

Standards for Technological Literacy—Views from the Field

The results of the survey indicate these respondents are highly supportive of the K-12 content standards for the study of technology.

ITEA's pivotal document, *Standards for Technological Literacy: Content for the Study of Technology*, was released in April of 2000. Since that time a number of efforts have been initiated to facilitate dissemination and implementation of the standards nationwide. The standards are reviewed and discussed in school department meetings, in state department training sessions, at the ITEA annual conference, and at Technology for All Americans Summer Implementation Workshops. Curriculum guidelines have been developed and materials distributed—all aimed at supporting use of the new content standards. But how are teachers, state supervisors, and others interested in technology feeling about the new standards? Are the standards being implemented? Are the standards viewed as important, and why? Are they seen as having the potential to significantly impact the field, the education of youth in grades K-12? These questions and others were posed to a randomly selected sampling of the teacher, department head, and state

supervisor members of ITEA via an e-mail survey conducted in the late spring of 2002. The results of this survey, including responses to open-ended comments, are reported herein.

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The Survey

The e-mail survey was sent to 410 randomly selected members of ITEA who were teachers, department chairs, or state supervisors. Sixty individuals completed and returned the survey. Of the respondents, 75% were teachers, 13% were department chairs (most of whom also taught), and 12% were state supervisors. Thus, the responses heavily reflect the classroom teacher perspective.

The Results

When asked the extent to which they were familiar with ITEA's *Standards for Technological Literacy* document, most of this group had, at a minimum, looked through the standards. In fact, over half had compared the standards with their own curriculum,

and a third had even participated in training.

Almost everyone (93%) who completed the survey thought the standards were important. The remaining few said they were not sure. Many reasons were offered in justification for the importance of the standards. The primary themes offered were that *Standards for Technological Literacy*:

1. Helps to validate the profession.
2. Gives direction to the curriculum.
3. Facilitates movement toward more standardization of technology education across the country.
4. Provides for a better understanding of expectations and goals.
5. Identifies the essential content that students need to learn.
6. Provides a vision for technological literacy.

Direct quotes on the respondents' ideas as to the importance of the standards are reported later in this article.

The respondents also offered their opinions on the quality of the standards. About 87% indicated they believed the quality of the standards to be either excellent or very good. Another 13% said the standards were good.

The respondents were asked to rate their expectations regarding the impact of the standards upon technology education, and on grades K-12 in general.

1. Over 60% expected a significant impact on technology education, with another 33% predicting some impact. Four percent expected very little impact.
2. Forty percent expected a significant impact on grades K-12, and another 51% expected some impact. Nine percent thought there would be very little impact on grades K-12.

Some of the most interesting responses to the survey questions were in the form of reactions to the open-ended questions. Following are quotes that depict why the survey respondents believe the standards are important:

- We live in a technological society, and the curricula should be appropriate to society's needs.
- The standards provide a basis and validity for teaching students to be able to use, manage, and understand the man-made devices in their world.
- The standards are a tool for change in our ever-changing world/school.
- The standards prepare students to be successful in the world of technology.
- The standards provide a level of unity between schools, states, and grades.
- The standards will hopefully put everyone on the same page one day as to what we, as technology education teachers, should be teaching. It also helps us justify what we do in the classroom.
- The standards provide a benchmark for states as they look toward policies for achieving technological literacy.
- The standards set the guidelines and rationale so that everyone in America can see the importance of everyone knowing about technology.
- I think the standards give us all something to be able to link together. Even though we may teach with different methods, our results should be focusing on the standards.

- The standards give our discipline validity and national unity.
- Our profession needs a starting point.
- We want all students to become technologically literate and able to access, use, and be successful in a technological age. The standards will help more teachers implement this. The standards will help more students become technologically literate.
- Standards allow us to be flexible and stay current in our dynamic world.
- The standards are important because they put the research and justification to the activities and content that is delivered in the classroom. By having such an impressive document that was funded by the NSF and NASA, I feel technology education has been elevated greatly in stature. This document can be used to align curriculum and to help when technology education standards come under fire.
- The standards serve as a single, standardized source for technology education curriculum structure, which helps provide consistency to our mobile student population.
- The standards will help to get schools and teachers consistent and focused.
- This is the first document that bridges the gap between what is considered important in the educational process and the technology education programs that exist.

Additional comments revealing issues related to the adoption of the content standards included the following:

- The work of ITEA is truly important and extraordinary. The time and energy devoted to professional development around the standards sets a high bar for states' work regarding professional development.
- The biggest hurdle is to convince state departments of education to adopt these ITEA national standards

because people like me can't use them, due to the fact we are required to incorporate state standards, not national standards. So the national standards are useless unless states are sold on adopting ITEA standards.

- The standards must not be presented nor perceived as a burden, but as an ally to support our efforts. If we understand the standards, they can serve to bolster our efforts and gain the crucial support needed for technology programs to survive. I believe many technology teachers are sustained in their daily efforts by a sense of need for their unique talents in understanding the practical functions of the world around us. Whether we fix something, explain how it works, or create entirely new concepts, we thrive on the respect we gain by these skills. Challenges are thrown our way constantly. We must defend our existence, whether it be in terms of the cost of our programs or the benefit to our students' overall achievement. The standards of technology are there to bolster the efforts of the technology teacher against all of these obstacles.
- The standards are very good for as far as they go. Unfortunately, too few people know about or are aware of the standards and what they represent. There is a strong need to "spread the word" about the standards for technological literacy, why they are so important, and where and how they should be delivered in America's schools.
- The standards boldly go where few technology educators have gone before. This creates a need to update both practicing teachers and teacher training programs.

Discussion

The results of the survey indicate these respondents are highly supportive of the K-12 content standards for the study of technology. They think the standards are important, and

think they are high quality. The expectation is that the standards can serve to advance the profession, to move technology education toward more standardized student outcomes, and to ultimately enhance student achievement and understanding of technology. These respondents are

concerned, though, that much remains to be done in spreading the word, in implementation of the standards, in professional development, and in relation to state standards. Enthusiasm remains high, although the realities of the hard road ahead are apparent to those in the field.

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Actual Survey Data

- 1) Are you:
 - 75% A teacher
 - 13% A department head
 - 12% A state supervisor

- 2) To what extent are you familiar with ITEA's *Standards for Technological Literacy: Content for the Study of Technology* (total exceeds 100% because respondents were directed to check all that apply):
 - 0% I have not heard of the standards.
 - 2% I have heard of the standards, but that is all.
 - 37% I have seen the standards and looked through them.
 - 57% I have reviewed the standards and compared them with my curriculum (and/or the curriculum in my school or state).
 - 37% I have begun revising curriculum in accordance with the standards (and/or the curriculum standards in my school or state).
 - 35% I have attended training or workshops about the standards.
 - 15% I have been involved in providing training to others on the standards.

- 3) Do you think *Standards for Technological Literacy* is important?
 - 93% Yes
 - 0% No
 - 7% Not sure

- 4) How would you rate the quality of *Standards for Technological Literacy*?
 - 45% Excellent
 - 42% Very good
 - 13% Good
 - 0% Fair
 - 0% Poor

- 5) What impact would you expect *Standards for Technological Literacy* to have on technology education?
 - 64% Significant Impact
 - 33% Some Impact
 - 4% Very Little Impact
 - 0% No Impact

- 6) What impact would you expect *Standards for Technological Literacy* to have in grades K-12?
 - 40% Significant Impact
 - 51% Some Impact
 - 9% Very Little Impact
 - 0% No Impact