virgin Islands schools. As is typical in the mainland U.S., the model may not be well implemented during the first year that a school attempts to run the class. It may take one or more semesters for Generation www.Y teachers to become fully oriented to the model, and to orient their faculty members and students, in order for the program to work as intended. Time and scheduling issues may present difficulties that require site-specific solutions. Once the project is fully implemented, however, participants report that technology skills, enthusiasm, and classroom integration are increased through a number of avenues, as summarized in the following table:

Number of Responses	Impacts on Generation www.Y Partner Teachers
6	Increased awareness of the potential uses of technology in the classroom
6	Increased interest and enthusiasm for technology integration
4	Increased use of technology for personal productivity
4	Increased technology integration in classrooms
3	Increased collaboration with students
3	Increased availability of technical support from students
2	Increased use of computer labs

Impact on Students

Interviewees reported universally positive impacts of the project on students. Although the content of the Generation www.Y course involves technology skills and project skills, the most frequent student benefits volunteered by those interviewed involved broader issues such as enthusiasm for learning, self-motivation and self-direction, and improved psychosocial factors such as confidence, poise, and interpersonal relationships with teachers and other students. These student impact categories are tabulated below:

Number of Responses	Impacts on Generation www.Y Students
8	Increased interest and enjoyment in school and enthusiasm for learning
6	Increased responsibility, organization, self-direction
5	Increased technology skills, ability to provide technical support
5	Increased project management skills
4	Increases in students supporting and teaching each other
3	Improved personal relationships with teachers
3	Increased student confidence and poise
2	Increased student critical thinking skills
2	Increased appreciation of school, learning, and the difficulty of teaching
1	More student participation in school and district leadership

COMPARISON STUDY OF PARTICIPATING AND NON-PARTICIPATING TEACHERS

During the 2000-2001 school year, the state of Alabama provided support for Generation www.Y implementations in 23 schools. In order to explore the value of the model for professional development of teachers, arrangements were made to administer surveys to all teachers in these schools, before and after the year of Generation www.Y activities. Twelve of the 23 schools had reasonable rates of participation in Spring 2000 (returning surveys from 60% or more of their teachers). These schools received follow-up surveys in Spring 2001.

The surveys included questions about beliefs and attitudes regarding educational technology and collaboration with students, as well as self-efficacy for computer use and for the use of technology in teaching and learning. At the end of the year, it was possible to analyze gains in teacher self-efficacy for use of computers in teaching, comparing those teachers who participated as Generation www.Y partner teachers to teachers who did not participate.

Two scales are of primary interest; Self Efficacy for Personal Computer Use and Self Efficacy for Teaching with Computers. Self-efficacy is a well established construct in psychological research, encompassing confidence and self-perceived skill and ability. Both scales are still experimental and under development at NWREL, but both have good internal consistency reliability (coefficient alpha > .90) and normal distributions among diverse teacher samples.

For this analysis, a sample of 25 teachers who participated in the program as partner teachers for both the fall and spring semesters was compared with a group of 89 teachers who did not participate in GenY.

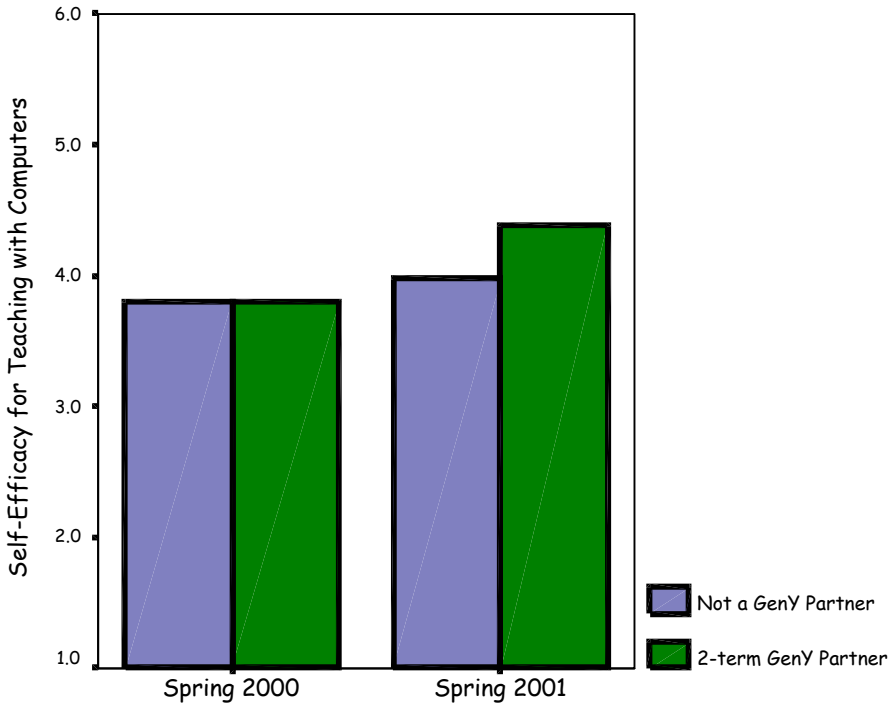
The teachers who did participate in the Generation www.Y program began the year with higher self-reported self-efficacy for personal computer use (mean = 3.88, SD = 1.25) than non-participants (mean = 3.59, SD = 1.08). Although this difference in and of itself was not statistically significant, initial self efficacy for personal computer use was a strong predictor of self efficacy for teaching with computers in Spring 2000 ($r = .72$, $p < .01$) and in Spring 2001 ($r = .54$, $p < .01$). Accordingly, the analysis was conducted with initial levels of self efficacy for personal computer use statistically controlled.

With initial levels of self efficacy for personal computer use held constant, teachers who participated in Generation www.Y for the entire year showed marginally greater gains in self efficacy for teaching with computers, compared to teachers who did not participate (F=3.80, $p < .06$). This relationship is shown in Figure 2.

While this is a preliminary study with imperfect design and instrumentation, it represents an initial step toward measuring the impact that GenY participation can have on the professional development of teachers. Those teachers who chose to be GenY partner teachers for the year showed greater gains than non-participating teachers in their confidence and self-perceived skills and abilities for using computers in teaching.

Figure 2.

Growth in Teacher Self-Efficacy for Teaching with Computers, Controlling for Initial Levels of Teacher Self-Efficacy for Personal Computer Use



EXTENSIONS OF THE GENERATION www.Y MODEL

The core Generation www.Y class has been developed for use as a regular class or extracurricular activity that provides immediate benefits for participating students and partner teachers. However, in order to extend the impact of the program, the model is also designed to prepare students for continued growth and service in their schools and communities. Toward this end, a number of additional components have been developed in the Olympia School District and in other participating districts across the country. These extensions provide further opportunities for students to apply their skills in technology applications and collaborative project work.

Four primary types of extensions to the core model have been developed in Olympia. These allow students who have been through the Generation www.Y course to continue developing and applying their technical, communication and leadership skills. Graduates of the program have been nicknamed "GenDids." These extensions include:

- Opportunities for GenDids to work with pre-service teachers at participating institutions of higher education, in order to improve the integration of technology into the education and field experience of pre-service teachers. During 1999, this aspect of the Generation www.Y project contributed to the development of a proposal by The Evergreen State College, also in Olympia, to the U.S. Department of Education program on *Preparing Tomorrows Teachers to Use Technology*. This project was funded as a Catalyst grant, and has resulted in a three-year effort to build networked learning communities in several states, involving K-12 Generation www.Y schools and nine colleges of education.

- Opportunities for GenDids to work in after-school computer labs or community-based computer labs, to improve access to networked computers and individualized mentoring for students, family members, and community members.

- Opportunities for GenDids to continue working on educational technology projects with new or former partner teachers, administrators, or staff in their schools, including opportunities to act as teaching assistants or mentors with other students.

- Opportunities for GenDids to provide leadership and technical expertise in other community organizations.

Figure 6. Generation www.Y Core Model

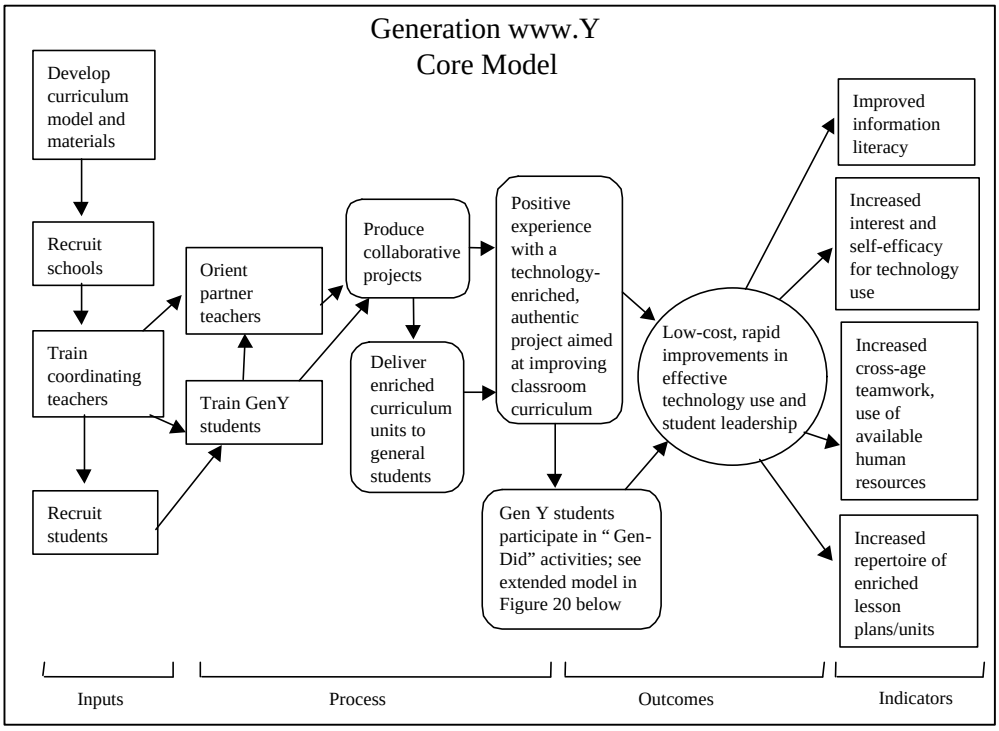
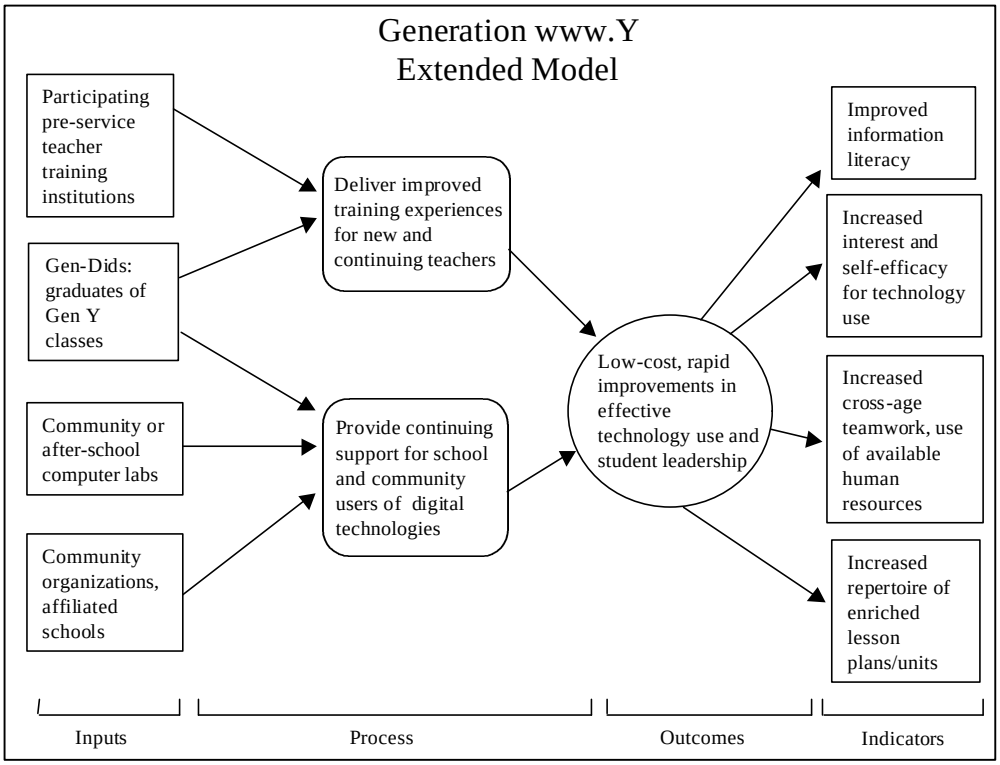


Figure 7. Generation www.Y Extended Model



Pre-Service Teacher Training

During the first three years of the project, Generation www.Y graduates in Olympia, Washington served as instructors and facilitators for educational technology classes at pre-service teacher education programs in two local institutions of higher education, The Evergreen State College and St. Martins College. In addition to classroom activities and discussions about educational technology, pre-service teachers accompanied these GenY students to their elementary, middle, and high schools for demonstrations and hands-on experience with the uses of integrated technology in real educational applications.

This program is currently being further developed through a 1999 award to The Evergreen State College, in partnership with Generation www.Y, under the *Preparing Tomorrow's Teachers to Use Technology* Catalyst Grant program of the U.S. Department of Education.

Through the Student Teacher Technology Education Partnership (ST^2EP), nine participating teacher education institutions are developing networked learning communities, incorporating educational technology and integrating efforts at participating colleges and universities with the Generation www.Y programs in local middle schools and high schools. Experiences and data from the Generation www.Y project were used as formative information for the new Evergreen State College project. For more information see the ST^2EP web site at http://step.evergreen.edu.

Community Computer Labs

Another leadership opportunity for graduates of Generation www.Y in the Olympia, Washington School District has been the development of public access computer labs at schools or community centers. Pre-service teachers have also worked in these labs as an additional experience with educational technology integration.

Five such computer labs were developed in Olympia, providing access to networked computer resources for students, their family members, and other individuals. These labs have been open after school hours, staffed by pre-service teachers and GenDids, and have provided individualized support to users as well as access to modern software, hardware, and the Internet.

