

# Consensus Toward Standards For Technology Education

## *A Project of the International Technology Education Association*

**The sooner we can agree on a set of technology education standards, the closer we will be to a citizenry able to cope with and thrive in a technological future. You are invited to join in the consensus-building process.**

**T**he International Technology Education Association's (ITEA) initiative to create standards for technology education is ready with the first draft of an exciting and comprehensive document entitled "Standards for Technology Education." Eleven months in the making, this document contains the content and structure of a voluntary program for the study of technology in grades K through 12. It was produced by ITEA's Technology for All Americans Project (TAA) and jointly funded by the National Aeronautics and Space Administration and the National Science Foundation.

To create the document, project staff worked with learning specialists from the fields of science, mathematics, engineering, and technology education. William Dugger, Jr., who directed their efforts, is among the many educators and

business leaders who feel that technology education standards need to be in place before the new century if America is to keep pace in an increasingly technological global marketplace. Several regional shortages of people who work in technology already have been identified, notably in the Washington, DC area (Behr, 1971, HI). John Ritz of Old Dominion University, said that in the next five years, the United States will need at least 9,000 new K-12 technology teachers to meet projected demands for a citizenry that can understand and manage technological change.

### **What You Can Do**

The long awaited standards must now undergo review, discussion, and revision. The goal of this process is to gather as much thoughtful input as possible and to build a consensus.

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**Technology for All Americans Project Staff\***

Project leaders hope that the following multifaceted consensus-building process will accomplish this goal.

■ The Technology for All Americans Project will distribute the standards document in October to reviewers from the fields of technology education, science, mathematics, and engineering for in-depth critiquing.

■ Individuals will also have the opportunity to electronically review the document via the project's home page late this fall (<http://scholar.lib.vt.edu/TAA/TAA.html>).

■ Starting in October, project staff will take the document on the road. They will facilitate consensus hearings during regional and state technology conferences, and at those of science-, mathematics-, and engineering-related organizations. Hearing dates and locations are listed at the end of this article.

■ Focus groups comprising a selected group of reviewers, including technology teachers, supervisors of technology education programs, technology teacher educators, international leaders, and representatives from science, mathematics, and the National Academy of Engineers will scrutinize the draft standards.

All feedback received (electronically, on paper, during a hearing, or through focus group review) will be quantitatively analyzed. Open-ended comments will be read, sorted, and subjectively analyzed by project staff. The project expects to process thousands of responses.

## **Tips for Reading the Document**

The Standards for Technology Education document has a threefold purpose:

■ to encourage consistency in teacher and learning;

■ to provide a foundation of knowledge and skills that people need to be technologically literate; and

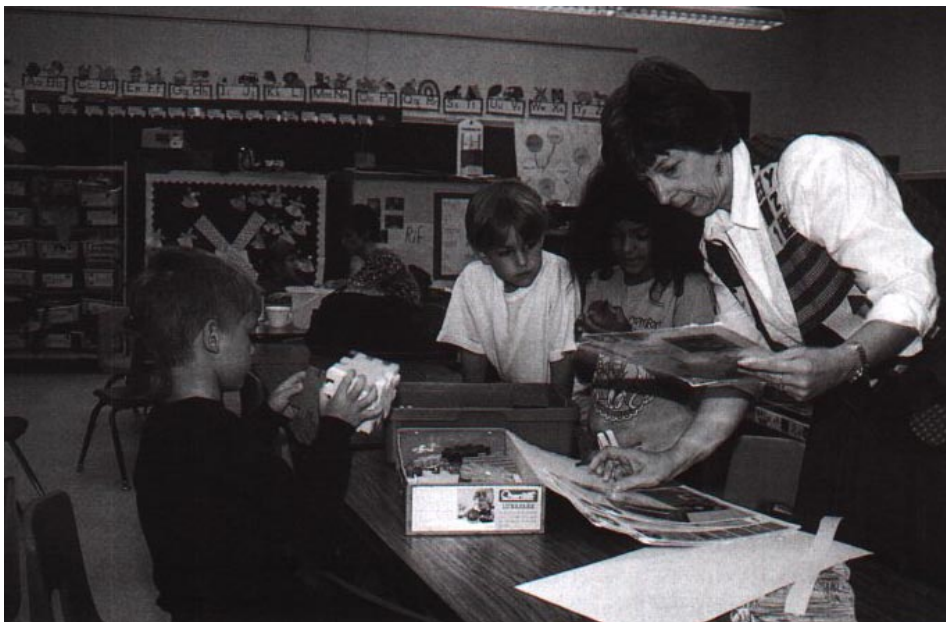
■ to help provide coherence within the technology education program.

