

## Standards for Educational Technology • No. 150 • 11/04

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**The Complete Picture: Standards for Technological Literacy and Advancing Excellence in Technological Literacy.**

*The Technology Teacher*, Sept 2003, p. 29. (3 pages)

“Provides an overview of Standards for Technological Literacy: Content for the Study of Technology (STL) and of Advancing Excellence in Technological Literacy: Student Assessment, Professional Development, and Program Standards (AETL). Shows how the documents work together to advance the technological literacy of educators and K-12 students.”

**Berry, Bonnie and Janis Detamore. How My Elementary Class Improved By Using Standards for Technological Literacy.** *Technology and Children*, Dec 2003, Vol. 8, No. 2, p. 12. (2 pages)

“This article focuses on the use of Standards for Technological Literacy (STL) in the elementary classroom. Many students enter kindergarten with the attitude that there is only one answer for each question. Standardized assessments that do not require critical thinking validate such a mindset. Young children must be given classroom time to explore, test and evaluate manipulative materials. Encouragement should be given to students not only to make what is illustrated or suggested for that specific material, but to come up with unique or different designs.”

**Burghardt, M. David and Michael Hacker. Informed Design: A Contemporary Approach to Design Pedagogy as the Core Process in Technology.** *The Technology Teacher*, Sept 2004, p.6. (3 pages)

“The Standards for Technological Literacy document indicates the centrality of design to the study of technology, ‘Design is regarded by many as the core problem-solving process of technological development. It is as fundamental

to technology as inquiry is to science and reading is to language arts’. The National Research Council’s *How People Learn* hails instruction where students monitor their understanding and progress in problem solving. Research reveals that experts consider alternatives, note when additional information is required, and are mindful if the chosen alternative leads toward the desired end. Informed design is a pedagogical approach to design that was developed and validated. Informed design enables students to enhance their own related knowledge and skill base before attempting to suggest design solutions.”

**Crompton, Marielizabeth. A New Curriculum For a New Age.** *Tech Trends: Linking Research and Practice to Improve Learning*, Jul/Aug 2004, Vol. 48, No. 4, p. 32. (14 pages)

“This article describes the process that led to the creation of the Information and Technology Literacy curriculum of the Groton Public School District of Groton, Connecticut. The curriculum is grounded on the belief that the effective utilization of technology and information is essential to learning. The process was begun by identifying the beliefs of the school, then the philosophy, curriculum goals, content standards and benchmarks for fifth to twelfth grade students.”

**Culp, Katie McMillan, Margaret Honey and Ellen Mandinach. A Retrospective on Twenty Years of Education Technology Policy.** *U.S. Department of Education*, Oct. 2003. (28 pages)

“...Provides an overview and analysis of twenty years of key policy reports addressing the challenges and opportunities involved in integrating technology into K-12 education in the United States. The report summarizes

recommendations made in these reports, and comments on the shifting rationales for and expectations of educational technology investments that have shaped these recommendations over time.”

Dougherty, Chrys. **How States Can Use Information Technology to Support School Improvement Under NCLB.** *White Paper presented at U.S. Department of Education Secretary's No Child Left Behind Leadership Summit*, March 2004. (7 pages)

“The No Child Left Behind Act’s assessment and reporting provisions cast a spotlight on the value of information for school improvement. At the same time, the law’s accountability provisions push schools and districts to accelerate the pace of improvement. This calls for policy leaders to shift the state education agency’s primary mission from compliance monitoring to that of a State Education Information and Improvement Agency.”

Keller, John B. and Barbara A. Bichelmeyer. **What Happens When Accountability Meets Technology Integration.** *Tech Trends: Linking Research and Practice to Improve Learning*, May/June 2004, Vol. 48, No. 3, p. 17. (8 pages)

“This paper discusses ways that standards-based reforms may be at odds with efforts to increase technology integration in K-12 schools. It recognizes and values the important role that standards can play in bringing focus to a diffuse curriculum. It then outlines how accountability has brought about a shift in curricular focus and discusses several tensions between this shift and effective technology integration. It concludes with suggestions about how the tension can be resolved and with ideas for further research. The issues discussed in this paper are directed toward professional developers, school administrators and policy makers...”

Meade, Shelli D. and William E. Dugger. **Reporting On the Status of Technology Education in the U.S.** *Technology Teacher*, Oct. 2004, Vol. 64 No. 2, p29. (7pages)

“The International Technology Education Association’s Technology for All Americans Project (ITEA-TfAAP) conducted a survey in the spring and summer academic semesters of 2004 to determine the current state of technology education.... This survey sought to obtain a snapshot of the current state of technology education and place the data obtained in the context of the standards movement, NCLB requirements, and the increasing need for a technologically literate citizenry.”

Merrill, Chris and Mark Comerford. **Technology and**

**Mathematics Standards: An Integrated Approach.** *The Technology Teacher*, Oct. 2004, p. 8 (5 p).

“...At the public school level, state boards of education are holding school districts accountable for teaching standards-based curricula. Standards-based instruction is not an educational fad, but a reality for public schools today and for the future. In addition... integration of disciplines, especially within technology education, has gained attention throughout the years...”