Student Leadership in Schools and in the Community

Many individual Generation www.Y graduates have continued applying their skills in various roles, in their academic settings or in community organizations. The following list conveys some of the opportunities for student leadership that GenDids have enjoyed around the United States as extensions of their Generation www.Y experiences:

- Involvement in local citizen leadership programs
- Presentations at national, state and regional educational technology conferences
- Formal or informal positions as teaching or technical assistants in their schools
- Employment or internships as Webmasters for schools or districts
- Service as student representatives to national and regional educational organizations
- Management of school telecommunications programs
- Employment or internships as educational technology consultants for district or state educational officers
- Participation as expert panel members in online discussions of educational policy

As the number and collective expertise of Generation www.Y graduates increases, developing further opportunities for continued growth and participation is currently a high priority for the Generation www.Y program. The majority of Generation www.Y students are in middle schools or junior high schools. Unfortunately, many of these students move on to high schools in which opportunities to continue applying and developing their leadership and technical skills are limited. It is hoped that more communication and integration will develop between grade levels and school buildings, in order to maximize the effectiveness of these programs.

SUMMARY AND RECOMMENDATIONS

Over the past five years, the Generation www.Y curriculum model, materials, training, and online resources have undergone several cycles of development and revision. The award-winning program has been implemented in elementary, middle, and high schools across the United States, and has spurred the development of a teacher training project through the U.S. Department of Education's program for Preparing Tomorrows Teachers to Use Technology.

A variety of data has been collected to inform the improvement of the project as well as to document knowledge about the project. Extensive surveying of participating Generation www.Y teachers, partner teachers, and students has been integrated into the online facilities used by participants. In addition, evaluation studies have included case studies of selected schools, site visits, interviews with teachers and administrators from participating schools, and a quasi-experimental study comparing participating and non-participating teachers in selected sites. Survey data, case studies and interviews have been collected from a wide variety of schools and geographic regions, including rural, suburban, and urban schools with a range of affluence and demographic characteristics.

The Generation www.Y model is implemented differently in different sites. This variability is intentional, and the resources provided to schools are intended to be adapted to local conditions. One general finding is that it often takes one or more semesters of floundering in order for a particular Generation www.Y implementation to take hold. During this period, administration and faculty must work to become oriented to the model, and to clear away scheduling problems, infrastructure deficits, or other structural hurdles. Of particular importance is properly introducing the model to the faculty, so that they understand their role in the program.

In schools that have moved through these hurdles and fully implement the model, participants report overwhelmingly positive outcomes. Participating teachers and students report that their involvement in Generation www.Y afforded them an excellent opportunity to improve their basic technology skills as well as their more advanced abilities to integrate technology in standards-based lessons, projects and curriculum units. Both teachers and students report that they gained meaningful, authentic experience developing skills in technology use, collaboration, project management, and information literacy, while contributing to the improvement of their schools. Most found the Generation www.Y model to be an effective professional development strategy for teachers, as well as an effective approach to increasing student engagement, student learning and student leadership.

Ongoing problems limit the success of the model in some schools. A large and apparently growing fraction of teachers report that their students do not have adequate network access or user privileges for online educational activities, often due to overly stringent network security procedures in their buildings. Many teachers and partner teachers noted that chronic time constraints made it difficult for them to implement a new and innovative program, particularly one involving projects and partnerships with students that may require activities that do not follow the regimented structure of today's schools. An ongoing struggle for the program is the number of partner teachers who remain unclear about their role in the model.

Recommendations:

Although federal support for the project is at an end, Generation www.Y will continue as a non-profit or for-profit enterprise. The following recommendations are offered to support the continued success and development of the program.

Information on Facilitating Conditions, Challenges and Keys to Success from the preceding section titled Integrated Analysis of the Case Studies should be provided to schools interested in implementing Generation www.Y. This information can help schools determine if the program is a good match for their needs, as well as give them information about how to prepare and develop a successful Generation www.Y program.

Student access to network resources is blocked or limited in some schools, preventing or hampering the implementation of programs such as Generation www.Y. State departments of education may find it particularly helpful to provide resources for schools regarding how to address security concerns without overly restricting student and teacher access to local computer networks and resources as well as the Internet.

During 2000-2001, a significant minority of teachers did not feel adequately prepared by their training to conduct the course. This issue may be partly addressed by new curriculum materials prepared for future school years; however, additional enhancements to the Generation www.Y teacher training sessions may be warranted.

Generation www.Y collaborative projects require adequate meeting time for students and their partner teachers, as well as clear expectations about why and how the projects are to be developed. As in previous years, almost ten percent of partner teachers disagreed with the statement "My role as a partner teacher was clear to me." Particularly in schools with first-time Generation www.Y teachers and classes, it is challenging to convey to all faculty an understanding of the model and the role of partner teachers. This area should continue to be a focus for Generation www.Y teacher training and curriculum resources. In the future, it may be helpful to prepare schools with additional information about the role of partner teachers, and options for how to structure collaboration time with their partner students as projects are designed and completed.

Information on student selection/recruitment issues, and options for resolving those issues, would be helpful to many schools, especially those just beginning to use the Generation www.Y model. As noted above, there are several factors that may be taken into account when deciding how to recruit or select students for the program, including equity issues, readiness of students to be helpful partners for teachers, prior technology experience and interest, scheduling and availability (including transportation for before-school or after-school activities), etc. Many excellent examples of solutions to these issues have been developed at existing Generation www.Y schools, and teachers new to the program would benefit from this kind of information.

APPENDIX

2000-2001 Archived Collaborative Curriculum Projects

Project Area	Project Name
Business Education	Middle Town Introduction
Business Education	Career Day Presentation
Business Education	9 worlds and Counting
Business Education	United Nations
Business Education	The Adventure of Polygons
Business Education	Chapter 10 Dimensions
Business Education	J.R.O.T.C.
Business Education	HyperStudio Presentation About the Holocaust
Business Education	PowerPoint on the U.S. Constitution
Business Education	Marketing/DECA PowerPoint Presentation
Business Education	Behind the Scenes with the 8th Grade English
Business Education	PowerPoint Presentation: Exploring Work Skills
Business Education	Introduction to PowerPoint (PowerPoint)
Business Education	Project Proposal Form
Business Education	HyperStudio Presentation: Escape From Warsaw
Business Education	Ancient Greece with PowerPoint
Business Education	Career Posters
Business Education	HyperStudio on Weather
Business Education	Sandy Beaches
Business Education	Rules and Regulations of the Internet AUP
Business Education	PowerPoint Presentation: Spell Check
Business Education	Handling Your Money
Business Education	PowerPoint Presentation: Spreadsheet
Business Education	PowerPoint Presentation for Open House
Business Education	The Major Bones of the Human Body
Business Education	PowerPoint Presentation: The Eight Parts of Speech
Business Education	Solar System
Business Education	Web Page
Business Education	Using the Internet as a Tool to Help Create Informational Presentations
Business Education	My PowerPoint on The Digestive System
Business Education	Web Page: Sabael Benedict's Family Tree
Business Education	Using PowerPoint to Identify the Parts of a Typewriter
Business Education	Computer Tips
Business Education	PowerPoint Presentation: Accounting: A Mobile Profession
Business Education	PowerPoint Presentation: Does Friendship Come First?
Business Education	Accounting Clerks
Business Education	PowerPoint Presentation: Computers - Buying Smart
Business Education	HyperStudio Presentation: Career Class for the 8th Grade Student
Business Education	Geometry
Business Education	World War II
Business Education	Civil War
Business Education	Recalling
Business Education	Hebrew Video
Business Education	Heredity Web Site
Business Education	Power Point Presentation - Naval Avenue Playground Rules
Business Education	Excel in the Class Room
Business Education	Becoming MOUS certified with Mr. Fabratiuss
Business Education	Vocational Opportunities
Business Education	PowerPoint Presentation: The 9 Steps In Accounting Cycle
Business Education	E-Pals
Business Education	CNBC Student Stock Tournament Used in the Classroom
Business Education	Old West

Business Education	Welcome to Physical Education and the Athletics Web Page.
Business Education	Frogs of the Rainforest
Business Education	Class Web Page Project
Business Education	Pablo Picasso Web Page
Business Education	Panther Press
Business Education	Emily's First Day At School
Business Education	Mr. Jenny's Poster Project
Business Education	Rocketry Movie
Business Education	Ancient Rome Web Site
Business Education	Web Site: Mr. Nelson's Class
Business Education	Microsoft PowerPoint Presentation: Banking Activities
Business Education	PowerPoint Presentation: All About Resumes
Business Education	Cash Control and Banking Activities
Business Education	Flat Stanley in the USA
Business Education	Establish Principal Links to the Marshall Home Page
Business Education	A Brochure on How to Make a Brochure
Business Education	Using Digital Images To Post Student Work to the Internet
Business Education	Welcome to the 50 States
Business Education	Creating a Business Web Page
Business Education	Business PowerPoint
Business Education	PowerPoint Presentation: Freshman Orientation at Northeast Magnet
Business Education	Freestyle-drawing Project
Business Education	4th Grade Presentation.
English/Language Arts	PowerPoint Presentation: American Literature and the Harlem Renaissance
English/Language Arts	PowerPoint Vocabulary Lesson
English/Language Arts	Web Trip to Newbery Authors
English/Language Arts	Web Sites and Web Trip for Authors
English/Language Arts	PowerPoint: Literary Devices
English/Language Arts	PowerPoint: How to Fill Out a Job Application
English/Language Arts	World Tour Night
English/Language Arts	Slide Show: That Was Then, This is Now
English/Language Arts	Maniac Magee Slide Show
English/Language Arts	PowerPoint Presentation: Adjectives
English/Language Arts	HyperStudio Presentation: Compound Words
English/Language Arts	Bull's Eye with Adjectives
English/Language Arts	Getting Jazzy With Action and Linking Verbs
English/Language Arts	The Learning of Adverbs
English/Language Arts	PowerPoint Presentation: Irregular Verbs
English/Language Arts	Present and Past Tense Verb Forms
English/Language Arts	Flying Into Language
English/Language Arts	PowerPoint Presentation: The Academics of Language Arts
English/Language Arts	Preschool ABC's: A HyperStudio Project
English/Language Arts	PowerPoint: Sentence Structure
English/Language Arts	Theater Tips Using Microsoft PowerPoint 2000
English/Language Arts	PowerPoint Presentation on Our Town
English/Language Arts	Using PowerPoint to Teach the Elements of a Novel
English/Language Arts	Web Page: Online Feedback for Students
English/Language Arts	PowerPoint: Poems
English/Language Arts	The Hot Zone Presentation by PowerPoint
English/Language Arts	Ms. Roger's New Web Site
English/Language Arts	Spreadsheet: Debate Class Statistics
English/Language Arts	PowerPoint Presentation: Graphic/Visual Organizing Templates
English/Language Arts	Fragments and Run-ons
English/Language Arts	The Parallels Between F. Scott Fitzgerald and His Characters
English/Language Arts	PowerPoint : Shakespeare
English/Language Arts	American Renaissance Literature

English/Language Arts	F. Scott Fitzgerald and The Characters in The Great Gatsby
English/Language Arts	English, Basketball, and Golf; A Teacher Web Page
English/Language Arts	English Essentials
English/Language Arts	Literature Web Page
English/Language Arts	L.A. Project
English/Language Arts	William Allen White
English/Language Arts	Mark Twain goes 2001
English/Language Arts	Web Page Featuring 7th Grade Writings
English/Language Arts	HyperStudio: Pre and Post War Holocaust
English/Language Arts	PowerPoint
English/Language Arts	HyperStudio Stack : Voices from the Holocaust
English/Language Arts	HyperStudio...Language/Grammar Mechanics
English/Language Arts	HyperStudio Presentation: Language Arts English Mechanics
English/Language Arts	English Class Web Site
English/Language Arts	English Class Overview
English/Language Arts	PowerPoint Presentation: The Iditarod: The Last Great Race on Earth
English/Language Arts	PowerPoint Presentation: "Of Mice and Men"
English/Language Arts	PowerPoint Presentation: Atomic Bomb's Aftermath
English/Language Arts	Keypal Project for ESL Students
English/Language Arts	Operation Solve
English/Language Arts	Strike A Pose
English/Language Arts	Urban Legends
English/Language Arts	PowerPoint Presentation of Edgar Allan Poe: The Master of Short Stories
English/Language Arts	Literary Magazine
English/Language Arts	Our Vision
English/Language Arts	Picture That!
English/Language Arts	G'day Mate!
English/Language Arts	African-American Literature PowerPoint Presentation
English/Language Arts	PowerPoint Presentation: A Review of 'A Midsummer Night's Dream'
English/Language Arts	"The Tempest" PowerPoint Presentation
English/Language Arts	Inspiration Essay Web
English/Language Arts	Poetry PowerPoint
English/Language Arts	Parts of Speech Quiz
English/Language Arts	Washington Okanogan Highlands
English/Language Arts	PowerPoint Presentation: Folk Tales
English/Language Arts	The Cascades
English/Language Arts	Civil War Journal
English/Language Arts	PowerPoint Web Quest
English/Language Arts	Thirteen Colonies Web Quest
English/Language Arts	Marion Jones
English/Language Arts	Significant Events in the American Revolution
English/Language Arts	Marian Anderson the Opera Singer
English/Language Arts	PowerPoint Presentation: Parts of Speech
English/Language Arts	Ancient Egypt
English/Language Arts	HyperStudio Tall Tales
English/Language Arts	PowerPoint: Getting Ready for College.
English/Language Arts	PowerPoint Presentation: How to Use E-library
English/Language Arts	Print Shop Bulletin on Friendship and Compassion
English/Language Arts	Kindergarten ABC's HyperStudio
English/Language Arts	Kindergarten ABC's with HyperStudio
English/Language Arts	www.waidenglish.homestead.com/index.html
English/Language Arts	PowerPoint Presentation: Author Biography for J.K. Rowling
English/Language Arts	Alfred Hitchcock
English/Language Arts	Dr. Seuss Slide Show
English/Language Arts	Grammar Review/Test
English/Language Arts	PowerPoint Presentation: Teen Magpaper

