Using Technology in Elementary School Classrooms

Between the Ideal and the Real World of Teaching
Ideas for the Classroom from the NCTE Elementary Section

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Taking Control of What Constitutes Technological Literacy in the Curriculum

Vivian Vasquez and JoAnn Wong-Kam, Coeditors

Literacy requirements have changed and will continue to change as new technologies come on the marketplace and quickly blend into our everyday private and work lives. And unless educators take a lead in developing appropriate pedagogies for these new electronic media and forms of communication, corporate experts will be the ones to determine how people will learn, what they learn, and what constitutes literacy. —Carmen Luke, 1997

Technology—including tape recorders, record players, and VCRs—has had a place in the classroom for a long time. Recently, however, the latest technologies have begun showing up more frequently in elementary classrooms, as teachers and students discover that tools such as e-mail and the Internet offer global opportunities for discussion and debate. The dialogue this creates, which results in the social construction of meaning as well as new understandings about diversity, offers students a breadth of knowledge they could not otherwise acquire and access to resources they would not otherwise have. However, as Carmen Luke cautions in the opening quote, unless educators take the lead in negotiating pedagogies for these new forms of constructing meaning, other non-school-based players will be the ones to determine how, where, and by whom the new technologies will be used.

In this issue of School Talk, we focus on demonstrating ways that elementary teachers have used various technological tools in their classrooms. In the first article, Christine Paul illustrates her use of video technology with her third-grade students, as she attempts to negotiate a critical literacy curriculum. The project began when, during gym class one day, her students noticed that the girls were made to play at lower basketball hoops than...
exciting look at ways in which handheld computers can be used in the classroom to encourage students’ interest in writing. (Handhelds are portable mini computers that fit in the palm of the user’s hand.) Tony’s journey started a few years ago, when Millard Public Schools decided to explore possibilities for using handhelds in the elementary school. A class set of handhelds and keyboards were purchased for his fifth-grade students, leading Tony to construct various ways of integrating their use into the curriculum. This article effectively shows how less expensive handheld computers can be used to do some of the work otherwise done on desktop computers. And since handhelds can cost as little as $99, they are a much more affordable option for schools beginning to purchase computers for the classroom.

The teachers whose work we highlight here have used various forms of technology to help their students undertake projects that wouldn’t otherwise be possible. We hope their stories will inspire you to create spaces for using technological tools more accessible for your students. Considering how best to use technology in your setting is the first step toward taking control of the ways in which it is used in the language arts curriculum.

Due to the many curricular goals encompassed under the language arts, there are unique complexities for integrating technology into the language arts classroom. Each of my third-grade students came to the classroom with vastly different experiences in using technology. As a whole, I was pleasantly surprised to find that all of them could successfully turn on a computer and navigate structured programs such as math games and word processing programs. However, many students were confused when it came to the purposeful use of technology to further an investigation or project or to communicate a specific message. What I discovered is that my students often needed additional teacher support to troubleshoot and guide them through programs such as Photo Editor and AppleWorks.

I see technology as much more than an activity taught in isolation. Past experience has helped me identify three elements that need to be in place in order to integrate technology in such a way that it both supports learning and serves as a vehicle for effective communication. First, students need to learn about the technology that is available. Each form of technology has a purpose, function, and usability that is unique. Second, students need to learn how to use the technology. Learning takes time and requires regular use and experimentation, some of which must be heavily supported by teachers. Finally, students need to decide when and why to use a particular technology, so that its use is purposeful and advances their learning.

by Christine Paul
Bailey’s Elementary School, Falls Church, Virginia
Investigating Gender Stereotypes

During an investigation of gender stereotypes, my third graders began planning various forms of social action to counter inequities they discovered in our school. The groups varied in what they wanted to communicate to other students and teachers: some wanted to circulate a petition about making a change in our physical education program, which advantaged boys; others wanted to design a public service announcement to raise people’s awareness of stereotypes in different settings. Each group had to take their understanding of gender stereotypes and communicate this knowledge effectively to a larger audience. In some cases, technology was not the most appropriate tool, but for others it was an ideal fit.

