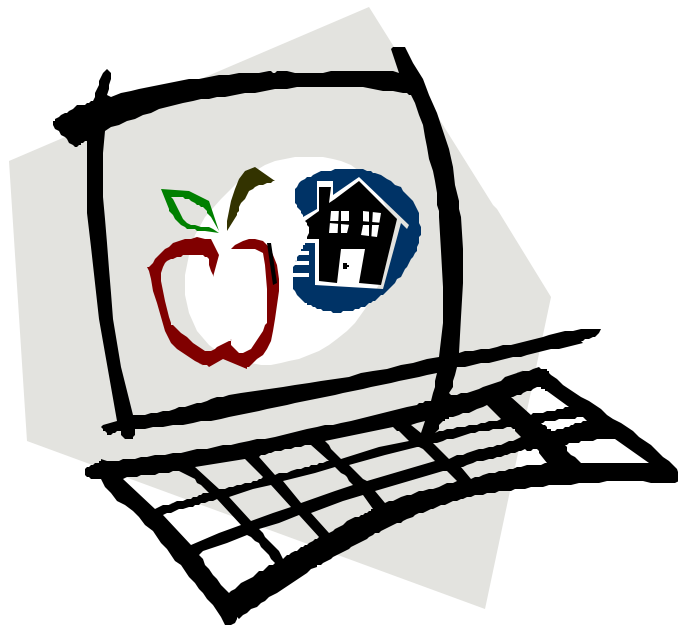


**VSU INNOVATORS**

Problem Based Learning Assignment



Home to School Digital Connection:  
An Educator's Guide to Bridging the  
Digital Divide

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*ITED 8100 – Fall 2002*

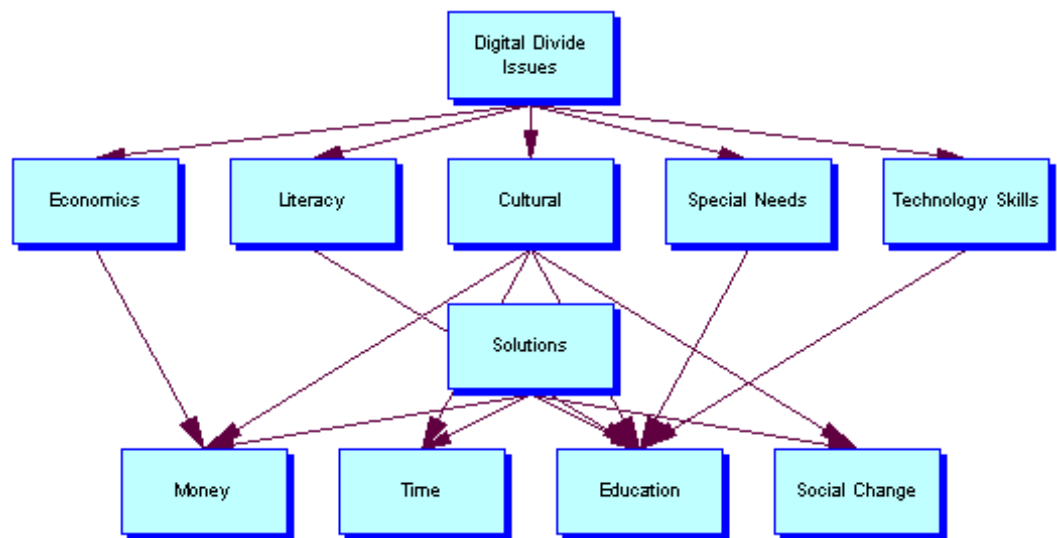
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## About This Guide



The Digital Divide exists across many areas, including economics, literacy, cultural, special needs, and technology skills. The problem is too big to “fix” with just one solution. The image below graphically depicts the issue and potential solutions.



## Our Goal

A major part of our goal is to bridge the digital divide caused by access by allowing students to check out computers to take home.

Another part of the goal is to cross literacy and technology skills barriers; students can teach technology skills to their parents.

A third facet of the goal is to increase and facilitate integration of technology into class curriculum in a meaningful context.