English/Language Arts	Sophomore English Book Reviews
English/Language Arts	FHS Art Online
English/Language Arts	Grade Book Teaching
English/Language Arts	HTML Page Building for Sophomore Honors English
English/Language Arts	An English Honors Class Online Book Review
English/Language Arts	PowerPoint Presentation: Teaching Division of Fractions
English/Language Arts	Sandra Cisneros
English/Language Arts	PowerPoint Presentation: San Marino, Italy
English/Language Arts	San Marino
English/Language Arts	PowerPoint Presentation: A Look at Sandra Cisneros
English/Language Arts	Microsoft PowerPoint Literature Presentation
English/Language Arts	What Pronouns are and the Different Types
English/Language Arts	PowerPoint Presentation: Walk Two Moons by Susan Creech
English/Language Arts	PowerPoint on Charlotte's Web by: E.B. White
English/Language Arts	PowerPoint Presentation: Kindergarten Alphabet Sound Recognition
English/Language Arts	PowerPoint : Adding Suffixes
English/Language Arts	Fact and Opinion: A PowerPoint Presentation
English/Language Arts	Using the Internet to Research "To Kill a Mockingbird" and Harper Lee
English/Language Arts	Poetry Links Web Page
English/Language Arts	Using the Internet for Activities on Hamlet
English/Language Arts	Improving Grammatical and Technical Skills Through E-Mail
English/Language Arts	Using Search Engines and Writing Works Cited Pages
English/Language Arts	PowerPoint Presentation in the Field of English/Literature
English/Language Arts	Using PowerPoint to Teach English
English/Language Arts	Learning How to Write Paragraphs
English/Language Arts	Adjective Questions: What Kind, Which One, How Many?
English/Language Arts	Writing Compound Sentences
English/Language Arts	Letters and Their Form
English/Language Arts	Spelling Words For 6-3
English/Language Arts	PowerPoint Presentation: Vocabulary for the Story, "Art Must Be True
English/Language Arts	Power Point Presentation on How to Follow Instructions
English/Language Arts	Dial a Friend
English/Language Arts	Heights High School Language Arts Page
English/Language Arts	Wichita Heights High School Web Page: Journalism Link
English/Language Arts	How to use PowerPoint
English/Language Arts	PowerPoint Book Report
English/Language Arts	Web Page
English/Language Arts	Eighth Grade End of the Year Video.
English/Language Arts	Loewen's Language Arts Web Page
English/Language Arts	PowerPoint Presentation: Four Main Parts of Speech
English/Language Arts	HyperStudio: How to Write a Research Paper
English/Language Arts	HyperStudio of Famous People
English/Language Arts	Romeo & Juliet PowerPoint
English/Language Arts	Speech and Drama Web Site
English/Language Arts	Theater Life in the Times of Shakespeare
English/Language Arts	PowerPoint Presentation: Biography of Frederick Douglass
English/Language Arts	Gwendolyn Brooks Slide Show
English/Language Arts	The Raven in Technology
English/Language Arts	PowerPoint: Life & Times of Elizabethan England
English/Language Arts	PowerPoint: Arguments In Persuasive Writing
English/Language Arts	The History of The Globe Theater
English/Language Arts	PowerPoint Presentation: Writing a Research Paper
English/Language Arts	Story Technology Web Page
English/Language Arts	PowerPoint Presentation: Black Poets
English/Language Arts	PowerPoint Presentation: The Scarlet Letter
English/Language Arts	The Adventures of Huckleberry Finn: Setting and Plot

English/Language Arts	PowerPoint Presentation: Persuasive Writing
English/Language Arts	PowerPoint Presentation: Huckleberry Finn-Characters and Themes
English/Language Arts	PowerPoint Introduction to Fahrenheit 451/Science Fiction
English/Language Arts	PowerPoint Presentation: Non-Fiction Project Criteria
English/Language Arts	HyperStudio Interactive Quiz
English/Language Arts	PowerPoint Slide Show on Verb Tenses
English/Language Arts	First Grade: “About the Author” Pages
English/Language Arts	Update Author Pages
English/Language Arts	Update Second Grade 'Author Pages'
English/Language Arts	Insect Riddle Web Page: Second Grade
English/Language Arts	About the Author: First Grade
English/Language Arts	Spreadsheet: A Growing List
English/Language Arts	Spelling Review
English/Language Arts	PowerPoint Presentation Haiku
English/Language Arts	PowerPoint Presentation: Timeline Biographies
English/Language Arts	Microsoft PowerPoint Presentation: Past Poets
English/Language Arts	The Farm Fairytale HyperStudio Project
English/Language Arts	PowerPoint Presentation: Vocabulary Fundamentals For Class
English/Language Arts	HyperStudio Presentation: Poets
English/Language Arts	Web Page Links: The Interesting World of Bill Peet!
English/Language Arts	PowerPoint Presentation: Poets and Poem History
English/Language Arts	New Books in the Library PowerPoint Slide Show
English/Language Arts	PowerPoint Presentation: Nouns
English/Language Arts	Book Advertisements on the WWW - Second Grade
English/Language Arts	World Wide Web Poetry Anthology for Third Grade
English/Language Arts	First Grade Journal with ClarisWorks
English/Language Arts	Authors On-Line
English/Language Arts	Using ClarisWorks for Special Projects
English/Language Arts	Web Links: Holocaust and Bibliography Information
English/Language Arts	Mr. Polson's Edgar Allen Poe Challenge
English/Language Arts	Fifth Grade Reading Curriculum Document
English/Language Arts	Phonics PowerPoint
English/Language Arts	Meeker Tour Web Page
English/Language Arts	Electronic Field Trip to Mexico
English/Language Arts	Humanities Web Site Evaluation Rubric
English/Language Arts	English Department on the Web
English/Language Arts	Island of The Blue Dolphin: FrontPage Web Site
English/Language Arts	Interesting Animal Reports Using Claris for Kids
English/Language Arts	PowerPoint Presentation: Ernest Hemingway
English/Language Arts	PowerPoint Presentation: Subject-Verb Agreement
English/Language Arts	Using Accelerated Reader With Third-Grade Students
English/Language Arts	Amazing AlphaSmarts
English/Language Arts	Third Grade Book Report Slideshow
English/Language Arts	Mary Shelley's Frankenstein Web Site
English/Language Arts	"Lyddie" Questions and Vocabulary Using a Database
English/Language Arts	PowerPoint of Poetry in Motion
English/Language Arts	Author's Day PowerPoint
English/Language Arts	Big 6 Fish Problem
English/Language Arts	Book Reviews on the Web
English/Language Arts	Mr. Snodgrass’ English Class
English/Language Arts	Mrs. Violette's Honors English Web Site
English/Language Arts	Power Presentation: Alphabet Transportation Pictures
English/Language Arts	Number the Stars: Background information on Germany in WWII.
English/Language Arts	The Alphabet
English/Language Arts	Poetry: A Sixth Grade PowerPoint Presentation
English/Language Arts	Using Metaphors and Similes in Writing

English/Language Arts	The Horton Mill Covered Bridge and the Era it was Built
English/Language Arts	Character Development in "Walter the Baker" by Eric Carle
English/Language Arts	Julius Caesar: The Characters
English/Language Arts	Dead Poet's Society
English/Language Arts	Park's Future Journalism Class
English/Language Arts	Park Middle School Journalism
English/Language Arts	Web Quest: New Aquarium Pet
English/Language Arts	Web Quest: Aquarium Pet
English/Language Arts	PowerPoint Presentation: How to Create A Mind-Web
English/Language Arts	PowerPoint Grammar Tutorial
English/Language Arts	Holidays and Plays
English/Language Arts	E-pals on the Internet
English/Language Arts	Pen Pals Using E-mail
English/Language Arts	Using HyperStudio to Publish Writing Projects.
English/Language Arts	Poetry On Fire
English/Language Arts	Milk and Cookies
English/Language Arts	AlphaSmart Poetry Swap
English/Language Arts	Inspiration Project: Homeophones and Homographs Tied in With a Story
English/Language Arts	PowerPoint Presentation: Book Report
English/Language Arts	PowerPoint Book Report
English/Language Arts	Language Arts Enhancement Templates
English/Language Arts	The Living Wax Museum
English/Language Arts	PowerPoint Presentation: Explanation and Instructions for a Book Project
English/Language Arts	The Power of Poetry
English/Language Arts	PowerPoint Presentation: How to Write an Accordion Paragraph
English/Language Arts	Emotional Intelligence
English/Language Arts	PowerPoint Presentation: My Favorite Things with Mrs. Lee's Class
English/Language Arts	KidPix Slideshow: Fortunately and Unfortunately
English/Language Arts	PowerPoint Slideshow: ABC Book
English/Language Arts	SFA & Reading with Mrs. Wildenhaus
English/Language Arts	Mr. Draper's Class Web Page
English/Language Arts	Mr. Iverson’s Language Arts Web Page
English/Language Arts	Top 10 of the Best Web Search Sites
English/Language Arts	Gemstone Web Page
English/Language Arts	Mrs. Bruneau’s Class Web Page
English/Language Arts	Mrs. Bruneau's Class Web Page
English/Language Arts	Sample PowerPoint Presentation
English/Language Arts	PowerPoint Presentation: Verbs
English/Language Arts	Vocabulary
English/Language Arts	Rooney Publishing
English/Language Arts	Patty's First Day of School
English/Language Arts	Benton NEW YORK YANKEES
English/Language Arts	The Basics of Snowboarding
English/Language Arts	Web Page: Myth and Legends
English/Language Arts	American Literature Web Page
English/Language Arts	Readers' Theater Introduction on PowerPoint
English/Language Arts	Myths, Fables, Legends, And Folk Tales
English/Language Arts	PowerPoint Presentation: Myths, Legends, Fables and, Folk Tales
English/Language Arts	Connecting the Six Traits to the Writing Process Slide Show
English/Language Arts	Web Site: History of Bellingham Research Guide
English/Language Arts	Welcome To Room 20-Grade 1
English/Language Arts	Fishing for Knowledge
English/Language Arts	The Dynix System
English/Language Arts	Do You Know Everything About Free Verse?
English/Language Arts	Satire a Laugh and a Half (Web Page Presentation)
English/Language Arts	Web Page: Authors' Biographies

English/Language Arts	PowerPoint Presentation: Narrative Poetry
English/Language Arts	Microsoft PowerPoint Presentation: Types of Essays
English/Language Arts	Microsoft PowerPoint Presentation: The English Renaissance Period
English/Language Arts	Sailing Into English With Mrs. Fowler
English/Language Arts	Bunnies and Short Vowel Words
English/Language Arts	Digital Map: Setting of Huckleberry Finn
English/Language Arts	Guide to British Literature
English/Language Arts	Irish Literature and Mythology Web Site
English/Language Arts	Where Presentations and Huckleberry Finn Meet
English/Language Arts	Language Arts Web Page
English/Language Arts	Mrs. O' Keefe's 7th Grade Humanities Home Page
English/Language Arts	Web Page Development for Ms. Wells' Eighth Grade Class
English/Language Arts	Comparison of Microsoft Office vs. Claris Works
English/Language Arts	School Brochure Template on the Class Web Page.
English/Language Arts	Ms. Kerr's Homepage of Student Learning
English/Language Arts	Mrs. O'Keefe's Class Home Page
English/Language Arts	Installing Accelerated Reader
English/Language Arts	Updating the Wells/Horton Home Page
English/Language Arts	Micro Society at It's Best With PowerPoint
English/Language Arts	Online Chain Stories
English/Language Arts	Creative Writing Web Site
English/Language Arts	Lenne Lenape Tribe PowerPoint
English/Language Arts	Senior Project
English/Language Arts	Parent Teacher Night Presentation
English/Language Arts	Interactive Debate Web Site
English/Language Arts	Citing a Report Web Site
English/Language Arts	MLA Format Web Site
English/Language Arts	PowerPoint Presentation on Classroom Policies
English/Language Arts	Ms. Rensvold's Web Page
English/Language Arts	Mr. Wright's Homepage
English/Language Arts	Online Book Report
English/Language Arts	Wingdings Web Site for Teachers
English/Language Arts	Writing Memoirs Using PowerPoint
English/Language Arts	Digital Year Book
English/Language Arts	A Beginner's HyperStudio Slide Show
English/Language Arts	Claris Works Book Report
English/Language Arts	Language Arts/Abbreviations
English/Language Arts	Language Arts/Abbreviations
English/Language Arts	PowerPoint Presentation
English/Language Arts	Discovering Poetry on the Internet
English/Language Arts	Discovery Of Poetry
English/Language Arts	PowerPoint Presentation: Flowers For Algernon
English/Language Arts	Schoolwide ClipArt: Picture File for use With ESL Reading Recovery and Literacy Classes
English/Language Arts	PowerPoint Presentation: Using Descriptive Adjectives for ESL Students
English/Language Arts	Mrs. Pote's Sophomore Class Web Page
English/Language Arts	The German School System
English/Language Arts	William Shakespeare
English/Language Arts	The Tool of Wars in Virtual Reality
English/Language Arts	PowerPoint: Leaders and Writers of Civil Rights
English/Language Arts	Using PowerPoint in Elizabethan History
English/Language Arts	Homework On The Net
English/Language Arts	Fun on WWW.FunBrain
English/Language Arts	The Lottery Rose Web Archive
English/Language Arts	HyperStudio Project on Parts of Speech.
English/Language Arts	PowerPoint Presentation on "BearStone"