The group of students who wanted to design a public service announcement (PSA) quickly realized that in order to make their information accessible to the largest possible audience, it should be a part of the school-based daily news shown on the closed-circuit televised announcement system. The children knew they would need to write a script before videotaping their PSA. There were two important parts to achieving this goal: choosing effective technology to create a professional product, and writing the script and storyboard. Writing the script came easily to my students, as they are experienced participants in writer’s workshop. The challenge for them was to convey the information they wanted to share in a time frame of only three minutes. They debated about audience and what message to communicate. They wanted to be sure students would not only watch and listen, but that they would also remember the message about stereotypes. The group decided on a mix of animation and video, as seen in many of their own favorite educational TV programs. Once the storyboards were completed (see Figure 1 for an example), I intro...
duced the students to the technological options available. One idea was to take digital photos and combine them into a slide show. This option didn’t provide the interactive feeling they wanted to achieve, so I gave them a brief demonstration of a software package that I had on my laptop called iMovie. I then gave the group time to experiment with the features, using the test sequence provided by the manufacturer. The students quickly learned the functions of the program and were able to move short video clips into various sequences and add sound effects, including their own voices.

While experimenting with the software, the students ran into a problem. Their storyboard included a cartoon character, whose purpose was to help two live broadcasters learn about stereotypes. But mixing animation and live digital clips proved too difficult. In a series of mini-lessons, I worked with the PSA group on fine-tuning the voice overlay to exactly match the video projection, importing video taken from the camera and animated images created in Kid Pix Studio, a program the students were very familiar with. The last step was to pull the video clips and animation together to produce the final product.

My students delighted in seeing their storyboard come alive before their eyes. I could see that technology took this language arts lesson to new heights.

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### Meaningful Writing Experiences through Handheld Technology

**by Tony Vincent**  
*Willowdale Elementary School, Omaha, Nebraska*

As a teacher of fifth graders, I find that motivating students to write is often a monumental task. It is even harder to encourage students to revise and edit their written work, but I have found that using handheld computers is one effective way to motivate them to do so.

A handheld computer is a scaled-down version of a desktop computer that was developed for portability of use. Handhelds, or palm-sized computers, were designed to complement desktops and laptops. For more information on handheld and palm-sized computers, go to the HowStuffWorks Web site at [http://www.howstuffworks.com/pda.htm](http://www.howstuffworks.com/pda.htm).

The fifth graders in my classroom use handheld computers throughout the day. At the start of the year, each student was assigned a Palm m515 handheld and a Palm Stowaway Keyboard, which were purchased by the school as part of a project on integrating the use of handhelds into the curriculum. This means that every student has a computer available all day long. Students can HotSync (transfer data from their handhelds to a desktop) daily to three iMacs in our classroom, and there is a charging station set up at the back of the room. We also use a Kodak PalmPix digital camera for digital photos and an ELMO DT-70 with an Epson PowerLite 52c LCD projector for displaying a Palm’s screen. Additionally, we use a Presenter-To-Go SD Card, which is a memory card that allows us to mirror the Palm’s screen onto a data projector for class presentations.

Handhelds have certainly motivated my students to write. They are always excited to take out their Palms and keyboards to compose. The best part is that they realize how easy it is to revise.

Whether at their desks or their dining room tables at home, students have access to a variety of writing tools on their handhelds. They use WordSmith, a word processor that includes a spellchecker and a thesaurus, and Noah Lite, a dictionary with over 100,000 words. The handhelds also have concept mapping software, PiCoMap, which allows students to create graphic webs to map out their writing ideas, and Palm Reader, which has e-books and checklists about the six writing traits (a list of common characteristics of good writing, such as organization and word choice). Further, the handhelds contain examples of good writing for students to view, allowing them to always have writing resources readily at hand.