The standards are not intended to be a curriculum. A curriculum is the operational plan for meeting standards and is usually developed at the state or local level.

Designing the standards is, by nature, an evolving task process because technologies are created and grow extinct at a rapid pace. The project dealt with this issue during its first two years by working with a variety of experts from the fields of technology, mathematics, science, and engineering to develop a rationale and structure for the study of technology. As a result of this work, technology is defined succinctly and simply as "the study of human innovation in action"

(Technology for All Americans Project, 1996, p. 16). In that sense, no matter what characteristics a particular technology might have, all technology is based on certain universals. These universals are specific areas of technology that include a knowledge base, a process base, and a context or environment in which it happens or takes place. Each universal, in turn, has several smaller components called dimensions that are applicable regardless of the type of technology.

TAA is using this structure to create the standards currently undergoing review. Each standard is specific to a grade level breakdown of K-2, 3-5, 6-8, and 9-12. For example, one dimension is that in order to understand the process of technology, elementary school students know about designing and developing technological systems. The standard



**Kindergarten teacher Bonnie Berry conducts a technology activity at Ottobine Elementary School in Dayton, VA.**

that supports this dimension requires that students know about the design process, develop a design, and use their creation to solve problems. The school system might develop a supporting curriculum that calls for first-graders to work in teams to design and create their own innovative

problem-solving devices for the home, for example.

### **Timetable for Completion**

The draft standards will be revised early in 1998 based on input collected during the fall 1997 consensus building. The revised standards will then go through another round of consensus building in the spring of 1998. After field-testing in the fall, the final standards will be released in March 1999.

"These standards will lay the groundwork that will take our citizenry into the next era," said Thomas D'Apolito, DTE, president of the International Technology Education Association. "That's why it's imperative that parents, students, educators, business leaders, decision makers, and all other stakeholders have a chance to review them and give us their feedback." Once finalized, the standards will help prepare tomorrow's technology teachers for the tremendous task ahead—that of creating a technologically literate citizenry.

### **Dates and Locations of TAA Consensus Hearings:**

October 3-4, 1997  
Southeastern Technology Education Conference  
Hotel Roanoke  
Roanoke, Virginia

October 9-11, 1997  
ASEE North Midwest Section Conference  
University of Iowa  
Iowa City, Iowa

October 10-11, 1997  
Learning Institute of Technology Education Conference  
Eastern Michigan University  
Ypsilanti, Michigan

October 17-19, 1997\*  
NCTM Regional Conference  
Anchorage, Alaska

October 31-November 1, 1997  
NSTA Eastern Area Convention  
DoubleTree Hotel  
Pittsburgh, Pennsylvania

November 3-4, 1997  
Work Now and in the Future Conference  
Oregon Convention Center  
Portland, Oregon

November 6-7, 1997  
Rocky Mountain States Technology Education Conference  
Sheraton Hotel  
Colorado Springs, Colorado

November 6-8, 1997  
Mississippi Valley Technology Teacher Education Conference  
DoubleTree Hotel  
Nashville, Tennessee

November 6-8, 1997  
New England Technology Education Conference  
DoubleTree Hotel  
Newport, Rhode Island

November 20-21, 1997  
Four State Technology Education  
Conference  
Campus Technology Center,  
Pittsburg State University  
Pittsburg, Kansas

December 4-6, 1997  
NSTA Southern Area Convention  
Opryland Hotel  
Nashville, Tennessee

December 11-14, 1997  
American Vocational Association  
Convention  
Las Vegas, Nevada

\*Unconfirmed

For more information about the  
Technology for All Americans Project  
or to request a single copy of a  
brochure about the standards, please  
send e-mail messages to  
tfaa@bellatlantic.net or call 540-953-  
0203.

Please note our new e-mail address:

International Technology Education  
Association  
Technology for All Americans  
Project  
1997 South Main Street, Suite 701  
Blacksburg, VA 24061-0353  
Phone: (540) 953-0203  
Fax: (540) 953-0014  
E-mail: tfaa@bellatlantic.net  
URL: [http://scholar.lib.vt.edu/  
TAA/TAA.html](http://scholar.lib.vt.edu/TAA/TAA.html) ❖

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\*The Technology for All Americans  
Project Staff, Mary Laurent, lead author.