English/Language Arts	Searching the Internet
English/Language Arts	PowerPoint Presentation: Navajo Indians
Foreign Language	Spanish: Writing Text Using the Correct Accent Marks
Foreign Language	PowerPoint Presentation: Bullfighting Unit
Foreign Language	PowerPoint Presentation: Day of the Virgin Guadalupe
Foreign Language	PowerPoint Presentation: History of Cinco de Mayo
Foreign Language	Learning Spanish Vocabulary in HyperStudio
Foreign Language	PowerPoint Presentation: Street Directions in German
Foreign Language	Christmas in France
Foreign Language	Trabajo de Geografia
Foreign Language	Webseite: Alles ueber Deutschland (German)
Foreign Language	Teaching French with Triple Play Plus Software
Foreign Language	Chinese Web Page
Foreign Language	China Travel Notes
Foreign Language	French Key Pals
Foreign Language	Spanish E-pal Project
Foreign Language	PowerPoint Presentation: Brief History of Key Cities in Spain
Foreign Language	Basic ASL
Foreign Language	French Numbers and Colors
Foreign Language	Japanese on the Web: Nihongo at Ferndale High School
Foreign Language	Spanish Lesson 20
Foreign Language	Spanish Vocabulary on PowerPoint
Foreign Language	Ms. Botaitis' Spanish Web Page
Foreign Language	Mrs. Peters Home Page
Foreign Language	PowerPoint Presentation: Viva Puerto Rico
Foreign Language	Spanish News On The Web
Foreign Language	Cinco De Mayo On The Net
Foreign Language	Heights High School: Foreign Language Department Web Page
Foreign Language	A PowerPoint Presentation: Weather in French
Foreign Language	Adobe PhotoShop: Altering Photographs
Foreign Language	Researching Spanish Countries
Foreign Language	History of Cuba
Foreign Language	Regionalism and Cultural Practices in Spanish-Speaking Countries
Foreign Language	PowerPoint Presentation on King Lugwig II of Bavaria
Foreign Language	Researching Mexican Festivals on the Web
Foreign Language	PowerPoint Presentation: Spanish Jeopardy Review
Foreign Language	French History Links
Foreign Language	PowerPoint Presentation: Moledet
Foreign Language	Parashat Hashavuah
Foreign Language	Power Point Presentation: A Foreign Language Story
Foreign Language	PowerPoint Presentation: Oaxaca, Mexico
Foreign Language	Spanish One Online
Foreign Language	Japanese Map Web Site
Foreign Language	PowerPoint Presentation: Day of the Dead
Foreign Language	PowerPoint Presentation: Spanish Vocabulary- La Salud
Foreign Language	PowerPoint Presentation: Jobs Vocabulary in Spanish
Foreign Language	Mexico Pen Pals
Foreign Language	PowerPoint Presentation: The Euro Dollar
Foreign Language	Mrs. Wegener's Class Web Page
Foreign Language	PowerPoint Presentation: History of Tourist Attractions in Paris, France
Foreign Language	AppleWorks: La B.E.L.L.E. Newsletter
Foreign Language	Web Research: The History of Chocolate
Foreign Language	PowerPoint Presentation: Martinique 'L'Ile des Fleurs'
Foreign Language	Spanish Using PowerPoint
Foreign Language	Using PowerPoint to Learn About the 12 French Speaking, African Countries
Foreign Language	Student Latin Web Site

Foreign Language	Spanish Assessment
Foreign Language	Japanese Key Pals
Foreign Language	United Nations PowerPoint
Foreign Language	PowerPoint: French in the World Today
Foreign Language	A Spanish Brochure about the Caribbean Island of Guadeloupe
Health/PE	Physical Education Web Site
Health/PE	PowerPoint Presentation: Why It's Important To Exercise
Health/PE	Basketball Drills
Health/PE	Learning CPR: A PowerPoint Presentation
Health/PE	Techniques of CPR with PowerPoint
Health/PE	A HyperStudio Presentation on Fielding in Baseball
Health/PE	My HyperStudio Presentation on Softball
Health/PE	The Fundamentals of Basketball on HyperStudio
Health/PE	Microsoft Word: Coach's Round Table Brackets
Health/PE	Birmingham Cross Country \Track Field
Health/PE	BHS Patriots Boys Basketball
Health/PE	PowerPoint Presentation: Functions of the Skeletal System
Health/PE	PowerPoint Presentation: Common Drugs
Health/PE	PowerPoint Presentation: Consumer Choices and Public Health
Health/PE	Weight Training Video
Health/PE	Centralia High School Soccer Web Site
Health/PE	Presenting Cuba through a Microsoft PowerPoint Presentation
Health/PE	PowerPoint: Individualized Fitness Plan
Health/PE	Physical Scavenger Hunt With A Digital Camera
Health/PE	Flag Drag Tag
Health/PE	Safety Web Site
Health/PE	Surfing Through Temperatures
Health/PE	Chilton County High School Basketball Web Page
Health/PE	Pathfinder for FoodBorne Illnesses
Health/PE	The Digestive System
Health/PE	Web Quest on Nutrition
Health/PE	PowerPoint Presentation: Basic Emergency Procedures
Health/PE	School Records
Health/PE	FHS Health Web Page
Health/PE	The FHS Basketball Web Site
Health/PE	Learn "Prison Ball" With PowerPoint
Health/PE	PowerPoint Presentation: How to Prepare for Sporting Events
Health/PE	Using the Internet to Learn CPR
Health/PE	A PowerPoint Presentation: The Healthy Human Heart
Health/PE	PowerPoint Presentation On AIDS
Health/PE	Drugs: A PowerPoint Presentation
Health/PE	PowerPoint
Health/PE	Nutrition Presentation
Health/PE	The Negative Effect Pollution Has On The Environment
Health/PE	The Prevention of Sexually Transmitted Diseases
Health/PE	CPR Movie: Learn and Live
Health/PE	Web Page for Middle School P.E. Classes
Health/PE	Family History Database
Health/PE	A HyperStudio Fitness Plan
Health/PE	Microsoft PowerPoint Presentation: Sexually Transmitted Diseases
Health/PE	PowerPoint Presentation: Football History
Health/PE	Menu of Health-Related Physical Fitness Activities Web Page
Health/PE	Web Page on Physical Education
Health/PE	Nutrition and Food Groups on PowerPoint.
Health/PE	Food & Nutrition Careers PowerPoint
Health/PE	Northport's Sports Page Through: www.ihigh.com

Health/PE	How a Digital Camera Is Used and Preferred Over Others
Health/PE	Web Exploration in the Classroom: Drugs
Health/PE	Andrew and Layton's Cross-Country Web Page
Health/PE	Weight Room Safety and Lifting Techniques
Health/PE	Warrior PE/Health on the Web
Health/PE	P.E. Presentation for High School Freshmen
Health/PE	Video Golf
Health/PE	PowerPoint Presentation: Alcohol Abuse
Health/PE	Pyramid Power
Health/PE	Changes at Robinson On the Web
Health/PE	History of Golf
Health/PE	Rules of Basketball
Health/PE	Todd Peterson's Fitness World Wide Web
Health/PE	President's Challenge
Health/PE	Effects of Smoking
Health/PE	Movie on Softball Techniques
Health/PE	A PowerPoint Presentation On Snowshoeing
Health/PE	Sexually Transmitted Diseases
Health/PE	PowerPoint Presentation: Teen Suicide
Health/PE	Recording Basketball Statistics on the School's Web Site
Health/PE	Marshall's Fitness Team Home Page
Health/PE	Marshall Fitness Team Web Page
Health/PE	P.E. Presentation for New Students
Health/PE	Nutrition and Weight Management PowerPoint
Health/PE	2000: Health is Crucial
Health/PE	Soccer Proposal
Math	Units of Measurement with PowerPoint
Math	PowerPoint Math Problems
Math	Mathematics on HyperStudio
Math	Web Sites for Problem Solving
Math	Math Problems With HyperStudio
Math	PowerPoint: Abe Hubert QPA Math Accreditation
Math	COOL Algebra Web Site
Math	HyperStudio: Equations
Math	HyperStudio: Integers
Math	Basic Operations for Rational Numbers and Fractions
Math	Be on Target With Integers
Math	Fractions and Rational Numbers
Math	Symmetry, Shapes, and Perimeter
Math	The World of Word Problems
Math	Long Division With Decimals
Math	Perimeter & Area
Math	PowerPoint Presentation: Exploring Geometry
Math	3-D House Models
Math	Microsoft PowerPoint: Perspective Drawing
Math	PowerPoint Presentation: Major Geometry Mathematicians
Math	Why Do We Need Math: A HyperStudio and Internet Presentation.
Math	Reducing Fractions on HyperStudio
Math	A HyperStudio Presentation on Mathematical Conversions Between Systems.
Math	PowerPoint: Real Life Math
Math	Numbers Count
Math	PowerPoint Presentation: Solving Quadratic Equations
Math	Math Jeopardy Using PowerPoint
Math	Exploring Tessellations With HyperStudio
Math	Hyperstudio Presentation: Graphs
Math	Leggo Robotics

Math	The World of Fractions: A HyperStudio Presentation
Math	Using Tessellemania Program to Learn About Tessellations
Math	Math Game Using HyperStudio
Math	Math Page
Math	A History of Math Web Page
Math	Math Forms
Math	PowerPoint Presentation: Pascal Triangles
Math	The Magic of Math Properties on the Web
Math	PowerPoint Presentation: Cracking The SAT
Math	Creating Circles
Math	How to Add Unlike Fractions.
Math	Geometric Shapes
Math	Geometry Web Page
Math	Graph of Six Trigonometric Functions
Math	Solving Quadratic Equations Using PowerPoint Presentation
Math	Algebra Graduation Remediation Exam Project
Math	Jeopardy Program for Math Class
Math	Math Pacing on HyperStudio
Math	Math Pacing PowerPoint Presentation
Math	Robert's Math Pacing
Math	Math Pacing with PowerPoint
Math	Math Pacing Days 60-75
Math	Geometry
Math	Geometry Terminology
Math	Web Page for Second Grader
Math	Measures of Central Tendence
Math	Measure of Central Tendence
Math	Famous Mathematicians of Color
Math	PowerPoint Presentation: Graphing Calculator
Math	Math Labs using CBL’s
Math	Computer Based Math Tutorial System
Math	Math at Galway Central School
Math	Ms. Murphy's Third Grade Math
Math	Graphing Polynomial Functions
Math	PowerPoint Presentation: Mean, Median, & Mode
Math	PowerPoint Presentation: Fractions Are Fun
Math	Algebra 1: Factoring Differences of Squares
Math	Geometry
Math	PowerPoint Presentation: Counting Coins
Math	The Geometry Web Page
Math	Game-based Lesson Plan for Algebra One by Using the Internet.
Math	Making Math Fun with Games and Puzzles from the Internet
Math	PowerPoint Presentation: Reviewing the Operations of Fractions
Math	Math
Math	Angles in PowerPoint
Math	An Interactive Activity for Factoring Numbers
Math	Pre-Algebra Polynomials Presentation
Math	Using a Graphing Calculator
Math	PowerPoint Presentation: Math Word Problem Strategies
Math	Putting Entry Tasks on PowerPoint
Math	Putting Entry Tasks on Power Point
Math	Teacher Web Page with iMovie
Math	Using a Spreadsheet to Do a Housing Project
Math	PowerPoint Presentation: The Volumes Of A Prism.
Math	Multiplication Tables on the Web
Math	Trapezoidal Rule with Graphing Calculators

Math	Taking the SAT
Math	PowerPoint Presentation: Algebra Word Problems
Math	PowerPoint Presentation: Graphing Linear Equations
Math	PowerPoint Presentation: Solving Word Problems
Math	PowerPoint: The Converse of the Pythagorean Theorem
Math	The Many Uses Of Coordinates System
Math	Middle School Math Web Page
Math	Web Page: Middle School Math Games
Math	Sixth Grade Fractions Web Page
Math	PowerPoint: Introduction to Probability
Math	Geometry
Math	PowerPoint Presentation: An Introduction to Telling Time
Math	Math Flash Cards on HyperStudio
Math	Word: Math Flip Book
Math	Basic Math Facts Using a Slideshow
Math	Graphing With PowerPoint
Math	Making Graphs on the Computer and Making Creative PowerPoints
Math	Web Page Building and Calculator Use
Math	PowerPoint Presentation: Introducing Ratios and Proportions
Math	Introduction to Trigonometry on PowerPoint
Math	Using Appleworks Slide Show to Create ABC Book About Washington State
Math	Elementary Math Web Sites
Math	PowerPoint on Microsoft Excel for 6th Graders
Math	Cultural Math on the Net and in the Classroom
Math	Algebra 1 Online
Math	Homework Help Web Page
Math	Steps to Improve your Score in Pre-Algebra
Math	PowerPoint Presentation: Solving Equations with Variables On Both Sides
Math	Percents of a Number
Math	Emily Frank's Project
Math	Web Site: Math Is Cool; See It and Join
Math	Famous Mathematicians, Scientists, and Discoveries
Math	First Grade Adding and Subtracting on KidPix
Math	Mrs. Folkman’s Web Page
Math	Mrs. Fergueson’s Web Page.
Math	Homework Help
Math	Pythagorean Theorem
Math	Geometry Pictures on the Web
Math	Horizon Mathematics Page
Math	Intro to Excel-PowerPoint Presentation
Math	Cascade Web Site
Math	Keeping Track of Your Business using Spreadsheets
Math	Math help Web Site
Math	Math Help Online
Math	A Step Towards Algebra: A PowerPoint Presentation
Math	How to Use PEMDAS
Math	Inscribed Polygon PowerPoint
Math	Design a Skate Park.
Math	Utilization of Math Software by LD Students
Math	Design A Sports Arena
Math	A PowerPoint Slide Show on Measurement
Math	Mrs. MacWilliam's Math Web Site
Math	Geometry Class PowerPoint Presentation: Circles
Math	Understanding and Graphing Polar Coordinates
Math	Building a Math Teacher Website Including an Algebra II Web Page Presenting a Lesson on Linear Programming Using Dreamweaver