Handhelds have certainly motivated my students to write. They are always excited to take out their Palms and keyboards to compose. The best part is that they realize how easy it is to revise. According to one of my fifth-grade students, “I can type and edit easily. With a paper, if I erase something, usually it will mess up the

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The Roving Reporter

One of the best examples of how handhelds have made writing more meaningful in my classroom is the Roving Reporter. The Roving Reporter’s job is to write articles for the Daily Log, part of our class Web site. Each day I assign one student to take on this job. This student is in charge of taking photos with the PalmPix camera and composing a well-written article about the day’s learning. The photos and article are then posted onto our class Web site, Planet 5th, at www.mpsomaha.org/willow/p5/index.html.

One student commented, “My parents read the Daily Log everyday. I think it makes me write a lot better because I know my parents are reading it.” Students know that the Daily Log is read by family, friends, and visitors to the Web site. It provides a very authentic experience because students are engaging in purposeful writing. Even if parents aren’t reading the Daily Log online, they read their child’s writing on the handheld.

The students all love using the PalmPix camera, therefore, they really look forward to being the Roving Reporter. They also love the fact that they get to take their handheld computers home with them in the evening to compose their articles. The digital photos they have taken are available for viewing on their Palms, and when they compose their articles, the photos remind them what to write about.

The morning after being the Roving Reporter, the student places his or her handheld into the hot sync cradle. The photos and text (a WordSmith document) are automatically transferred to the desktop computer, which is accessible from my laptop. In this way, I can easily open a student’s Palm user folder and combine the photos and text into a Web page. This page is immediately uploaded to the class Web site, where the world can view the Roving Reporter’s masterpiece. Students have a chance to serve as Roving Reporter several times throughout the school year.

Check out the Daily Log at www.mpsomaha.org/willow/p5, where you will see that handheld computers have certainly helped my students to think about communication in significant ways and have made teaching and learning in our fifth-grade classroom more meaningful and purposeful.

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Teacher Grants Web Links

The following sites provide information on grants available to teachers for classroom projects that incorporate technology into the curriculum.

2003 EDS Technology Grant Program
http://www.eds.com/community_affairs/com_tech_grants_03.shtml
The 2003 EDS Technology Grant program is now under way. Grants of $1,500 are awarded each year to teachers worldwide through a competitive application process. This year’s program challenges teachers to explore technology-related products and services and creatively apply these tools and resources in the classroom to enrich students’ learning.

Office of Educational Technology Grants List
http://www.ed.gov/technology/edgrants.html
This Web site lists the many grant opportunities available through the U.S. Department of Education’s Office of Educational Technology.

American Federation of Teachers
http://www.aft.org/edissues/teachers/grants.htm
The AFT site lists many opportunities for funding of pre-K-12 educational programs and provides links to the organizations that fund the grants.
Resource Bibliography


For Web links useful for students, go to the Planet 5th Web site at http://www.mpsomaha.org/willow/p5/links.html.

Next Issue: The July issue of School Talk will focus on teacher research.
NCTE Web site: www.ncte.org

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School Talk (ISSN 1083-2939) is published quarterly in October, January, April, and July by the National Council of Teachers of English for the Elementary Section Steering Committee. Annual membership in NCTE is $40 for individuals, and a subscription to School Talk is $15 (membership is a prerequisite for individual subscriptions). Institutions may subscribe for $30. Add $4 per year for Canadian and all other international postage.
Single copy: $7.50 (member price, $4). Copies of back issues can be purchased in bulk: 20 copies of a single issue for $20 (includes shipping and handling). Remittances should be made payable to NCTE by credit card, check, money order, or bank draft in United States currency.
Communications regarding orders, subscriptions, single copies, and change of address should be addressed to School Talk, NCTE, 1111 W. Kenyon Road, Urbana, Illinois 61801-1096; phone: 1-877-369-6283; e-mail: jbartlett@ncte.org. Communications regarding permission to reprint should be addressed to Permissions, NCTE, 1111 W. Kenyon Road, Urbana, Illinois 61801-1096.
Coeditors: Jane Hansen and Vivian Vasquez. NCTE Production Editor: Rona S. Smith. Designer: Pat Mayer.
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