



# Florida Literacy and Reading Excellence Professional Paper

## *The New Literacies: Information and Communication Technology*

*“To be fully literate in today’s world necessitates proficiency in the new literacies of information and communication technologies.”*

International Reading Association, 2002  
*Integrating Literacy and Technology in the Curriculum:  
A Position Statement of the International Reading Association*

### **INTRODUCTION: DEFINING TECHNOLOGY**

Information and communication technology (ICT) is a broad and encompassing term “that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning” (SearchCIO-Midmarket.com, n.d.). ICT has enabled a “world where technology often shifts with disconcerting speed...” (Williams, 2005, p. 706). According to Leu, Kinzer, Coiro, and Cammack (2004, ¶ 6) the Internet is where our students’ needs will cluster and we must help them “to exploit the extensive ICTs that become available in an online, networked environment. In an information age, we believe it becomes essential to prepare students for these new literacies because they are central to the use of information and the acquisition of knowledge.”

The growing use of ICT requires a shift in our thinking about the definition of literacy and how we teach it. Our definition must include the simultaneous use of not only texts, but multimedia as well which includes sounds, images, and animation. In addition, students participate in online discussions such as email and instant messaging (Anderson, Grant, & Speck, 2008).

In January 2001, Educational Testing Service (ETS) convened an international panel to study the growing importance of existing and emerging Information and Communication Technologies (ICT) and their relationship to literacy. The International ICT Literacy Panel ultimately defined

ICT literacy as “using digital technology, communications tools, and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society” (Educational Test Service, 2002, p. 2).

Reinking (as cited in Anderson, et al., 2008) describes reading and writing using electronic text as the “new literacy.” The new literacy requires teachers to teach literacy differently. The pedagogy most often associated with the teaching of the new literacy is grounded in a social-constructivist view. Constructivist teaching assumes that knowledge has multiple interpretations, learning is an active process, process and product are emphasized, problem solving is the focus, power and control are shared among students and teacher, learning is a collaborative process, and reflection is promoted. The role of teacher in this kind of literacy environment becomes more facilitative and the goal is the promotion of active learning (Anderson et al., 2008).

### **INTERNATIONAL READING ASSOCIATION POSITION STATEMENT**

The International Reading Association’s position statement on integrating literacy and technology in the curriculum proclaims that they “believe that students have the right to:

- teachers who are skilled in the effective use of ICT for teaching and learning;
- a literacy curriculum that integrates the new literacies of ICT into instructional programs;
- instruction that develops the critical literacies essential to effective information use;

- assessment practices in literacy that include reading on the Internet and writing using wordprocessing software;
- opportunities to learn safe and responsible use of information and communication technologies; and
- equal access to ICT” (International Reading Association, 2002).

This position statement shows IRA’s strong support for including all forms of literacy in literacy instruction, including literacy that involves technology.

### **TECHNOLOGY TOOLS SCAFFOLD MEANING-MAKING**

Within the No Child Left Behind Act of 2001, there is a charge to the Secretary of the U. S. Department of Education to create a National Educational Technology Plan. The plan that was submitted to Congress in January 2005 was “based on thoughtful input ... received from literally thousands of students, educators, administrators, technology experts and officials of numerous educational organizations” (U.S. Department of Education, Office of Educational Technology, p. 4) and built upon the recommendations of the plans of 1996 and 2000.

This plan outlined seven action steps (with accompanying recommendations) to help states and districts prepare students for the opportunities and challenges of tomorrow. These steps are:

1. Strengthen leadership,
2. Consider innovative funding,
3. Improve teacher training,
4. Support e-learning and virtual schools,
5. Encourage broadband access,
6. Move towards digital content, and
7. Use data system technology to track student progress.

As Grabe and Grabe (2007) point out, this plan gives no direction as to how to achieve these goals. However, the included letter from the Secretary of Education says that, “Teachers and students are transforming what can be done in schools by using technology to access primary sources, expose students to a variety of perspectives, and enhance the overall quality of the learning experience

through multimedia, simulations and interactive software” (U.S. Department of Education, Office of Educational Technology, p. 5).