Math	Mr. Aldridge's Web Page Update
Math	Graphing On the Web
Math	PowerPoint Presentation: Hands-On Equations
Math	You've Got A Problem?
Math	Mrs. Watkins' Math and Reading Page
Math	Ms. Haldeman's Web Page.
Math	Math History PowerPoint
Math	Mrs. Tucker's Page
Math	Roman Numeral PowerPoint
Math	HyperStudio: Patterns in Math with Polygons and Common Vertexes
Math	HyperStudio Math
Math	Angles of Elevation and Depression
Math	PowerPoint Presentation: Algebra 1 Review
Math	PowerPoint Presentation: The Hicker Lab
Math	PowerPoint: Explanation of Tangents to Circles
Math	PowerPoint Presentation: Hiker Lab
Math	PowerPoint Geometry Lesson
Math	Ancient Mathematicians on PowerPoint
Math	Doing Math on the World Wide Web
Math	Geometry
Music	Four Famous African American Singers
Music	Vocal Production
Music	International Look at Musical Terms
Music	Music During the 20th Century
Music	PowerPoint Presentation: Music Theory
Music	Microsoft PowerPoint: Music Appreciation
Music	PowerPoint Presentation: Blues Music
Music	How to Create Music by Using Fruity Loops
Music	PowerPoint Presentation: The Musical Periods
Music	Update Band Web Page
Music	Web-Based Music Site: using www.expage.com/musictech101
Music	Centralia High School Band Web Page
Music	PowerPoint Presentation: Musical Composers
Music	Math Pacing With PowerPoint
Music	Choral Web Page with Midi Files
Music	Galway Music Department
Music	Greenon High School Band in a PowerPoint Presentation and on the Web
Music	PowerPoint Presentation: Music Theory
Music	Music Exploration: PowerPoint Presentation
Music	Research Paper on Music Using the Internet
Music	PowerPoint Presentation on Jazz
Music	The Musical Instruments of the 21st Century
Music	PowerPoint/Internet: Historical Music Figures
Music	PowerPoint Presentation: Musical Instruments
Music	Middle School Choir Web Page
Music	Jefferson Middle School Band Web Page
Music	Sixth Grade Band Instruments HyperStudio Presentation
Music	Mrs. Rydholm Orchestra Web Page
Music	Peabody-Burns' Bands on the World Wide Web
Music	Music Web Page
Music	Spanaway Junior High Band on the Web
Music	Microsoft PowerPoint Presentation: Formal Music Through The Ages
Music	Fine Arts: Internet Research Website
Music	Vallivue Middle School Choir
Music	Vallivue Middle School Choir Web Page
Music	Upgrade Orchestra Web Page

Music	PowerPoint: General Music Class
Music	Movie: Kindergarten Halloween Song
Music	PowerPoint Presentation: A Great Music Inspiration; Mr. Mario Thomas
Other	PowerPoint Presentation: Using Technology In Your History Day Project
Other	Abilene Middle School Food Service
Other	PowerPoint Presentation: Appropriate Behavior in The Classroom
Other	HyperStudio Presentation: A Job for a Lifetime
Other	Abstinence PowerPoint
Other	PowerPoint Presentation: Weight Training
Other	Computer Technology in the Class.
Other	The World Of Improvisation!
Other	The Value of Scouting : A HyperStudio Presentation
Other	PowerPoint Presentation: 4 Cycle Engines
Other	School Psychologist
Other	PowerPoint Presentation: Phobias and Disorders
Other	Internet Research and PowerPoint Presentation: Costumes, Set Design, and Architecture in Theater
Other	Virtual Art Museums
Other	Corel Draw Tutorial
Other	World of Ceramics
Other	The History of Dance
Other	Holly Garstang
Other	Curriculum Specialist Board Web Page
Other	Family and Consumer Sciences On the Web
Other	The Bob Jones High School Media Center Web Page
Other	Special Education Page
Other	The Hungry Lady Wolves
Other	Girls AAU Basketball Disclosed
Other	A Movie Presentation on How Not to Give a Speech
Other	PowerPoint Presentation: Renaissance Art Period
Other	Looking Back at Impressionism
Other	Art work by Mr. Garrison and Famous Artists
Other	PowerPoint Project: Volleyball 101
Other	Impressionism
Other	Art Web Site Displayed Art Work
Other	Requirements for Diplomas
Other	Reality Store Savings in the 21st Century Using the Internet
Other	Reality Store Saving in the 21st Century Using the Internet
Other	Communications Past, Present & Beyond A HyperStudio Project
Other	Communications: Past, Present and Beyond
Other	CHS Information and History Web Page
Other	Capital High School Web Design
Other	Staff Directory
Other	Workshop Sign-in Sheets
Other	PowerPoint Presentation: Teaching Others the Importance of Project Teach
Other	Research Curriculum for English Department
Other	Centralia High School Girls Basketball Web Page
Other	Centralia High School Basketball History Web Page and CD
Other	Centralia High School Baseball Web Page
Other	Centralia High School Pep Club Web Page
Other	The Generation www.Y newsletter
Other	Example of Freshman Project
Other	Financial Aid Informative Slide Show
Other	Learning the Digital Camera
Other	Mystery
Other	Soccer

Other	PowerPoint Presentation: Safe Driving
Other	Road Signs PowerPoint Presentation
Other	Chilton County High School Web Page
Other	Enhancing Faculty Meetings with PowerPoint
Other	CCMS National Junior Honor Society Web Page
Other	PowerPoint Presentation Respiratory System
Other	PowerPoint Presentation: History of Rhythm & Blues
Other	Copyright Rules and Principals
Other	Bulletin Board Display about Compassion and Friendship
Other	Digital Pictures About Friendship
Other	Third Grade Web Page
Other	Fifth Grade Web Page
Other	PowerPoint on School to Career Programs
Other	Tech Support Web Page Showing How to Connect the Computer Projector to a VCR
Other	Fourth Grade Web Page
Other	Website about School-to-Careers Program
Other	Furniture and Design
Other	PowerPoint Presentation about Shop Tools
Other	Microsoft PowerPoint Presentation: Eating Disorders
Other	The Online Guide to Agricultural Mechanics
Other	Galway Sports Web Page
Other	Galway Middle School Principal's Homepage
Other	Galway Central School/ High School Library
Other	Kindergarten Yearbook: PowerPoint and Video
Other	Photo Yearbook: PowerPoint
Other	PowerPoint Presentation: The Dawning of WWII
Other	Journalism on the Web
Other	Internet Art Gallery
Other	Library Web Page
Other	Microsoft PowerPoint Greek Gods
Other	Kindergarten's Basic Shapes
Other	Elementary Web
Other	Downloading Graphics to a Report
Other	Current Events on the Internet
Other	Teaching Basic Skills with Skills Bank
Other	Handley High School Volleyball Web Page
Other	Guidance Counseling on the Web
Other	PowerPoint Presentation: How to Look up Newspaper Articles.
Other	Vocabulary Words for Two Big Bears
Other	PowerPoint Presentation: The Giver
Other	Teaching Students to use PowerPoint
Other	Construct a Web Page for Classroom Teacher
Other	Slide Show of 2000-2001 School Year
Other	Make a Web Page for Classroom Teacher
Other	School Web Page
Other	Harrah Elementary Office
Other	Harrah Elementary Learning PowerPoint in 4th Grade
Other	Harrah Elementary PowerPoint for Library/Art/Music/Computer Lab
Other	PowerPoint Presentation on PowerPoint
Other	Harrah Elementary-3rd grade
Other	Harrah Elementary First Grade PowerPoint Lesson
Other	PowerPoint Lesson for Harrah Elementary 5th grade
Other	Learning PowerPoint in Harrah Elementary 2nd Grade
Other	PowerPoint Presentation: Auto Mechanics
Other	Using The Thank-Wave Grade Program
Other	Heights Web Page: Homeroom, Social Studies and Faculty Information

Other	PowerPoint Presentation: Building a 350 c.i. Small Block Chevy
Other	Mission Possible: Art History Research on the Web
Other	Ms. Bailie's Spanish Class Web Site
Other	Creating a PowerPoint Presentation
Other	The 60's
Other	School Web Site
Other	Technology Tasks for Gifted Students
Other	Epidemics Throughout World History
Other	Recruitment PowerPoint Presentation
Other	Finding Your Address Online
Other	Sociology
Other	Introduction To Acrylic Nails
Other	PowerPoint Presentation: LA-7 Science Departmental Financial Spreadsheets
Other	PowerPoint Presentation: General Shop Safety
Other	PowerPoint Presentation: The Effects of Drugs on the Human Body
Other	Understanding and Making Graphs
Other	PowerPoint Presentation: How to do a NASCAR Research Paper
Other	PowerPoint Presentation: The Dewey Decimal System
Other	Generation Y Presentation: Electrodes Classification
Other	PowerPoint Presentation: Drama at Jacksonville High School
Other	PowerPoint Presentation: Yearbook Promotion
Other	PowerPoint Presentation: Play Rehearsal Guidelines
Other	PowerPoint Presentation: Introduction to Peer Educators
Other	PowerPoint Presentation: Is the Boss Always Right?
Other	PowerPoint Presentation: Library Orientation
Other	PowerPoint Presentation: Study Skills
Other	How to use HyperStudio and Microsoft PowerPoint
Other	PowerPoint; Special Ed. Animal Projects
Other	Biographical Internet Search
Other	PowerPoint Book Report
Other	Internet Presentation: Updating the L.P Brown Web Page
Other	Ms. O'Halloran's Homework Web Page
Other	PowerPoint about L.P. Brown School
Other	Disability Web Page
Other	Sign Language Web Page of Links
Other	Speech and Hearing PowerPoint Presentation
Other	Microsoft PowerPoint Presentation: Sign Language
Other	Game Links on the World Wide Web for Head Start Students
Other	Web Presentation: Introduction to Fellowship of Christian Athletes
Other	Career Sites on the Web
Other	Web Page: MMS Art Classes
Other	Marion Elementary School Web Page
Other	Veterans PowerPoint
Other	PowerPoint Presentation: Welcome to Mcfarland
Other	Industrial Revolution PowerPoint
Other	International Music Sites on the World Wide Web
Other	Putting Pictures on HyperStudio
Other	PowerPoint Presentation: Theaters and Shakespeare Through Time
Other	Opinion Paper
Other	Teacher Web Page
Other	PowerPoint Presentation: Reading Nonfiction Without Pain
Other	PowerPoint: Space Camp
Other	Library Orientation
Other	FrontPage Web Site: Teacher Information Page
Other	School Resource Officer Online
Other	Virtual Art Gallery on School Web Page, PowerPoint Presentation on An Artist

Other	Neah Bay Elementary Web Site
Other	PowerPoint Presentation: Storyline of
Other	Banana Splits Award Certificate on Word
Other	Fractions In Everyday Life
Other	PowerPoint Presentation Welcoming a New Student to the School
Other	PowerPoint Presentation: Fifth and Sixth Graders Preview of Camp Moran
Other	Microsoft Word: Creative Birthday Cards
Other	Virtual Tour of the Gen Y Classroom for Potential Students
Other	Orientation to the Dream Team for Fifth Graders and New Students
Other	A Virtual Tour of North Whidbey Middle School
Other	Web Page for 1st grade
Other	Cooking Class Recipe Web Page
Other	Web Page Development: Mr. Freemantle's Art Page
Other	Olympia High Schools Library Web Page
Other	Web Page Development: Mr. Freemantle's Art Page
Other	Java Based Online Quiz
Other	Dispersions and Emulsions On the Web
Other	Plan Your Curriculum
Other	Alabama Places
Other	Dreama's Darlings
Other	PowerPoint Presentation: Conflict Resolution
Other	The First Thanksgiving: A Slide Show
Other	Li'l Abner Cast Web Page
Other	FCCLA Web Page
Other	A Pioneer Guidance Program
Other	The Cispus Experience: A PowerPoint Presentation
Other	Fourth Grade Yearbook and Kid Pix Slideshow
Other	What do You Want to Invent?
Other	Dinosaur Research Site
Other	Problem Solving
Other	QMS Sports Web Page
Other	Scrapbook Images Video Tape
Other	PowerPoint Presentation on Medical Terminology
Other	Electronic Portfolio Project
Other	How to use a Digital Camera
Other	John Rogers Homepage
Other	Washington
Other	Jeriann's HomePage
Other	Mrs. Rowe's Library
Other	Rose Hill Web Books
Other	Resources for Learning Japanese
Other	After School Homework Helper
Other	International Recipes
Other	Mrs. Snyder's Cooking Recipes
Other	Student Resource Web Page
Other	Rose Hill Library Book Favorites
Other	Mrs. Snyder's Class Web Page
Other	Mrs. Carter's Web Site
Other	Speech PowerPoint
Other	FFA Web Page
Other	PowerPoint Presentation: Techniques for Studying
Other	Medieval Times with PowerPoint
Other	PowerPoint on Manners
Other	The Indus Valley
Other	Novanet PowerPoint
Other	Student Assistant Program in PowerPoint

Other	PowerPoint Presentation: Booster Seats
Other	CAD Web Page
Other	Safety Video
Other	Shelton Middle School Library Overview- PowerPoint Presentation
Other	Shelton Middle School Library Overview
Other	PowerPoint Presentation: Shuksan Eighth Graders Through the Years
Other	How to make a Newspaper
Other	HyperStudio Project: Elementary School Rules
Other	iMovie: SMS 50th Anniversary
Other	Graphic Design: SMS 50th Anniversary Logo
Other	Graphic Design: SMS 50th Anniversary Logo
Other	Digital Photography: Archiving
Other	School Rules and Expectations iMovie.
Other	PowerPoint Presentation, The Basic Steps in Decorating a Cake
Other	PowerPoint Presentation: Sensation and Perception
Other	Corel Presentations: Prophets
Other	Third Grade Online Portfolio
Other	Second Grade Web Page
Other	2000-01 Slide Show
Other	Sixth Grade Web Page: Daily Activities
Other	Kindergarten & 8th Grade Buddies Video
Other	End of Year Memory Video
Other	Marshall Alternative Program Home Page Design and Management
Other	Home Page Pizzazz
Other	Strutting the Correct Stuff
Other	Make Media Easy for Teachers
Other	Interactive Dinosaur Kingdom
Other	PowerPoint Presentation: Tools Used For Agricultural Fields
Other	Library Web Site
Other	All You Need To Know about Mrs. Aird
Other	Pages for Wingdings
Other	Academic Invitation
Other	Literature Circle Creation with Microsoft PowerPoint
Other	War or Peace on Microsoft PowerPoint
Other	Academic Awards Invitation on Microsoft Publisher
Other	PowerPoint Presentation: Holocaust
Other	Benton 5th Grade Class Web Site
Other	Fourth Grade Benton Class
Other	School Web Site
Other	Fashion Show on PowerPoint
Other	ESOL Animated PowerPoint Video
Other	PowerPoint Presentation: The Definition of Responsibility
Other	PowerPoint Presentation: Sophomore Law Project
Other	PowerPoint Presentation: The Best Combination of How to Get a Scholarship
Other	Photography 1-Making a Still Life
Other	PowerPoint Presentation: Argumentation Fallacies
Other	Drama Over the Ages
Other	Movie: 2000 Panther Football Highlights!
Other	Greeting Cards
Other	History of Art
Other	Dance Troop
Other	ELL HyperStudio Presentation
Other	HyperStudio Presentation on Rules of Netiquette
Science	PowerPoint Presentation: Cells and Organelles
Science	The Ocean Floor with HyperStudio
Science	Websites and Web Trip on Insects

