

Too Few Computers and Too Many Kids

What Can I Do?

Part 1

By *Tamela Randolph,
Jacqueline Scolari,
and Douglas Bedient*

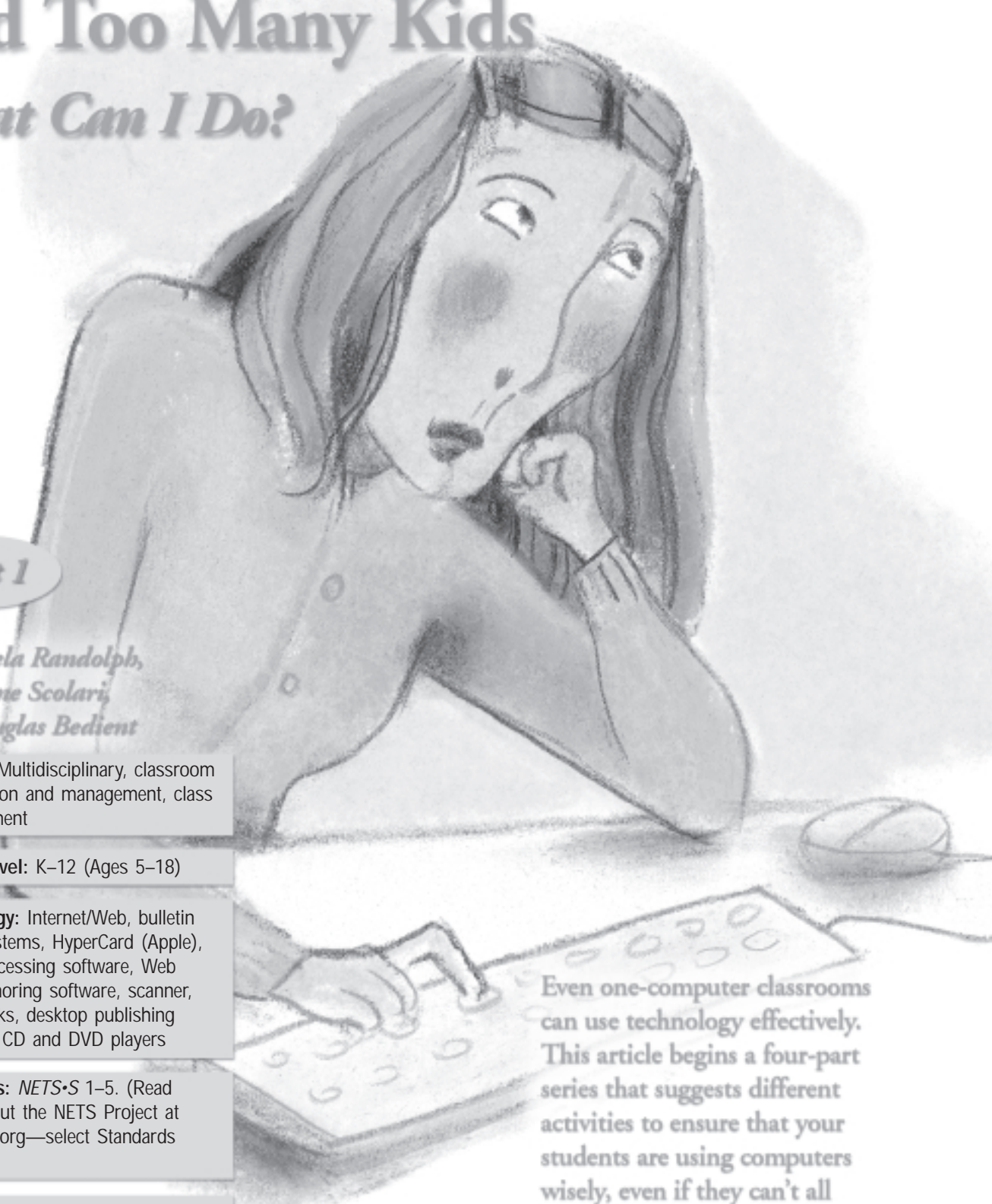
Subject: Multidisciplinary, classroom organization and management, class enhancement

Grade Level: K–12 (Ages 5–18)

Technology: Internet/Web, bulletin board systems, HyperCard (Apple), word processing software, Web page authoring software, scanner, gradebooks, desktop publishing software, CD and DVD players

Standards: NETS•S 1–5. (Read more about the NETS Project at www.iste.org—select Standards Projects.)