## Our Tasks

Our “problem space” involved the program particulars such as acquisition of necessary hardware and software and infrastructure issues. Particulars of the “problem space” were distributed among the VSU Innovators group for development.

## The End Product - Home to School Digital Connection

The VSU Innovators designed a model for integrating technology into a classroom. The model includes:

- Access to technology for teachers, students, *and* parents
- Information to assist teachers in integrating such a model into their classroom, including web-based resource links for curriculum ideas and a bibliography of useful readings and websites. The assumption is that teachers are aware of the need for education in technology use and are interested in resolving issues around access and digital literacy.
- Information for involving parents in the program, including Parent Awareness Night for introduction to the computer loan program and useful readings for parents. The assumption is that parents are integral to the educational success of students and are interested in learning technology both for their children’s sakes and their own.

## Defining Literacy for the 21<sup>st</sup> Century



The digital revolution has created new ways to teach and to learn. At the same time, it demands that all, teachers, students, employees and citizens, acquire new knowledge and critical thinking skills in the following areas:

**Technological literacy:** The ability to use new media such as the Internet to effectively access and communicate information.

**Information Literacy:** The ability to gather, organize, filter and evaluate information, and to form valid opinions based on the results.

**Media Literacy:** The individual capacity to generate and distribute information to audiences free from physical and temporal boundaries.

**Ethical Competence and Responsibility:** The competence to consider the social consequences of online publication and responsibility to children.

### Education

As a result of digital technologies such as the Internet, the means to create new learning environments are becoming readily available.

- Students can access information without the conventional limits of time or location
- Content is expandable and can be customized based on students' interests, needs and capabilities
- Instead of being passive recipients of information, students can redesign their learning experience by manipulating information and creating their own interactive, multimedia applications.

For all students to be able to take full advantage of what the new technologies offer

- Everyone must have ready and equal access to the tools and resources that will allow them to build these competencies effectively
- Individuals must be taught to appreciate the significance of learning throughout their lifetime, so that they will be able to access knowledge and upgrade their skills as the world around them changes
- Students must develop an understanding and tolerance for the myriad differences in culture and values they will encounter as they share ideas and information across borders.
- In order to teach students the new literacy skills, teachers must have training in integrating the new technologies into the core curriculum
- This requires research into effective pedagogical practices and the development of appropriate software

A societal understanding of the importance of the new literacies must support the funding of an adequate infrastructure. There is much evidence that this is happening and will accelerate, as digital technology becomes an integral part of the fabric of social life.

## Sample Digital Divide Newsletter:

### The New Information Landscape

The Digital Revolution is creating dramatic changes in the way people communicate, learn, play, do business and solve problems. Clearly, 21<sup>st</sup> century literacy requires more than just the ability to read, write and do math and science. It also encompasses the ability to use technology, make critical judgments about the explosion of available information, and the willingness to view the process of learning in new and different ways.

The traditional partnership between schools and homes, between teachers and parents, can help in the preparation of children for the electronically networked global village. Studies show that the success of children in school is directly related to parental support and enthusiasm. Unfortunately although many parents have the enthusiasm and they want to support their children,\* they often lack the skills to use the new technology to its full potential.

There are still significant numbers of our population who are uncomfortable, even anxious, about digital technology. A large spectrum of reasons explains this; the fact is that, whatever the reasons, a lack of technology skills will disadvantage those Americans competing in job markets and in their personal lives. Being on the wrong side of "the digital divide" will have lasting negative effects.

### A House Digitally Divided Cannot Stand

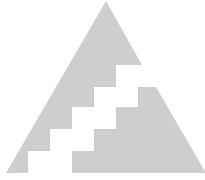
To help address this problem, the Board of Education, in conjunction with community schools, will be providing awareness and training seminars to interested parents. Through these workshops and seminars, participants will learn about the digital revolution and receive basic training in the operation of computers.

Computer seminars will be announced as soon as a workable schedule is established. In addition to seeking participants in the program, people with computer skills are also needed to help make the program work. Volunteers for this important endeavor should contact the Board of Education office as soon as possible. If we agree that "A house digitally divided cannot stand," as a community we will support this project and make it work — for our children's' sakes.