Science	Websites and Web Trip for Frogs and Crabs
Science	Websites for Magic and a Web Trip
Science	Web Sites for Oceans and Butterflies
Science	PowerPoint Presentation: The Five Kingdoms
Science	PowerPoint Presentation: Scientific Method
Science	HyperStudio: Coral Reefs
Science	Tornado
Science	Scientific Method of Atoms
Science	Cells Make The World Go Round
Science	Comparing Simple Machines to the Human Body.
Science	Saltwater Communities
Science	The Layers of the Earth: A HyperStudio Presentation
Science	The Five Kingdoms of Life
Science	ElectricX
Science	PowerPoint Presentation: Mirrors and Lenses
Science	PowerPoint Presentation of Energy Sources
Science	The Hazards of Tattoos and Piercings
Science	The Hazards of Tattoos and Piercings
Science	A HyperStudio Presentation on Tropical Ecosystem
Science	Fiber Optic Technology: A HyperStudio Presentation
Science	PowerPoint Presentation: Meteorology Made Easy
Science	Web Page with Science Links
Science	PowerPoint Presentation: DNA and RNA Replication
Science	PowerPoint Presentation: Volcanoes
Science	Using PowerPoint to Explore Electromagnetic Radiation
Science	Reactions and Equations
Science	Tornadoes
Science	Biochemistry
Science	Physics
Science	Under the Microscope
Science	Identifying the Two Polar Regions
Science	The Lake George Watershed Web Quest
Science	Clouds
Science	Magnetic Attraction: A look at Brooks Middle School
Science	PowerPoint Presentation: Plate Tectonics
Science	Rhesus Factor
Science	Earth Science On the Web
Science	PowerPoint Notes on Energy
Science	Effects of Weather Using HyperStudio
Science	HyperStudio Presentation: Rainforests
Science	Cyberscience: Using Science Web Sites
Science	Science, Fun, and Technology
Science	Fun with Food Using HyperStudio
Science	Fun With Food Using HyperStudio
Science	PowerPoint Presentation: Rocks
Science	PowerPoint Presentation: Plant Jeopardy
Science	Web Works Science Homework Page
Science	Horticulture Web Page
Science	Science Genetics Links
Science	Fungi. Connection with Technology
Science	Web Page: Centralia High School Chemistry Site
Science	Biome PowerPoint Presentation
Science	PowerPoint Presentation: Astronomy
Science	Roller Coaster Physics Using Computers
Science	Phases of the Moon
Science	Five Kingdoms PowerPoint Presentation

Science	The Properties of Solids, Liquids, and Gases
Science	PowerPoint Presentation: The Periodic Table
Science	PowerPoint Presentation: The Human Body
Science	PowerPoint Presentation: Simple Animals
Science	Physical Science PowerPoint Presentation
Science	Mining for Minerals Through PowerPoint
Science	Washington State and Plate Tectonics
Science	Columbia Region Pathfinder
Science	Washington State Climate
Science	Cycles: 7th grade ecology
Science	PowerPoint Presentation: Biochemistry in Foods We Eat
Science	PowerPoint Presentation on Food Pyramid and the Food Groups
Science	Biodiversity
Science	PowerPoint Biome Jeopardy
Science	Human Body Web Page
Science	HyperStudio about the Digestive System
Science	HyperStudio about the Solar System
Science	HyperStudio about Earth Science
Science	HyperStudio Stack About Minerals
Science	Human Body on HyperStudio
Science	Marshlands
Science	The Rocky Coast
Science	Rocky Shores
Science	Rocky Shore
Science	Oceanography/PowerPoint Presentation
Science	Rock Cycle
Science	History of The Computer
Science	PowerPoint Show: Gel Electrophoresis of DNA
Science	PowerPoint Presentation: Science
Science	Eighth Grade Life Science on the Web
Science	PowerPoint Presentation: Evolution of Primates
Science	Fun With Science and HTML
Science	Power Point Presentations: Review of Earth Science
Science	Ocean Projects on the Web
Science	Chemistry Homework Web Page
Science	Simple Machines and How They Work : A PowerPoint Presentation
Science	The Phases of the Moon
Science	Earth's Changing Crust Cyberized
Science	Diversities of Life
Science	A PowerPoint Presentation of Careers in Science
Science	PowerPoint Presentation : Weather
Science	PowerPoint Presentation: Evaluating Comprehension of the Ocean
Science	Dissection of the Earthworm Via the Internet
Science	Interactive Physics Web Sites
Science	Botany On-line Class
Science	Food Chain
Science	Night Creatures
Science	My Web Site: The Path to Astronomy
Science	PowerPoint Presentation: Reading a Calendar
Science	The Three Types of Volcanoes.
Science	Oceanography Through PowerPoint
Science	PowerPoint Presentation: The Basic Structure of Cells
Science	PowerPoint: Phases of the Moon
Science	PowerPoint Presentation on Evolution
Science	Sleep and Dream: An Altered State of Consciousness
Science	PowerPoint Presentation: The Solar System

Science	Highlands Science Web Site
Science	All-School Science Web Site
Science	PowerPoint on Inventors
Science	Class Review for Mr. Riegle
Science	*The Cell Project*
Science	Whale HyperStudio
Science	Enhancing Astronomy Web Page
Science	Web Page and PowerPoint Presentation
Science	Physics & Sound Web Page
Science	Plants
Science	PowerPoint: iMovie Student Final Project
Science	Pig Dissection
Science	Interactive Glacier Exploration
Science	The Human Reproductive: System PowerPoint Presentations
Science	PowerPoint Presentation: The Periodic Table
Science	PowerPoint Presentation: All About Plants
Science	PowerPoint Presentation: The Structure of an Atom
Science	Marine Wild Life
Science	PowerPoint Presentation: Binary Compounds
Science	PowerPoint Presentation: Evolution of Atomic Models
Science	PowerPoint Presentation: The History of the Atom
Science	PowerPoint Presentation: The Electron Cloud Model
Science	PowerPoint Presentation: Science Interactions Chapter 6 Outline
Science	PowerPoint Presentation: The Solar System
Science	PowerPoint Presentation: Chemical Reactions
Science	Web Page: Volcano Site for Middle School Students
Science	Sixth Grade Science Class Volcano Website
Science	PowerPoint Presentation on Mt. St. Helens
Science	Seventh Grade PowerPoint Project on Chemicals
Science	Life Cycle of a Frog and the Internet
Science	Motion With PowerPoint
Science	Animal Reports on the Internet
Science	The Sun Using the Internet
Science	Web Page with Insect Riddles for Second Grade
Science	A Computer Study of the Planet Mercury
Science	PowerPoint Presentation: A Review of the Ecosystem
Science	PowerPoint: Our Solar System
Science	PowerPoint: An Introduction to Chemicals
Science	PowerPoint Presentation: Electric Circuits
Science	Microsoft PowerPoint Presentation: Minimum Quarry Project
Science	PowerPoint: Second Grade Animal Skeletal Systems
Science	Animals: A PowerPoint Presentation
Science	The First Grade Zoo
Science	The Era of Dinosaurs: Web Page Links
Science	Dynamite Weather World Wide Web Links
Science	Ch-8 history of life
Science	PowerPoint on Volcanoes
Science	Power Point Presentation: The Human Body
Science	Perch and Fish Dissection
Science	Meteors & Telescopes
Science	Science Fair
Science	PowerPoint Presentation: Nutrients
Science	Chapter 5 Notes
Science	Jeopardy Game
Science	PowerPoint Presentation
Science	Birds of the Pacific Northwest Web Resource Page

Science	KidPix Slide Show for Kindergarten Bug Unit
Science	Kindergarten Science through Electronic Whale Trading Cards
Science	Rock Jeopardy
Science	Earthquake Database on the Web
Science	High School Science Web Site
Science	Middle School, Life Science Web Site
Science	Ch. 16: Chemical Reactions
Science	Web Site: Viruses
Science	Lupines On the Web
Science	Biome Website Using Pagemill
Science	Ocean Web Sites
Science	Minerals
Science	Biology Web Site
Science	Genetics Website (Hereditary Diseases)
Science	PowerPoint with Gray Whales
Science	Save the Environment PowerPoint
Science	Science Teacher's Web Site.
Science	PowerPoint
Science	Tundra PowerPoint and Jeopardy Game
Science	Mr. DelPrete's Class Web Page
Science	Digital Photo Archive for the Sixth Grade Science Class
Science	Science With Mr. B
Science	Interactive Science Web Page
Science	Mr. Roth's Homework and Project Display Page
Science	Science With Kagan
Science	Expanding and Updating a Web Site
Science	Biology Web Page
Science	PowerPoint Presentation: Plate Tectonics: Movement in the Earth
Science	Types of Energy
Science	Web Page: Birds
Science	Wonderful Weather On Line
Science	The World of Space: A PowerPoint Presentation
Science	Human Body PowerPoint
Science	PowerPoint Presentation: Ten Famous Inventors
Science	Famous Inventors
Science	Penguins: A PowerPoint Presentation
Science	Second Grade Plants: PowerPoint
Science	Elementary Space using PowerPoint
Science	The Wilderness of South West Washington
Science	PowerPoint Presentation: Human Systems
Science	Plants
Science	Database and Slideshow: Active Volcanoes
Science	KidPix a Slide Show for First and Second grade
Science	Dinosaurs in the Classroom
Science	Computer Bugs Web Reports
Science	Science Projects Online
Science	Environmental Education Gallery Web Page
Science	Animated Video Projects
Science	Inspiration 6 - Walking With Dinosaurs
Science	PowerPoint Presentation: Monerans, Viruses, and Bacteria
Science	R Project Web Page
Science	Mr. Anderson's Science Resource Web Page
Science	PowerPoint Presentation: The Solar System
Science	Ritzville Junior High School Science Fair PowerPoint Presentation
Science	Dinosaur Web Site for Second Graders
Science	Animals Web Page

Science	Microorganisms: A Web Page
Science	PowerPoint Presentation: Interesting Things you Might Want to Know About the Ocean
Science	Classification for Three Types of Rocks
Science	Natural Disasters
Science	Parrots
Science	PowerPoint Presentation: Earthquakes
Science	Dinosaurs with HyperStudio
Science	Bears with HyperStudio
Science	Plant Stages Slide Show
Science	HyperStudio about Penguins
Science	The Amazing Life Cycle of the Butterfly
Science	Plant Growth Stages/ HyperStudio Presentation
Science	Plant Growth Stages Presented on HyperStudio
Science	HyperStudio Presentation: ABC Tour of Our Galaxy
Science	Mrs. O'Donnell's Science Reports
Science	Flash 5 Animations for Science
Science	Science Q&A
Science	Skeleton, Muscle and Tissues on the Web.
Science	PowerPoint Presentation: Integrated Science 8 Objectives
Science	Biomes of the World
Science	Weather
Science	Earth Science Web Page
Science	Cascade Web Site on FrontPage
Science	The Trip: A Virtual Field Trip Through Space
Science	Team Cascade Homepage on FrontPage 2000
Science	PowerPoint on the Bald Eagle and the Stellar Jay
Science	Wolves of the Arctic Tundra Web Page
Science	The Solar System Mobile
Science	Phases of the Moon
Science	PowerPoint Slide Show: California Science Trip 2001
Science	A PowerPoint Presentation About Natural Disasters
Science	Forensics Web Site
Science	Earthquakes: Are We Ready?
Science	Digital Images for Conserving Electrical Energy
Science	HyperStudio about Sharks for Second Grade
Science	Water Conservation and Tables on the Web
Science	The Continents Do Dance
Science	Mrs. Halsted's Web Page of Science
Science	PowerPoint presentation: Plate Tectonics
Science	A PowerPoint on How Tides Work
Science	PowerPoint Presentation: The World of Astronomy
Science	Science Slide Show
Science	PowerPoint Presentation: The Earth is Rocking and Rolling
Science	Interactive Web Site
Science	Power Point Presentation: Sea Creatures In Different Categories.
Science	Microsoft PowerPoint Presentation: Physical Properties of Liquids
Science	Microsoft PowerPoint Presentation: Terrestrial Biomes
Science	PowerPoint Presentation: Temperature and Temperature Scales
Science	PowerPoint Presentation on Light Energy
Science	PowerPoint Presentation: Electricity & Magnetism
Science	Using a Slideshow Presentation to Teach About Plants
Science	Physical Science and Biology Web Site
Science	Class Web Page and Presentation for Chemistry
Science	First Grade Planet Web page
Science	Science Internet Links

