Tech for Learning

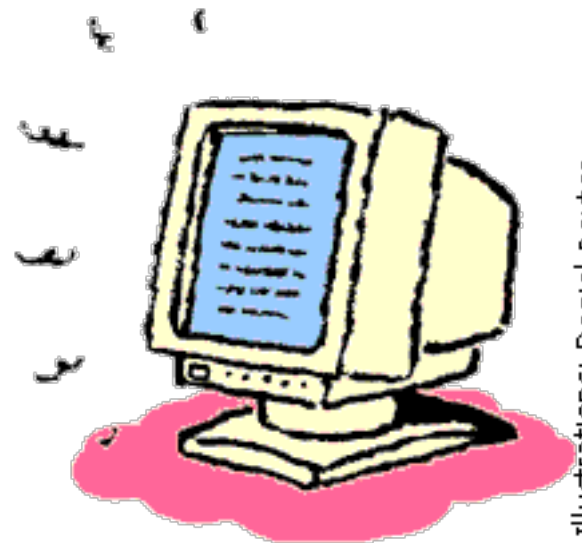# How can I cover the technology standards in my curriculum? Part 1

by Kathy Schrock

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Illustrations: Daniel Baxter

There is an overwhelming amount of information that must be covered in classrooms today. The technology standards are just one more thing teachers have to deal with! Many educators have asked me how they can use technology to support their already crowded curriculums, and fortunately, the National Educational Technology Standards (NETS) for students are not intended to be taught in isolation. The skills and ideas in the NETS are best taught in conjunction with the content standards already being addressed in class.

The technology standards categorize skills for students into six areas:

❶ Basic operations and concepts

❷ Social, ethical, and human issues

❸ Technology productivity tools

❹ Technology communications tools

❶ BASIC OPERATIONS AND CONCEPTS

In order to use the computer to research and create their state presentations, students must be familiar with many basic computer skills. These include booting up the machine; opening programs; using the network; saving information; cutting, copying, and pasting text and graphics; and recording sounds and/or voice with a microphone. Each skill must be

⑤ Technology research tools

⑥ Technology problem-solving and decision-making tools

In this article, I will discuss and demonstrate how to incorporate the first three concepts outlined in the NETS into a current curriculum. The remaining three standards will be covered in the next article.

As an example of how to incorporate technology concepts into your daily lessons, let's take a look at how you can teach the technology standards via a typical social studies project for elementary students -- a report about a state.

THE ASSIGNMENT: You are a member of your state's tourism bureau. Your goal is to persuade the rest of the class to relocate to your state. Research your state and create a multimedia slide show or series of Web pages containing details about your state that will convince people to move there.

formally taught to students, either in the classroom or computer lab.

Begin by giving students a technology assessment survey to determine their skill levels. Not only will this help you discover what your students already know, it will also help you locate computer-savvy students who may be able to assist others if you are not available. To refresh students' memories about skills they have already learned, keep a notebook near the computer or have them keep their own journals, with step-by-step directions on everything from how to open a document to how to import clip art. Also, post these directions and tips on your class Web site so students can access the information from home.

❷ SOCIAL, ETHICAL, AND HUMAN ISSUES

Along with emphasizing hands-on skills, the standards require that students learn how to use technology responsibly and ethically. For their state presentations, students may want to include a picture of the capital from the official state site, a screen shot of a MapQuest map to the main tourist attraction, or a MIDI file of the state anthem. But before they take these images and files directly from the Internet or CD-ROMs, students need to be made aware of the concept of intellectual property. Intellectual property is the ownership, by the author or creator, of any published material. Once a "work" is created, whether on a Web page, in a book, or even on a napkin, the creator owns the rights to that material. It does not need to be submitted to the U.S. Copyright Office or include the copyright symbol on the page. Intellectual property rights apply as soon as the material is created.

As a teacher, you should become familiar with the fair-use guidelines for incorporating text, images, and sounds in multimedia productions (see Resources, right). Post a simplified version of these guidelines near the computer for student reference. For example, part of the fair-use guidelines states, "no more than five images by an artist or photographer may be reproduced or otherwise incorporated as part of an educational multimedia project." This has ramifications, for example, if a student plans to use several images by the same artist in a report. These guidelines may change in the future (for example, you may be required to pay a licensing fee for using an image in a report), so be sure to keep up with current policies.

Students should carefully examine each site and source for permission to use the information and images. Many sites state whether items may be used for educational purposes or provide contact information to request permission. Students should e-mail the site's creators, describing how they intend to use the information and requesting permission with a statement such as, "I would like to use the photograph of the capital building from your home page in my multimedia slide show. If I don't hear back from you in two weeks, I will assume permission has been granted to use the picture. If I hear back from you after that time with a request to remove the picture, I will do so immediately."

Students need to cite Internet material in their reports or slide shows. Ask your library media specialist to create a bibliographic citation sheet that may be used schoolwide. (See Resources, right, to access the Modern Language Association and American Psychological Association formats for electronic sources.)

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❸ TECHNOLOGY PRODUCTIVITY TOOLS

Students use computers as productivity tools when they prepare publications and produce other creative works, such as their state slide shows. This can all be done on classroom computers or in a computer lab, but it's helpful if you have portable keyboards, such as Alphasmarts™ or Dreamwriters™. Students can take these keyboards to the library to take notes, write outlines, edit their reports, or work on the textual part of their presentations while they are in the classroom. They can then use multimedia computers in the classroom as true production stations to format text and add graphics and sounds. They can also use the classroom computer to make spreadsheets of their state's average temperature or create sound files of their state's song or motto.

Resources

http://www.iste.org/inhouse/nets/cnets/students/index.html
Access the National Educational Technology Standards for students, and sample projects.

http://www.umuc.edu/library/copy.html
Learn about copyright and fair use in the classroom.

http://owl.english.purdue.edu/handouts/research/r_docelectric.html
Link to the APA and MLA bibliographic citation formats.

MEETING THE STANDARDS

While this Tech Quest addresses the first three National Educational Technology Standards for Students, it also addresses one of the technology standards for teachers. Standard II, Planning and Designing Learning Environments and Experiences, includes, "teachers will design and teach technology-enriched learning activities that connect content standards with student technology standards and meet the diverse needs of students." For a complete list of the National Educational Technology Standards and Performance Indicators for Teachers (PT3), visit
http://www.iste.org/inhouse/nets/cnets/teachers/index.html

Kathy Schrock, a technology coordinator, created *Kathy Schrock's Guide for Educators* at

http://discoveryschool.com/schrockguide/.