\* A recent New York Times article (11/18/2002) notes that 70% of parents have gone online. They are also more enthusiastic about technology and they fret less about it than their child-free peers.



## Procedures



A committee of committed participants to guide the following process:

- Acquisition of required hardware and software can be handled by individual schools but should be coordinated with the help of the local technology department. A list of grant resources has been included in the resources section. Using donations and refurbished materials may be one way to get the program in motion. Check with local agencies. Make sure that all software licenses are current and part of the school's inventory.
- Teachers and interested others selected to participate in the program will attend a 3-day "Getting Acquainted" workshop outlining the specifics of the program.
- Teachers will plan a Parent Participation Night, at which time parents will be advised of the program and their important part in the success of the program.
- Teachers will create meaningful technology-based assignments that will integrate with curriculum.
- Teachers will encourage parent involvement in the individual assignments.

### Hardware required:

- Participating classrooms should receive 3 -5-laptop or portable computers available for student/parent checkout, on a rotating basis, to complete technology-based assignments. System requirements should include up-to-date processor speeds – Pentium II or higher, sufficient RAM (64-K or higher) and hard drive space, (4.0 gig or higher, CD-Rewritable drives, and a combination network/modem card.

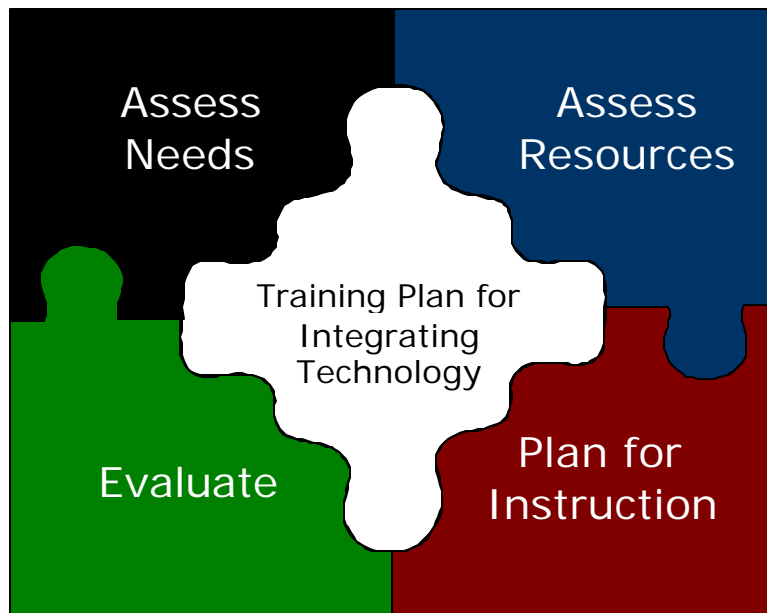
- The school should also provide an additional 10 - 15 computers for checkout through the school media center
- Ideally, participating teachers should receive for their own use a laptop computer, and peripherals to include a printer, scanner, and digital camera and LCD projector.

Software required:

- Each laptop or portable computer should be equipped with dial-up modem Internet access. The accounts will be acquired through the program to be shared by all participants. If the school board has its own ISP, a section of designated lines could be saved for participants.
- Each computer should have loaded software that includes word processing, spreadsheets, presentation, multimedia, web editing, and graphics software as well as specific content area software requested by teachers. Offices suites such as Microsoft Office, Microsoft Works, Lotus or Corel Suites offer many productivity tools in one collection. For games and other applications, the use of online resources located through sites such as Marco Polo can be considered as well.

## Parent Training Workshop

In order to effectively train parents a systematic approach is needed. This plan is designed to be a road map or action plan for a school but with a few modifications it can be adapted for a larger community. The basic steps are: assess needs, assess resources, plan for instruction, evaluate.



### **Assess Needs**

Begin with the national and state computer standards for teachers. These can be used as a guideline for parents as well. The ISTE website offers guidelines to help school districts devise local standards. They can be accessed at:

<http://cnets.iste.org/index.shtml>

Take a survey of parent/student computer use in the classroom, work or at home. Areas assessed should cover all aspects of educational technology. Here is an example of possible questions you may wish to include.