Online Supplement: attached

A detailed illustration of a woman with long dark hair, wearing a light-colored button-down shirt, sitting at a desk. She is leaning forward with her chin resting on her hand, looking thoughtful and slightly concerned. Her other hand is on a computer keyboard. A mouse is visible on the desk to her right. The background is a soft, light-colored wash.

Even one-computer classrooms can use technology effectively. This article begins a four-part series that suggests different activities to ensure that your students are using computers wisely, even if they can't all use them at once.

The Internet. Online. Pentium III. MP3. Web pages. iMac. Palmtop. Recordable CD-ROMs. G4. Rio Internet Audio Player. LCD Flat Panel Display. DVD RAM. These technology buzzwords can be overheard in teachers' lounges, at inservice workshops, in parent-teacher conferences—wherever educational technology is discussed. If enthusiasm were the only requirement, every student would have a computer on his or her desk to use in every discipline. Yet reality is such that many financially stressed districts, whether urban or rural, cannot afford to put a computer on every desk, and classroom teachers must stretch all resources, electronic and otherwise. Another challenge in developing student and teacher technology literacy is integrating technology into daily routines.

This is the first article of a four-part series that addresses the challenges of using technology in the classroom when means are limited. The ideas presented in this series should be viewed as ways to integrate the computer into classroom activities despite limited resources. Our suggestions encourage teachers and students to pursue a variety of tasks that use the computer as a tool for advancing teaching and learning. These are starting points and might be addressed by individuals, pairs, or teams of students, depending on how a given classroom or topic is organized. Because many schools lack sufficient technology or equipment for all students to work simultaneously, these ideas describe ways to assign work so that all students have relevant tasks with some using technology.

Series Structure

This series is arranged by curriculum area to reflect the common organization of many schools. The first article features general curriculum applications, organization and management,

and class enhancement. Complementary Web sites, arranged by task number, appear online at www.iste.org/L&L. Future articles will address specific disciplines: language arts, geography, and social studies in the March 2000 issue of *L&L*; science, mathematics, and consumer education in April; and foreign language, art, health, and physical education in May.

General Curriculum Applications

These techniques apply across content areas and lend themselves to adaptation for numerous subjects. They can be used by teachers in many disciplines to enhance their students' technology skills.

1. Create a list of favorite Web sites relating to an aspect of school or the community (e.g., fire safety, study habits, holidays, and activities for summer vacation). Share the list with other classes by posting it in the school newsletter or on the school Web site. Include short descriptions of each Web site along with the reason it was chosen.
2. Designate an Internet Site of the Week that corresponds with a particular topic or unit being taught in the classroom. For example, students can use the Web site as a reference or to quiz themselves on the material.
3. Develop an online bulletin board system to include student comments about the Site of the Week, homework problems, or special class or school announcements.
4. Place student-created practice test items on the computer for others to study. Students not only will have a larger test-item bank available to them but also will learn something about authoring on the computer. Questions can be created as cards within a HyperCard stack or as a numbered list within a word processed document. A Web-based form can also be created using a variety of boxes, buttons, and menus, depending on question type.
5. Ask a general challenge question of the class. Assign small groups five minutes on the computer to find out as much as possible about the subject. Then have the groups present their findings to the rest of the class.
6. Compare information found on Web sites with information found in print sources in terms of currency, depth, and accuracy.
7. Prepare a list of topics related to current and future units of study. Each day draw the name of a student who will search databases, such as Infotrac, for information about the topics.
8. Create a scavenger hunt for answers to questions posed by the teacher. Split the class into computer and print media users and have them compare resource availability, usability, consistency, and accuracy.
9. Assign a subject area (e.g., mathematics, science, health, social studies) to small groups. Have students find material related to the current unit in that subject area.
10. Use the Internet to download images to import into student reports. Material on the Internet is covered under copyright laws. Some sites specifically request that permission from the author be obtained before using material from that site. Students could create an e-mail template to use when requesting permission to reprint copyrighted text and images. Make sure the source is properly cited.
11. Suggest that some students locate and gather print images—such as photos from local parent-teacher conferences or artwork from area

students—for bulletin board displays. Other students can scan images for easy transfer to the local newsletter or Web page.