These three aspects can be explored further if we examine an example of a specific way teachers can apply technology. This example uses a project-based learning approach. It incorporates the objectives, both the knowledge and skills of the content area, along with cooperative learning, and authentic, challenging tasks which incorporate technology. When the students are engaged in project-based learning their motivation is heightened.

Integrating literacy with science can serve as an example of a project-based curriculum. If students identify an area of concern such as Hurricane Preparedness, they might first create communities to explore resources in their classroom and school libraries on weather, and specifically hurricanes. They might then go to the Internet and find authentic sites that give information about the National Hurricane Center where they would find information about hurricanes and tracking them. They might go to some of the other sites that are listed as resources and read on-line newspaper accounts from eye witnesses to hurricane damage. The teacher, in his or her role to support leaning, might have decided that it would be a worthwhile endeavor to create posters or pamphlets that tell people what should be on-hand to prepare people to take care of their needs and their homes to be ready to endure a hurricane. The students might use spreadsheet software to make graphs about the amount of water to have and the increases when there are more people in the house. They might discuss what has to be done to take care of pets in the event of an evacuation from their homes and contact local shelters to see what is on-line about pets. They can use word processing programs to write their reports and graphic programs to design their posters. They could also decide to create public service announcement (PSA) movies (ie, a type of digital story) in addition to their posters. They may upload the posters and digital PSAs to the school website and disseminate the information to the community that way. There might be an interactive way to have the community vote on the poster and video that gave them the most information in the most useful and attractive way. The students would then have a way of determining

the impact of their work in creating important communication. They would have learned about hurricanes, worked collaboratively, used technology, and served the public in an authentic way.

## **THE NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS FOR ALL STUDENTS**

First introduced in 1998, the National Educational Technology Standards (NETS) Project is an ongoing initiative of the International Society for Technology in Education (ISTE). In the National Educational Technology Standards for Students (NETS•S) ISTE has set forth some grade specific standards as well as some overall standards that include what technology skills should be introduced and taught to students. Further, these skills should be developed fully as students progress through their educational program. It is further stated by ISTE that these standards be linked to performance indicators (ISTE, 2007a).

In 2007, ISTE released new student standards based upon the input and feedback from educators across the United States and 22 other countries. This next generation of standards include:

1. Creativity and Innovation - Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.
2. Communication and Collaboration - Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
3. Research and Information Fluency - Students apply digital tools to gather, evaluate, and use information.
4. Critical Thinking, Problem-Solving & Decision-Making - Students use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources.

5. Digital Citizenship - Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
6. Technology Operations and Concepts - Students demonstrate a sound understanding of technology concepts, systems and operations. (ISTE, 2007b)

ISTE's NETS for Students Web site

[<http://cnets.iste.org/students/>] provides numerous resources to assist in establishing enriched learning environments supported by technology.

Technology is changing and advancing. We must provide our students with opportunities to use technology in meaningful ways such as the project-based learning example provided earlier in this document. Also, we must provide our students with the necessary skills and abilities to access those opportunities. Letting students answer questions online about stories they have read or practicing skills and drills is only the tip of the iceberg. The real life skills associated with the new literacies will have students accessing, demonstrating, transferring, and constructing knowledge.

## **THE BIG QUESTION ABOUT THE FUTURE**

The future is not only about how students will access knowledge, but how they will demonstrate and implement this knowledge in order to continue to learn. Almost 40 years ago Alvin Toffler credited these words to Psychologist Herbert Gerjoux:

The new education must teach the individual how to classify and reclassify information, how to evaluate its veracity, how to change categories when necessary, how to move from the concrete to the abstract and back, how to look at problems from a new direction — how to teach himself. Tomorrow's illiterate will not be the man who can't read; he will be the man who has not learned how to learn. (1970, p. 414).

With the advent of information and communication technologies those words remain true today and into the future.

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