<b>Parent Technology Survey</b>							
Name:							
Student Grade level	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>(circle one)</b>
1. Do you have a computer at home?				<b>Yes</b>	<b>No</b>		
2. How often do you use computers?	<b>often</b>	<b>occasionally</b>		<b>rarely</b>		<b>never</b>	
3. What do you use the computers for?	<b>Internet searches</b>		<b>word processing</b>		<b>email</b>		<b>leisure</b>
4. What is your comfort level using a computer?	<b>with ease</b>		<b>some reluctance</b>			<b>frustration</b>	
5. How often do your children use the computers?	<b>often</b>	<b>occasionally</b>		<b>rarely</b>		<b>never</b>	
6. What do the children use the computers for?	<b>Internet searches</b>		<b>typing stories</b>			<b>games</b>	
7. What is the comfort level of the students using the computers?	<b>with ease</b>		<b>some reluctance</b>			<b>frustration</b>	

### **Assess Resources**

Locate teachers who are computer literate and assess the extent of their knowledge. They can be a major resource when it is time to begin parent training.

Find out how many working computers are in each classroom. If there is a lab, see how many computers can be used for group training. This will help in determining grouping students/parents later on in the process

Explore information on computer training companies and other resources, i.e. local college professors, computer teachers, etc to help train. Some may work for hire; others may offer services for publicity and recognition. Be sure to follow district set guidelines before putting a business' name on any promotional material.

Assemble a committee of teachers, parents and other volunteers that can help monitor and integrate computer use.

If necessary, train the committee first. The more involvement, the better the results.

## **Plan for Instruction**

### **Sample Committee Training Outline**

Meet with committee to review curriculum and brainstorm ideas and lessons in which the Internet, word-processing, and educational software is included – remember that web-based applications such as Java games can be used.

Develop lesson goals and time frame. Review with these folks

- a word processing program- *Microsoft Word* or *Works* or *WordPad*. Discuss simple procedures such as opening, closing, saving, and retrieving files; review cut, copy, paste, changing fonts, justifications, and inserting clip art and other pictures.
- Internet skills with the committee. Have them search using the address bar, using search engines by typing in words or phrases to search, and using the given categories on a page.
- Simple software titles like *Kid Pix* or *MS Paint* or java games from [www.funbrain.com](http://www.funbrain.com) or a similar site.

### **Sample Goals**

- Parents will use technology as a tool for learning.
- Technology will be used to motivate their children to learn.
- Students will use the Internet for reading, researching, and locating information.
- Email will be used to communicate with the school, community, and the world.

- Parents will be able to complete a computer literacy test as a program requirement before receiving a computer for home use.

Set a time and date that meets parent needs. Offer classes on Saturdays, evenings, or vacations.

Invite parents to participate in faculty and staff workshops on computer literacy.

## **Sample Computer Skills Workshops**

### ***Introduction to Technical Literacy***

*The ability to use the physical equipment and problem solve common technical glitches*

#### ***Basic technical literacy***

Name those parts

#### ***Computer operation & Care***

Keeping the equipment working

#### ***Operating System Overview***

Windows, Mac

### ***Introduction to Technological Literacy***

*The ability to use new media such as the Internet to effectively access and evaluate online information*

#### ***Online tools***

Browser layout & toolbar options, navigation, hyperlinks.

#### ***Searching***

Locating information, search engines, using keywords, favorites, downloading files.

#### ***Security***

Website Security, identifying secure sites, cookies, content filter and/or advisor to restrict access to certain types of sites.

#### ***Internet options***

Modifying a browser, homepage, history list

### ***Introduction to media literacy***

*The ability to generate, manipulate and distribute information to selected audiences free from physical and temporal boundaries.*

#### ***Word processing lesson***

Create, edit and save word processing documents, select and format text in various ways -sizes, style & color. Draw an illustration; insert the illustration into the title page. Spell checking

### ***Ethical Competence and Responsibility***

*The competence to consider the social consequences of online publication and responsibility to children.*

#### ***Computer Ethics***

Copyright laws, privacy and potentially dangerous or sensitive issues  
Responsibility for content on personal websites  
Ethical use and distribution of information

### ***Simple Software Lesson***

Kid Pix,  
[www.funbrain.com](http://www.funbrain.com)  
[www.marcopolo-education.com](http://www.marcopolo-education.com).