Organization and Management

Every school day entails certain mandatory tasks that must be completed. Enterprising educators can use the computer as a tool to help students learn essential skills and responsibility as well as organize each day's classes. The ways in which a classroom is organized will determine how applicable many of these suggestions are, but the overall theme is to accomplish tasks while helping students develop useful skills.

12. Include computer maintenance tasks (e.g., cleaning the screen, keyboard, and mouse or checking and replenishing printer paper and toner) on the classroom job list.
13. Track grades and assignments on the computer and allow students to access their files through a secure gradebook program.
14. Assign a person each morning to boot up the computer and view a specific file or Internet site (e.g., the Site of the Week) designated by the teacher.
15. Designate an afternoon person to shut down the computer and printer at the end of the day.
16. Create a password-protected online testing site where students can make up missed tests or quizzes.
17. Include purchase of computer time in the privileges students can buy in a token economy plan.
18. Assign one student each day to find a subject-relevant joke or humor site and present the findings to the class at the beginning of the appropriate classroom period.

Classroom Enhancement

These activities can enhance the character and workings of the classroom. They are included as suggestions for enrichment and motivation.

19. Enter virtual subject-matter contests sponsored by textbook, calculator, and computer companies so students see the relevance of the subject.
20. Find a birthday site for each "birthday child" and print a list of famous persons born on that day. Add the child's name to the list of important people. Find a site that contains important and interesting events that happened on the child's birthday.
21. Group students according to their favorite pets. Ask each group to find an Internet site of interesting information about their pet. Post the URLs in the classroom so students can visit them to check for periodic updates. Using desktop publishing software, students can create informational brochures about how to care for pets and make these available in the school library. Pictures could also be downloaded from the Web—with respect to copyright—to accompany the textual information.
22. Develop "scholar bowl" competitions between classrooms. Web sites are available with questions at a variety of levels. These can be used as practice questions or as models for actual competitions.
23. Listen to a music CD while the students are working, taking a test, or getting ready to begin another class.
24. Watch a movie or movie clip in the DVD drive. DVD movies are be-

coming readily available at local video stores. Sometimes teachers can rent materials for the classroom for free.

25. Create and send electronic greeting cards. This is a fun, practical application for students and good spelling and grammar practice.

Summary

This first article in a four-part series addresses general ideas, organization and management strategies, and classroom enhancements that have wide-ranging applications across age levels and content areas. Read the next three installments for specific curriculum area ideas.



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Online Supplement



Two Few Computers and Too Many Kids

What Can I Do? Part I

By Tamela Randolph, Jacqueline Scolari, and Douglas Bedient

If enthusiasm were the only requirement for technology integration, every student would have a computer on his or her desk to use in every discipline. Yet reality is such that many financially stressed districts, whether urban or rural, cannot afford to put a computer on every desk, and classroom teachers must stretch all resources, electronic and otherwise. Another challenge in developing technology literacy and adeptness in students and teachers is integrating technology into daily routines. The ideas presented in this four-part series in L&L should be viewed as ways to integrate the computer into classroom activities despite limited resources. Our suggestions encourage teachers and students to pursue a variety of tasks that use the computer as a tool for advancing teaching and learning. These are starting points and might be addressed by individuals, pairs, or teams of students, depending on how a given classroom or topic is organized. Because many schools lack sufficient technology or equipment for all students to work simultaneously, these ideas describe ways to assign work so that all students have relevant tasks though some are using technology.

Web Sites by Task Number

Note. These Web sites were valid when this issue of L&L went to press. We have no control over these sites, though, and the Web is very volatile. Please let us know if you find a broken link, and we'll do our best to update it.

3. Online Bulletin Board

Ultimate Bulletin Board: www.ultimatebb.com/

UBB is the most common online system. It includes several unique administrative features.

4. Practice Test Items on the Web

FrontPage: www.microsoft.com/frontpage/

Claris Home Page: www.filemaker.com/products/hp_home.html

Adobe PageMill: www.adobe.com/products/pagemill/main.html

These Web tools allow the creation and management of Web pages.