Science	Plant Experiment: Key Pals and a Web Page
Science	Frog Life Cycle PowerPoint Presentation
Science	Vertebrate PowerPoint Presentation
Science	Wired Science
Science	Science Web Page and Science Student Address Book
Science	Updating the Weird Science Web Page
Science	Wild Blue Wonder Flight Web Page
Science	Learning Weather PowerPoint Presentation
Science	The Digestive System
Science	DNA PowerPoint
Science	PowerPoint Presentation: The Butterfly Lifecycle
Science	Plasma Globes: A Flash on How they Work
Science	PowerPoint Presentation on How to Navigate a Web Site on D.N.A.
Science	The Danger of Diseases
Science	Science Safety Web Page
Science	The Science Database
Science	Science Web Page Update.
Science	Science Web Page Update
Science	Science Page Update
Science	Web Page: Information Sites for Science
Science	Going Buggy With Bugs on the Internet.
Science	Land And Water
Science	Weather and the Internet
Science	Earth Day 2001through the Internet and PowerPoint
Science	Land and Water
Science	Going Buggy With Bugs On the Internet
Science	PowerPoint Presentation: Mitosis
Science	PowerPoint Presentation: Galaxies
Science	Owls
Science	Northeast Magnet Science Project on the Web
Science	Marsupials in the Wild
Science	Neat Inventions in Science Web Site
Science	Reptiles vs. Amphibians: The PowerPoint Slide Show.
Science	PowerPoint Presentation: How To Create One For Your Freshman Project
Science	Homework on the Internet
Science	Electromagnetic Radiation Project
Science	Making A Personal Web Page
Social Studies	PowerPoint Presentation: Electoral College
Social Studies	Roman Gladiators with HyperStudio
Social Studies	PowerPoint Presentation: The Crusades
Social Studies	PowerPoint Presentation: The Electoral College
Social Studies	Vietnam War on PowerPoint
Social Studies	Social Studies Web Site
Social Studies	Websites and Web Trip for Frogs and Crabs
Social Studies	Freedom Fighters
Social Studies	"The Great War" And How It Was Started
Social Studies	PowerPoint Presentation: World War I
Social Studies	PowerPoint Presentation: How a Bill Becomes Law
Social Studies	PowerPoint Presentation: World War I
Social Studies	PowerPoint Presentation: Ancient Greek Mythology
Social Studies	PowerPoint Presentation: The Causes of World War II
Social Studies	African American History
Social Studies	Gen. www.Y Geography: A HyperStudio Project
Social Studies	PowerPoint Presentation: The Civil Rights Movement
Social Studies	PowerPoint Presentation: World War II
Social Studies	Researching History on the Internet

Social Studies	Microsoft PowerPoint Presentation: The Vietnam War
Social Studies	Foreign Government: PowerPoint Presentation
Social Studies	Profile of the United States using HyperStudio and the Internet
Social Studies	PowerPoint Presentation: Famous Poets of the 60's
Social Studies	Spreadsheet: Philosopher Reference
Social Studies	Battles of the Civil War
Social Studies	The North Takes Charge
Social Studies	1950's
Social Studies	PowerPoint Presentation: Adolescence
Social Studies	Progressives
Social Studies	Adirondack Logging
Social Studies	PowerPoint Presentations: Spanish Explorers
Social Studies	Computerized Origami Instructions
Social Studies	Criminal Law
Social Studies	PowerPoint Presentation: The Code of Hammurabi or The Ten Commandments
Social Studies	PowerPoint Presentation: Pep List Words
Social Studies	World Civics Vocabulary
Social Studies	Global Issues Jeopardy
Social Studies	Occupations in the Medieval Times
Social Studies	HyperStudio Presentation of the Presidents
Social Studies	Communicating with Friends Abroad using E-pals on the Internet
Social Studies	Economics in the Constitution
Social Studies	Communicating with Friends Abroad using E-Pals
Social Studies	Western Europe: PowerPoint Game
Social Studies	Psychology
Social Studies	Extended Learning Web Site
Social Studies	Power Point Presentation: History Test
Social Studies	NATIONAL HISTORY DAY: A PowerPoint Guide to the Technology
Social Studies	Bill of Rights
Social Studies	PowerPoint About England
Social Studies	Microsoft PowerPoint Presentation: Social Studies Graduation Exam Remediation
Social Studies	PowerPoint Presentation: Carter G. Woodson
Social Studies	American History Through PowerPoint
Social Studies	Learning About Latin America Through PowerPoint
Social Studies	PowerPoint Presentation: Tour of Greece
Social Studies	The Thirteen Colony
Social Studies	Ancient Egypt
Social Studies	HyperStudio Presentation: The 50 States
Social Studies	Chinese New Year on the Web
Social Studies	Web Quest for Washington Government
Social Studies	PowerPoint Presentation: Hercules, the Greek God
Social Studies	Path Finder about the Washington Coast
Social Studies	Puget Sound Pathfinder
Social Studies	Thirteen Colonies Web Page
Social Studies	Castles
Social Studies	50 States
Social Studies	Northwest Indians Web Quest
Social Studies	Ancient Egypt Web Quest
Social Studies	PowerPoint Presentation: Famous Women
Social Studies	Blacks in Technology
Social Studies	Athens and Sparta
Social Studies	Guidelines for the 7th Grade District Social Studies Assessment
Social Studies	Sparta and Athens PowerPoint: Compare and Contrast
Social Studies	North America Power Point
Social Studies	Canada With HyperStudio
Social Studies	The Great Compromise: HyperStudio

Social Studies	HyperStudio on John Paul Jones
Social Studies	HyperStudio Presentation: Bill of Rights
Social Studies	George Washington at War: HyperStudio
Social Studies	Articles of Confederation HyperStudio Presentation
Social Studies	The Revolution
Social Studies	PowerPoint: Brazil
Social Studies	PowerPoint Presentation: Life in 13 Colonies
Social Studies	Welcome to Mexico
Social Studies	PowerPoint Presentation: Land Of Opportunity
Social Studies	PowerPoint Presentation: The Historical Background of HL Hunley
Social Studies	PowerPoint Presentation: Election 2000
Social Studies	PowerPoint Presentation: The Dust Bowl
Social Studies	Informational Websites For Economics Classes
Social Studies	Using PowerPoint to Help Students Better Understand World History
Social Studies	International Newspaper Database for World History
Social Studies	Bearing Witness: Genocide in the 20th Century; A PowerPoint Presentation
Social Studies	PowerPoint Presentation: The Causes of the Cold War and How They Affect our Trade Relations.
Social Studies	Web Scavenger Hunt: Contemporary Asia
Social Studies	Social Studies Department: Web Page Project
Social Studies	World Cultures on the Web
Social Studies	The Life of a Soldier during the Vietnam War
Social Studies	A Walk in Thailand
Social Studies	Famous Presidents PowerPoint
Social Studies	PowerPoint Presentation: Vietnam
Social Studies	PowerPoint Presentation: World War II
Social Studies	Government PowerPoint and Web Page Project
Social Studies	PowerPoint Presentation: An Intensive Review of the Industrial Revolution
Social Studies	PowerPoint Presentation: The Holy Roman Empire
Social Studies	PowerPoint Presentation: The Nation Today
Social Studies	Using the Internet to Research a Report
Social Studies	Key Facts of the Preamble and Bill of Rights
Social Studies	Power Point: Boston Tea Party
Social Studies	PowerPoint: The Great Wall of China
Social Studies	Comparing Maps of the Past and Present
Social Studies	What do Maps Show- A Web-Based Activity
Social Studies	PowerPoint Presentation of World War II
Social Studies	PowerPoint Presentation: Pearl Harbor; Japan's Attack
Social Studies	PowerPoint Presentation: Immigration
Social Studies	Visual Basic History Test
Social Studies	PowerPoint Presentation: Why the United States Entered World War I
Social Studies	Current Events on the World Wide Web
Social Studies	Web Page Links: Western Land Movement
Social Studies	Mr. Pierce's Web Page
Social Studies	Social Studies Web Links
Social Studies	Microsoft PowerPoint Project on the 'Forgotten' Korean War
Social Studies	PowerPoint Presentation: World War II
Social Studies	PowerPoint Presentation: American Culture in the 1920's Test
Social Studies	Using Inspiration to Create a Concept Map Comparing the U.S. and British Forms of Government
Social Studies	Industrial Revolution
Social Studies	Final Review
Social Studies	Map of New Hampshire
Social Studies	The History of Meredith Slide Show
Social Studies	PowerPoint: Presidents
Social Studies	PowerPoint: Our History

Social Studies	PowerPoint Presentation: America's Entrance Into World War I
Social Studies	PowerPoint: Origins of Man
Social Studies	PowerPoint Presentation: Transportation and Community Helpers
Social Studies	PowerPoint Presentation: Early River Valley Civilizations
Social Studies	PowerPoint: The Ancient Greeks
Social Studies	PowerPoint Presentation: The Holocaust
Social Studies	PowerPoint Presentation: The Little Events that changed the Vietnam War!
Social Studies	PowerPoint Presentation: A Few Decisive Battles and Heroes of the American Revolutionary War
Social Studies	PowerPoint Presentation: Immigration in the Early 1900's
Social Studies	The Twenties
Social Studies	PowerPoint Presentation: Ancient Civilizations
Social Studies	PowerPoint: Ancient Egyptian Pyramids
Social Studies	PowerPoint: Ancient Greece
Social Studies	Web Page: 1980's-2000 Timeline
Social Studies	HyperStudio Project on The 80's and 90's
Social Studies	HyperStudio: Pictures of People in Early Northwest History
Social Studies	Eighth Grade Civil War HyperStudio Projects
Social Studies	HyperStudio Projects on Natural Disasters
Social Studies	Sixth Grade Social Studies Greek Key-pals
Social Studies	Regions of Washington HyperStudio
Social Studies	PowerPoint Project on The Civil War
Social Studies	HyperStudio Presentation: Travel Around Washington State
Social Studies	Sixth Grade HyperStudio Class Project on Ancient China
Social Studies	Virgin Island Culture with QTVR
Social Studies	Virgin Island History with HyperStudio
Social Studies	Weather: Using The Internet
Social Studies	HyperStudio Slide Show: Land Forms in the Western Hemisphere
Social Studies	HyperStudio Presentation: The Amazon Rain Forest
Social Studies	Facing Washington: A Child's Perspective
Social Studies	Famous Icons of WW2
Social Studies	PowerPoint Presentation: The Civil War
Social Studies	Gettysburg: A Look in Time
Social Studies	WWW.WWII.W2
Social Studies	Power Point Presentation: The 1950's
Social Studies	PowerPoint Presentation: Toppenish History
Social Studies	AppleWorks: Thanksgiving Links
Social Studies	Avid Cinema Presentation: Graham County History
Social Studies	The Jesse James Internet Extravaganza
Social Studies	Third Grade HyperStudio Native American Project
Social Studies	Microsoft PowerPoint Presentation: Electoral College
Social Studies	HyperStudio: Kansas History Landscapes
Social Studies	PowerPoint Presentation: Civil War
Social Studies	Explorers in Early America from 1400-1500 MS PowerPoint Show
Social Studies	PowerPoint Presentation: America's Wars
Social Studies	PowerPoint Presentation: American Revolution
Social Studies	The Caste System
Social Studies	Holocaust PowerPoint
Social Studies	PowerPoint Presentation: Spain's Empire in the Americas
Social Studies	Conflict in the Middle East
Social Studies	The Civil War
Social Studies	PowerPoint Presentation: World War II: Allied and Axis Powers
Social Studies	Web Page: The Battle of Shiloh
Social Studies	Africa PowerPoint Presentation - 1st Grade
Social Studies	5th Grade Reading, Writing and U.S. History Web Resource Page
Social Studies	Thurston County Links Web Page

Social Studies	Thurston County Links Web Page
Social Studies	Heroes and Heroism PowerPoint Presentation
Social Studies	Using a Digital Camera to Record the Creation of Kwakiut Facemasks
Social Studies	South African Photo PowerPoint
Social Studies	Social Studies Research Web Page
Social Studies	Social Studies On HyperStudio
Social Studies	Mayas, Incas, and Aztecs
Social Studies	PowerPoint Presentation of: Inter Disciplinary Unit for Coconut Legends
Social Studies	Searching The Web In History
Social Studies	Nationalism and Revolution Around the World Web Site
Social Studies	The Civil War {using FrontPage}
Social Studies	4th Grade Lewis And Clark Slideshow
Social Studies	Fifth Grade State Report Slide Show
Social Studies	Japanese Internment Camp PowerPoint Presentation
Social Studies	African Animals on PowerPoint
Social Studies	Australia on PowerPoint
Social Studies	Instruction in Microsoft Word
Social Studies	Environmental Issues
Social Studies	Website of Egypt
Social Studies	A Web Page of West Central & Eastern Africa for 7th Graders
Social Studies	Mr. Kabat, PDF, and Me.
Social Studies	World History On the Web
Social Studies	The Fun Things About Mr. O'Sullivan's Class
Social Studies	Special Americans: A PowerPoint Presentation
Social Studies	MICROSOFT PowerPoint Presentation: World War 1
Social Studies	Web Page: Citizenship
Social Studies	Blount County History
Social Studies	The Holocaust: The Suffering
Social Studies	United States Presidents: Information on Some of the Important Leaders of Our Country
Social Studies	Alabama Indians Web Page
Social Studies	British Imperialism
Social Studies	PowerPoint Presentation: Benjamin Franklin
Social Studies	PowerPoint Presentation: Famous Alabamians
Social Studies	Oceans
Social Studies	PowerPoint States and Capitals
Social Studies	PowerPoint Presentation: Alabama 1900-1917
Social Studies	Historical Timeline Using Timeliner 5.0
Social Studies	Australian Web Sites
Social Studies	Internet Research on Northwest Animals
Social Studies	Cleaning Up the Sixth Grade Social Studies Gateway
Social Studies	Discovering PowerPoint
Social Studies	Digital Camera Parade
Social Studies	Social Studies Review Page {I WOULD SPECIFY WEB PAGE}
Social Studies	Ancient Rome PowerPoint Vocabulary
Social Studies	Cooperative Group Learning Project
Social Studies	A Year in the Life of Raymond Elementary: The Slideshow
Social Studies	Civil War Web Page
Social Studies	State of Washington Slideshow
Social Studies	United States Slide Show
Social Studies	State of Washington Slide Show
Social Studies	PowerPoint Presentation: Historical Catalog
Social Studies	Hyperlinking: Expert in a Nation
Social Studies	PowerPoint Presentation: Recycling In our school
Social Studies	Children in the Holocaust Information and Resources
Social Studies	County Report CD Template