### ***Scheduling***

Use surveys to assess ideal meeting dates and times. Be sure to consider weekends and holidays. Break training up over a period of sessions to prevent information overload.

### ***First Meeting***

Find out what individuals know and would like to learn. Committee provides an overview of technology lessons - Internet lessons, Word Processing Lessons, and Software Lessons. Participants will complete a self-assessment to help set learning course.

### **Additional Meetings**

With small groups or parents, whole group instruction may be fine. With large groups, consider splitting participants into 3 to 4 groups or mini break out sessions if possible. Each group can work on one of the skill areas

### **Course Completion**

Offer students and parents certificates of participation. See example in appendix.

### **Door Prizes & Promotional Ideas**

Enlist the help of local computer businesses. Solicit door prizes such as software, ISP service, mouse pads, computer components.

### **Evaluate & Reassess**

Committee & participants will complete technology self-assessment at least a year. These can be generated online via a form on the school's website or through a free service like the Profiler that can be found at <http://profiler.hprtec.org/> Committee will monitor and evaluate computer usage and implementation through lessons plans and parent-teacher communication.

Committee should also monitor computer hardware and software inventory. An auditing program such as Track-it Audit can be installed to each system and be scripted to automatically audit and report system information via modem at least twice a year. <http://blueocean.intuit.com/>

## Summary: Operation Mission Possible

Aggressive public awareness campaigns, direct involvement of school administration and staff in the consciousness-raising and training of the members of the community, and continued emphasis on the importance of technology to teachers in the classroom, will guarantee that bridging the digital divide will become mission possible.

### Stage I

All teachers must emphasize the importance of computer literacy in their classrooms. Besides simply explaining its importance, they should incorporate the use of technology as much as possible in their respective settings. In addition, all teachers should take the initiative in acquiring all the technological illiteracies themselves. Teachers can thus effectively demonstrate the importance and the manner of technological proficiency to their students.

### Stage II

The school system in the community must be the leader in an aggressive public awareness campaign. Guest speakers from small and large companies can be brought in to explain the importance of technology skills in the 21st century job market. The school system should also offer technological literacy classes to members of the community.

### Stage III

The school system could publish a monthly newsletter, under supervision of school's media department. In addition to listing the school's current events, the newsletter could be used to keep the community aware of new technological acquisitions and initiatives for bridging the "digital divide." The letter should be mailed to parents of all students attending the school system and distributed to the greater community through the local businesses.

## Resources



### Bibliography For Teachers

Technology & Literacy: Raising the Bar, by Decker Walker, from Educational Leadership, October 1999, pp 18-21

Using the Internet to Improve Student Performance, by Angela M. Guptill, from Teaching Exceptional Children, March/April 2000, pp. 16-20

Working with WebQuests by Rebecca Kelly, from Teaching Exceptional Children, July/August 2000, pp. 4-13.

Computers as Mindtools for Engaging Learners in Critical Thinking, by David H. Jonassen, Chad Carr, and Hsui-Ping Yueh, from TechTrends, March 1998, p. 24-32.

Guerrilla Technology, by Royal Van Horn, from Phi Delta Kappan, February 1999, pp. 476-478

Annual Editions: Computers in Education 02/03 from McGraw Hill, ISBN# 0-07-247880-2

## Curriculum Resources

The Gateway to Educational Materials  
<http://www.thegateway.org/>

Teachers First  
[www.teachersfirst.com](http://www.teachersfirst.com)

The lesson Plans page  
[www.lessonplanspage.com](http://www.lessonplanspage.com)

English Compass Lesson Plans  
[http://www.geocities.com/maurirz/Tch\\_Lsn.htm](http://www.geocities.com/maurirz/Tch_Lsn.htm)

LessonPlanz

[www.lessonplanz.com](http://www.lessonplanz.com)