HyperCard: www.apple.com/hypercard/

Mac tool for creating custom software organized as stacks of cards.

5. Challenge Questions

Information Please: www.infoplease.com

This site provides access to almanacs, dictionaries, and encyclopedias.

Metacrawler: www.go2net.com/search.html

A meta-search engine that searches several Internet search engines and their databases of Web pages simultaneously.

World Book: www.worldbook.com

Several versions of this encyclopedia are available online and on CD-ROM.

10. Find Images for Student Reports

Image Search: www.thrall.org/proimage.html

Posing as a search engine, this site aids in finding art, images, and clip art on the Web.

Copyright Resources: http://desktoppub.about.com/compute/software/desktoppub/msubcopy.htm?COB=home&terms=copyright&PM=112_300_T

13. Computer-Based Gradebook

GradeCenter: www.schoolhub.com/gradecenter/

Self-proclaimed as the Web's best online gradebook.

ThinkWave Educator: www.thinkwave.com/educator.html

A free classroom management application that is available for teachers' use.

18. Subject-Relevant Humor

Bamdad's Math Comics Page: www.csun.edu/~hcmth014/Comics.html

Bamdad's hosts a wide variety of mathematical jokes.

Science Jokes: www.xs4all.nl/~jcdverha/scijokes

This site includes poems, quotes, puzzles, mnemonics, and other interesting things for mathematics and sciences.

19. Subject-Matter Contests Online

Houghton Mifflin: www.eduplace.com/math/brain/index.html

Weekly brain teasers for Grades 3 and up are posted here.

The Math Forum: <http://forum.swarthmore.edu/pow/>

Online, international, weekly mathematics contests for a variety of levels are sponsored by Swarthmore College.

Intel Science Talent Search: www.sciserv.org/sts/

An annual science competition.

Duracell/NSTA: www.nsta.org/programs/duracell/

An annual invention challenge for all U.S. students in Grades 6 through 12.

ThinkQuest: www.thinkquest.org

A variety of contests for girls and boys.

MathWorld Interactive: <http://forum.swarthmore.edu/mathworld/>

Bimonthly challenges for K–12 students.

20. The Birthday Child

Famous Birthdays.com: www.famousbirthdays.com

Just what the name says—birthdays of famous people are posted at this site.

The Internet Movie Database: <http://us.imdb.com/OnThisDay/>

IMDb contains some interesting facts about movie personalities who were born, died, or were married on the chosen day.

Encyclopædia Britannica Online: www.eb.com/people/

A thorough listing of individuals whose birthdays are on the chosen day.

440 International: www.440.com/twtd/today.html

Find events that took place on any day in history on this site.

The History Channel: <http://historychannel.com/tdih/index.html>

Events that occurred on a particular day in history are archived here within: Automotive, Civil War, Wall Street, Technology History, and What Else Happened?

21. Pet Information

Purina: www.purina.com

Information about cats and dogs—such as breeds, nutrition, training and behavior, and health and grooming—can be found on this site.

The Hartz Group of Pet Care Companies: www.hartz.com

Care tips for dogs, cats, birds, small animals, and aquatic-reptiles are readily available.

The American Kennel Club: www.akc.org

Lots of material for dog aficionados.

22. *Scholar Bowl*

Knowledge Master: www.greatauk.com/freequestions.html

KM has weekly quizzes and sample scholastic competition questions available.

Triple Q Questions: www.tripleqquestions.com/sample.htm

Some seriously challenging questions can be found at this site.

Gateway to Sample Scholar Bowl Questions: <http://msumusik.mursuky.edu/krugj01/http/sample.html>

A nice collection of practice questions for scholar bowlers are available.

25. *Electronic Greeting Cards*

Blue Mountain Arts: www.bluemountain.com

Find cards for everyone on this site.

HappyBirthdayToYou.com—A Singing Birthday Card: www.happybirthdaytoyou.com

Produce a completely personalized, professionally recorded version of “Happy Birthday” along with a personal spoken message in the middle of the song. Choose blues, country, children’s, rap, jazz, or six other musical styles.



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