Morrow, Mellissa, Melvin L. Robinson and Andy Stephenson. **Using STL and AETL: Three Perspectives.** *Technology Teacher*, Feb. 2004, Vol. 63 Issue 5, p27. (4 pages)

These national standards [STL and AETL] have been adopted and integrated into various state curriculum frameworks with varied success. Administrators from Florida and Utah and a teacher from Kentucky share thoughts.

Post, Paul E. **Ohio Develops Technology Academic Content Standards.** *The Technology Teacher*, May/June 2004, p. 25. (5 pages)

The development of the Ohio Technology Academic Content Standards is a high point on a long road of curriculum revision in Ohio. A broad-based group of parents, school personnel, politicians, and community members recommended that the Academic Content Standards be developmentally appropriate and built on the best of what was being done in Ohio and around the country. The final content standards total seven.”

Stager, Gary. **When Pigs Fly.** *District Administration*, March 2004, p. 85. (1 page)

Recommends a course of action concerning the Third National Education Technology Plan of the U.S., including repeal of No Child Left Behind, employment of documentary crews by the federal Department of Education to film exemplary classroom practices, and the importance of financing research and development in every school.

Stager, Gary. **When Pigs Fly, Part Two.** *District Administration*, April 2004, p. 67. (1 page)

Presents additional recommendations for creative use of educational technology in instruction. Discusses children’s need for greater access and inspiration, professional development issues, unimaginative and unenforceable technology standards imposed by federal government and broadening educators’ range of vision.

Swain, Colleen. **Educators and Technology Standards:**

**Influencing the Digital Divide.** *Journal of Research on Technology in Education*. Volume 34, Number 3, Spring 2003, p. 326. (10 pages)

“Focuses on school technology integration for children in school systems in the U.S. Discussion of implementation of technology standards, enhancement of student achievement; documentation of the technological access opportunities of students.”

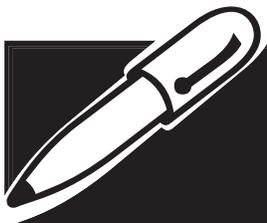
**At the Elementary School Level?** *Technology and Children*, March 2003, Vol. 7, No. 3, p. 12. (3 pages)

“Discusses content standards for technological literacy at the elementary school level. Includes discussion of students’ understanding of the characteristics and scope of technology, factors affecting technological developments and essence of technology.”

Trotter, Andrew. **Federal Act Boosts Student Standards Aimed at Technology.** *Education Week*, 9/3/2003, Vol. 23, Issue 1 p.1. (4 pages)

“State education departments are paying heed to what some call 21st-century or contemporary literacies because of a goal in the federal education law of ensuring that every 8th grader is proficient in the use of technology by 2005. The goal is attached to federal formula-based grants to states totaling about \$700 million a year. That money also supports improving academic achievement through technology and blending technology into teacher training and curriculum development.” A chart compares states using National Educational Technology Standards.

Wright, Robin and Michael D. Wright. **What Are Standards**



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## Websites about Technology Standards (accessed 10/29/04)

### Mid-continent Research for Education and Learning. Technology Standards (3rd Ed.).

<<http://www.mcrel.org/compendium/Standard.asp?SubjectID=19>>

Six general technology standards statements are linked to specific skills for each level. Some 4th edition standards (but not technology) are also available at the website.

### International Technology Education Association. Standards for Technological Literacy.

<<http://www.iteawww.org/TAA/Publications/STL/STLMainPage.htm>>

A listing of standards from the ITEA: "The content standards in STL [Standards for Technological Literacy] articulate what needs to be taught in K-12 laboratory-classrooms to enable all students to develop technological literacy. Technological literacy is the ability to use, manage, understand, and assess technology. The standards were built around a cognitive base as well as a doing/activity base, and they include assessment checkpoints at specific grade levels (K-2, 3-5, 6-8, and 9-12)."

### American Association of School Librarians and Association for Educational Communications and Technology. Information Literacy Standards for Student Learning: Standards and Indicators.

<[http://www.ala.org/ala/aasl/aaslpoftools/informationpower/InformationLiteracyStandards\\_final.pdf](http://www.ala.org/ala/aasl/aaslpoftools/informationpower/InformationLiteracyStandards_final.pdf)>

This excerpt from the publication by the American Library Association shows how information literacy standards and indicators can be applied. Included are 1) levels of proficiency for indicators within each standard, 2) examples of circumstances requiring information literacy for each standard, and 3) examples of content-area standards.

### International Society for Technology in Education. Curriculum and Content Area Standards: NETS for Students.

<<http://cnets.iste.org/currstands/cstands-netss.html>>

The technology foundation standards for students are divided into six broad categories. Standards within each category are to be introduced, reinforced, and mastered by students. These categories provide a framework for linking performance indicators within the Profiles for Technology Literate Students to the standards. Teachers can use these standards and profiles as guidelines for planning technology-based activities in which students achieve success in learning, communication, and life skills.

### U.S. Department of Education. Office of Educational Technology.

<<http://www.ed.gov/about/offices/list/os/technology/index.html>>

While not espousing particular standards, the Office of Educational Technology serves as a general clearinghouse and support agency to facilitate technology education. Their statement: "Information technology is an enabler for accountability and leadership to transform education, improve equality and access in realizing No Child Left Behind."

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