Busy Teacher's WebSite

<http://www.ceismc.gatech.edu/busyt/>

The Globe Program

<http://globe.fsl.noaa.gov>

Eyewitness: History Through the Eyes of Those Who Lived It

<http://www.ibiscom.com/index.html>

Jo Cool or Jo Fool: An Online Game about Savvy Surfing

<http://www.mirror.media-awareness.ca/eng/webaware/2joes/johome.htm>

Landmarks for Schools

<http://landmark-project.com/index.php>

Global Schoolhouse Invitation

<http://www.globalschoolhouse.org/expeditions/dryvalleys.html>

## Funding Resources

SchoolGrants

[www.schoolgrants.org](http://www.schoolgrants.org)

A+ America

[www.technology4kids.com/AplusAmerica](http://www.technology4kids.com/AplusAmerica)

The Educational Technology & Conservation Exchange Program

[www.etcep.com](http://www.etcep.com)

Computers for learning

[www.computers.fed.gov](http://www.computers.fed.gov)

Share the Technology

<http://sharetechnology.org>

## Implementation of Computer Technology

Bringing Society to Cyberspace

<http://www.wired.com/news/culture/0,1284,55765,00.html>

SQUEAK

<http://www.squeakland.org>

Wired Woods

<http://www.digitaldividenetwork.org/content/stories/index.cfm?key=255>

Computer Clubhouses

<http://www.intel.com/education/icc/index.htm>

TRECA Digital Academy

<http://tda.treca.org/index.shtml>

Tutor Mentor

<http://www.tutormentorconnection.org>

Students Treat Laptops with TLC

<http://www.wired.com/news/school/0,1383,56295,00.html>

Training Point

<http://www.trainingpoint.org>

Community Technology Centers' Network

<http://www.ctcnet.org>

The Children's Partnership

<http://www.childrenspartnership.org/>

Study Says Seventy Percent of Parents Have Used the Internet

<http://www.nytimes.com/2002/11/18/technology/18PEW.html>

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<http://cnets.iste.org/index3.html> International Society for Technology in Education

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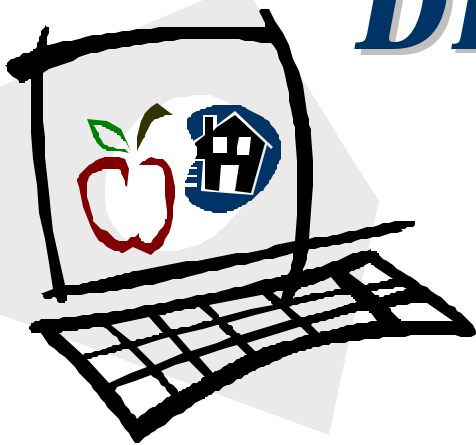
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THE FACULTY OF  
***NEWLYWIRED HIGH SCHOOL***

CERTIFY TO ALL THAT  
**PREVIOUSLY DIGITALLY CLUELESS**

HAS COMPLETED THE  
***HOME SCHOOL  
DIGITAL CONNECTION  
PROGRAM***



Date \_\_\_\_\_

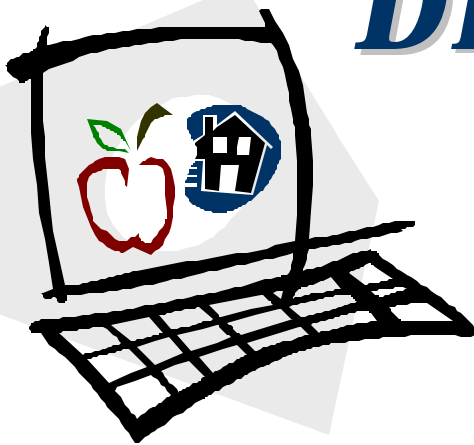
Signature \_\_\_\_\_

*THE FACULTY OF*

*CERTIFY TO ALL THAT*

*HAS COMPLETED THE*

***HOME SCHOOL  
DIGITAL CONNECTION  
PROGRAM***



*Date* \_\_\_\_\_

*Signature* \_\_\_\_\_