Social Studies	Revolutionary War News Stories
Social Studies	Channeled Scablands
Social Studies	PowerPoint Presentation: The Oregon Trail
Social Studies	PowerPoint Presentation: European Explorers Of The New World
Social Studies	20th Century World History Online
Social Studies	ClarisWorks: Washington State Brochure
Social Studies	HyperStudio about Farms
Social Studies	Castles from the Middle Ages on the Internet.
Social Studies	Mr. Kalman's PowerPoint Project
Social Studies	Mr. Iverson's Social Studies Page
Social Studies	Mr. Whalen’s Class Web Page
Social Studies	Mrs. Kitch’s Class Web Page
Social Studies	Internet Web: The Roaring Twenties.
Social Studies	Vietnam War: World Wide Web
Social Studies	CU-See-Me
Social Studies	The Scanner
Social Studies	Pacific Northwest history.com
Social Studies	Central American Web Page
Social Studies	Five Themes of Geography, Slide Show
Social Studies	The Five Themes Of Geography, Slide Show
Social Studies	PowerPoint Presentation About the Middle East
Social Studies	PowerPoint Presentation: Canadian Report Rubric
Social Studies	PowerPoint Presentation: Concentration Camps
Social Studies	Web Page on Elevation Maps
Social Studies	Mrs. Steinkamp's Core Web Site
Social Studies	PowerPoint Presentations for the Organization of Latin American Countries
Social Studies	Global Studies Rewiew Web Site
Social Studies	HyperStudio Presentation: Southgate Past and Present
Social Studies	The Importance of the Sea Otter in the Northwest
Social Studies	Influential African-Americans 1940-2000: A HyperStudio Presentation
Social Studies	Creating Teacher Curriculum Bookmarks
Social Studies	PowerPoint Presentation: Africa in the 16th Century
Social Studies	{SEE COMMENTS BELOW}settlement of the New World
Social Studies	The Life of Benjamin Franklin {USING POWERPOINT}
Social Studies	Learning about E-pals
Social Studies	Mr. Mensonides' 2000-2001 Humanities Projects
Social Studies	Folktales, Legends, and Myths
Social Studies	Black Death and Medieval Europe Web Site
Social Studies	Ancient Rome Web Site
Social Studies	Castles in Medieval Europe Web Site
Social Studies	AppleWorks Document: Battles of the Civil War
Social Studies	Ancient Empires Slideshow
Social Studies	Ancient Civilizations AppleWorks Slideshow.
Social Studies	PowerPoint Presentation - Christopher Columbus: The Man, Myth, & His Story
Social Studies	The Roaring Twenties: A Corel Presentation
Social Studies	Advanced Placement Government Online
Social Studies	Current World Events
Social Studies	Newspaper using Corell on Environmental Issues in Russia
Social Studies	The Evergreen State Web Page
Social Studies	International Travel Club Web Page
Social Studies	A Website on Native American Tribes
Social Studies	National Parks Web Page
Social Studies	International Travel Club: Web Page
Social Studies	Kerr/Parker Web Page Development
Social Studies	Linking and Bookmarking Social Studies
Social Studies	Ms. Ramsey's Social Studies Page

Social Studies	Software Review and Online Brochure Development
Social Studies	Online Brochure Development
Social Studies	Ancient Civilization Links'
Social Studies	Central American Scrapbook Puzzled with Central America
Social Studies	Mrs. Hubler's Geography of the Eastern Hemisphere Web Page
Social Studies	Microsoft PowerPoint Presentation: Canada Provinces
Social Studies	Canada's Provinces
Social Studies	Canadian Unit
Social Studies	Mrs. Hogg's Geography Page
Social Studies	Tour of Europe with PowerPoint
Social Studies	Mr. Eguia's Cinco De Mayo PowerPoint
Social Studies	PowerPoint on the Battle of Puebla
Social Studies	PowerPoint Presentation: the Wright Brothers
Social Studies	PowerPoint Presentation: Prehistoric Cave Art
Social Studies	PowerPoint Presentation: India
Social Studies	Researching the Civil War Using the Internet
Social Studies	Oregon Trail Web Page Update
Social Studies	Exploring the United Nations
Social Studies	WMS Featured Medieval Sites
Social Studies	PowerPoint on Medieval Times
Social Studies	Star Trek Web Page
Social Studies	Traveling Through Mini-Books in ClarisWorks
Social Studies	Welcome to the State of Virginia
Social Studies	We Are Out Of Control On The Internet On The 50 States
Social Studies	The 50 States On the Internet
Social Studies	World Wide Web
Social Studies	50 States
Social Studies	A Trip Back In Time Using the Internet
Social Studies	A Trip Back in Time Using the Internet
Social Studies	PowerPoint Presentation: The Life of Harriet Tubman
Social Studies	Plagiarism, Paraphrasing, and Original Thought
Social Studies	Social Studies Performance Demonstration PowerPoint Presentation
Social Studies	How to Use PowerPoint Presentation
Social Studies	Causes Leading to the Vietnam War
Social Studies	Australia and New Zealand: Differences and Similarities
Social Studies	Roaring Twenties Web Page
Social Studies	iMovie Commercials: Come to Egypt!
Social Studies	Let's Travel Brochure: North Dakota
Technology	Teaching HyperStudio
Technology	PowerPoint Presentation About Logos
Technology	Web Site for A.H. Smith School
Technology	PowerPoint Presentation: 6th Grade Orientation
Technology	Symposium 2001 Web Site
Technology	Simulation Room
Technology	Drafting in PowerPoint
Technology	Integrating Technology in the Classroom
Technology	Integrating Technology in the Classroom
Technology	Integrating Technology in the Classroom
Technology	Integrating Technology In The Classroom
Technology	Integrating Technology in The Classroom
Technology	Integrating Technology in the classroom
Technology	New Student Avanti Video
Technology	A HyperStudio Presentation the Use of the Electric Board in Electronics
Technology	Structs in C
Technology	Computers
Technology	Middle School Web Page

Technology	MP3s in our Technological World
Technology	Web Site: CCHS Technology Student Association
Technology	Elementary Website Design
Technology	CHS Website Design & Implementation
Technology	Learning PHP/Mysql
Technology	How to Use a Digital Video Camera
Technology	BIOS; Our Computer Technology of the Future
Technology	Generation Y Video Project
Technology	Computer Terminology PowerPoint Presentation
Technology	Updating Web Pages
Technology	Girls Basketball
Technology	iMovie Presentation: Behind the Scenes of a Play
Technology	Tech Support Web Page
Technology	Web Page for First Grade Class
Technology	Using Inspiration
Technology	HyperStudio Book Reports With Digital Photos.
Technology	Creating Simple Teacher/School Web Pages Using FREE On-line Service
Technology	Creating Simple Teacher/School Web Pages Using FREE On-line Service
Technology	Creating Simple Teacher/School Web Pages Using FREE On-line Service
Technology	Creating Simple Teacher Web Pages using Free On-line Service
Technology	Creating Simple Teacher/School Web Pages Using FREE On-line Service
Technology	Creating Simple Teacher/School Web Pages Using FREE On-line Service
Technology	Netiquette and AUP video
Technology	Power Point Presentation
Technology	Work presented with Power Point
Technology	Mr. DeSimony: Galway Central Technology
Technology	Applying for a Job: A PowerPoint Presentation
Technology	Research on the Internet
Technology	Idea Mapping with Inspiration
Technology	(PHOTODELUXE) (S)pecial (E)ffects (W)orkshop
Technology	Backgrounds with Adobe PhotoDeluxe
Technology	Heights Web Site
Technology	How To Use A Digital Camera
Technology	Mr. Roberts Web Page
Technology	Teacher Tutorial On Web Page Design
Technology	iMovie: Instruction Videos
Technology	Creating A Web Page Using Zebu About Epidemics
Technology	Creating a Web Page Using Zebu to Design a Project on Epidemics
Technology	Eighth Grade Computers
Technology	Power Point Presentation: How to use Animations to Make Your Presentation Look Real.
Technology	PowerPoint Presentation: Installing and Removing the CD-ROM Drive.
Technology	PowerPoint Presentation: Hearing Impaired Accommodations
Technology	PowerPoint Presentation: Safety in Welding
Technology	PowerPoint Presentation: Jacksonville City Schools Technology Information
Technology	PowerPoint Presentation: Data Access vs. Privacy; A Delicate Balance
Technology	PowerPoint Presentation: Computer Viruses; The Enemy Within
Technology	PowerPoint Presentation: How to Use E-mail
Technology	PowerPoint Presentation: Computers in Government
Technology	Gen www.Y Web Page
Technology	Staff Bulletin Board Using Digital Images
Technology	PowerPoint: Learning and Teaching with Technology
Technology	Fourth Grade Washington State Governors Web Page
Technology	How to Make a PowerPoint Presentation
Technology	Kid Pix Slide Show with Mrs.Ott's Kindergarten Students
Technology	NASA Scavenger Hunt for Third Grade

Technology	Presentations using KidPix and ClarisWorks
Technology	Research on Character Education/Cooperative Learning for Mrs. Plahuta
Technology	Web Page for Learning Resource Center
Technology	Classroom Webpage
Technology	HyperStudio: Three Components Of A Computer
Technology	All About Me HyperStudio Project
Technology	50 States E-mail Project
Technology	Producing School News with iMovie 2
Technology	Producing School News with iMovie 2
Technology	Meadows Elementary Library Web Page
Technology	The Slide Show Test
Technology	TRIBES
Technology	How to use PowerPoint using a Report on Washington State
Technology	How to Create a PowerPoint Presentation
Technology	PowerPoint Presentation on Victoria, B.C.
Technology	How to use PowerPoint Using Biography of Backstreet Boys
Technology	Improving the School's Web Site
Technology	PowerPoint On Using PowerPoint
Technology	Woodshop Projects on the Web
Technology	Instructional Video: Installing RAM
Technology	Video Conferencing System Manual
Technology	PowerPoint Presentation: How to Save Files to a Network Server
Technology	Data Base: Using New Programs
Technology	Digital Imagery of a Class in Motion
Technology	A 'How To' Do a ClarisWorks Slide Show
Technology	Mason Matters: Classroom
Technology	Holman Web Page
Technology	Mason Matters: Web Collaboration
Technology	Pleistocene Research Links
Technology	Panda Bear Web Searches
Technology	How Well Do You Know Your Browser?
Technology	GIS in the Classroom
Technology	Front Page: School Web Page
Technology	Trouble Shooting Computer Problems
Technology	Video Camera Reporter
Technology	Film: Sewing Machine Operation
Technology	Healthy Choices PSAs
Technology	The Daily Bulletin with Mr. McDonald
Technology	Visual Basic Web Page
Technology	How to Use Microsoft Programs
Technology	Smart Board Technology for Dummies
Technology	Copyright Rules
Technology	Learning How to Use a Scanner (and download copy print)
Technology	Learning How to Use a Digital Camera.
Technology	Using a Scanner
Technology	How to Make a Web Page
Technology	How to Get Pictures Off of the Internet
Technology	Downloading Pictures From The Internet
Technology	Excel Bibliographies in English Literature
Technology	Technology FAQ's
Technology	Web Site Presentation: Digital Cameras and Scanners
Technology	Tony's Proposal
Technology	Interactive Web Site for Students and Parents
Technology	Mrs. Seaborn's Humanities Web Page
Technology	St. Croix Central High School On the Web
Technology	How to Use Electronic Mail

Technology	PowerPoint Presentation: Aphorisms That Created Us.
Technology	Satellites and Technology
Technology	St. Michael School Web Page
Technology	Updating the Marshall School Web Page
Technology	The New E-mail Tutorial
Technology	Technology Expert Services For Updating And Servicing The Class Web Page
Technology	Community Service Web Site: Lost Pets
Technology	Digital Camera Know-How: A PowerPoint Presentation
Technology	Learning How To Do PowerPoint Presentations
Technology	How to use a Digital Camera
Technology	Updating the Marshall School Web Page
Technology	How to do a PowerPoint Presentation
Technology	Capturing and Editing Digital Video using iMovie
Technology	Library Web Page Update
Technology	Marshall Alternative Program Web Page Update
Technology	Parents' Access to Grades on a Web Page.
Technology	Lost Pets Community Project on the Web
Technology	How to Use Flash 4
Technology	Keyboarding Web Site
Technology	ArcView GIS @ WMS: A Web Page
Technology	Tech Research Web Page
Technology	How to Use a ClarisWorks Database
Technology	PowerPoint Presentation: Introduction to Gen. www.Y
Technology	HyperStudio: Girls' Issues
Technology	Components of a Computer
Technology	Miss Keough's Web Page
Technology	Computer Information Booklet
Technology	Fifth Grade Class Web Page
Technology	Introduction to Computers
Technology	Teaching a Teacher to Use PowerPoint
Technology	Web Site
Technology	GO HISTORY!~
Visual Arts	A PowerPoint Presentation on Creating and Coloring Cartoons
Visual Arts	PowerPoint Presentation: Artist Book
Visual Arts	PowerPoint: Ancient Greek and Roman Architecture
Visual Arts	The Fundamentals of Dance
Visual Arts	ARTifacts at Bob Jones High School
Visual Arts	School House Rock
Visual Arts	Fauvism
Visual Arts	{SEE COMMENTS}Students Art Work on Web
Visual Arts	Microsoft PowerPoint Presentation: Solarizing Pictures
Visual Arts	Batik: The Art of Wax
Visual Arts	Comedy Horror Film
Visual Arts	Learning About Art Online
Visual Arts	FHS Artwork on the Net
Visual Arts	Continuing Ideas: A Rotation of FHS Student Artwork.
Visual Arts	HyperStudio: How to Create Your Own Presentation
Visual Arts	Friends
Visual Arts	How to use Photo Shop
Visual Arts	Video Presentation about "I" Messages
Visual Arts	Wichita Heights High School Art Department Web Page
Visual Arts	Eighth Grade Video
Visual Arts	Web Page and Video Project: Wrestlers on the Web
Visual Arts	Art, Kid Pix & the Internet
Visual Arts	Virtual Art Museum Web Page
Visual Arts	Real Artist and Student Sample Displays with MS PowerPoint

Visual Arts	Student Silhouettes PowerPoint Presentation
Visual Arts	Luhn Heritage
Visual Arts	Design Business Cards for Middle School Staff
Visual Arts	PowerPoint Presentation: Impressionism
Visual Arts	Technology Infused Claymation Project
Visual Arts	American Sign Language Web Site
Visual Arts	SHS Drama Department Web Page
Visual Arts	Virtual Art Museum
Visual Arts	A Computer Presentation of Impressionist Art
Visual Arts	PowerPoint Presentation: Color Theory
Visual Arts	iMovie: Behind the Scenes of a School Play
Visual Arts	PowerPoint Presentation: Geometric Form Project for Creative Photography I