

*To whom should the case for increasing technological literacy be made?*

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Technology has been described in many ways. Many definitions concur that technology is the application of math and science for specific purposes... to make our lives better, more productive, or more enjoyable. Technology has also been described as the use of knowledge, processes, and skills to increase our potential, to solve problems, to modify our human-built world. In itself, technology is rigid and inhuman. It offers no solutions. Managed, technology is flexible. Understood, it can be adapted and changed as needed – or wanted.

Many aspects of technology are being addressed in our schools through a contemporary subject area called – Technology Education. As part of the school curriculum, Technology Education teaches students to understand, use, and manage technology. The curriculum covers the development of technology and its effect on people, the environment, and society. Students learn how to adjust to changes due to technology, to deal with forces that influence their lives, and to make rationale and responsible decisions concerning technology.

As a basis for assuring technological literacy, the International Technology Education Association's Technology for All Americans Project is developing standards for the study of technology. (The standards are under review by the National Research Council Standards Review Committee and are slated for release in 2000.) These content standards will address what students in grades K-12 should know and be able to do concerning technology. Educators and other professional groups will be using the standards as a content framework to provide coherence, consistency, and rigor in technological studies. Further, the standards will help strengthen the case for what is essential for students in developing technological literacy as they progress through their K-12 education.

The issue for "making the case" is not whether technology or Technology Education is good or bad; not whether it should or shouldn't be offered; or not how it is to be taught. The issue here is whether or not the United States will maintain its worldwide competitive lead in technology. Obviously, our country wants to maintain its superiority as a leader in technology. Understandings and education pertaining to technology will assist us in keeping the quality of living that we desire.

This issue cannot be addressed by parents or the schools alone. This is not solely a school curriculum problem or a parent-child issue. The issue is one that affects our total society and must be addressed by all segments of it. A broad-based, active approach is called for. The following are selected publics that can help and what some of their initial actions can be.

**Parents** can be prime movers by ensuring that their children become informed about technology. They can do this primarily by insisting that their children’s schools include Technology as a central curriculum theme with formal studies. Efforts should be made to discuss current events from electronic information networks, newspapers, magazines, and television programs of educational value. Student experiences which involve hands-on activities related to contemporary technology should be encouraged. Such experiences may include science or technology-oriented competitions or involvement in problem-solving activities around the home, school, or community. Parents can take their children to technological installations for visits. Museums and industry tours or exhibits provide direct knowledge about our technological society.

**School Administrators/Boards of Education** are in “gate keeper” roles in terms of strengthening technological studies. Our school leaders have the legal responsibility to assure that a curriculum prepares students to live effectively in their technological society. To ensure our nation’s place as a leader in an ever-changing technological world, we must develop our human resources and demand technological experiences that instill insight, drive, and efficiency. Emphasis should be placed on educating people to think and act from a technological perspective, for therein lies our strength. School leaders can assist by making every effort to become more familiar with technology issues. This might involve attending programs at various conferences, serving on advisory groups, and organizing events which will allow other constituency groups to be more informed about technological studies.

**Government and Legislative Bodies.** Our nation’s government and political leaders have a key role to play in the technological literacy levels of our country's population. These leaders must apprise themselves of the critical role that technology plays in the quality of life, intellectual productivity, and in the economy of each state as well as our nation. Legislators can express to school leaders their interest in creating a climate for technological studies. Leadership is needed to increase the level of technological literacy because businesses and the very economy itself depend upon an educated populace. Legislation needs to be written and testimony given to include technology with mathematics and science education funding. The need is clear now for a stronger role to be created for technological studies in our schools that goes far beyond the use of computers to include the evolution, appropriate use, and significance of technology and its social/cultural impacts on our country. Our political leaders must become the spokespersons for this type of education.

**Engineering and Professional Associations** play an important role in promoting technological literacy and conveying technology content. Creating awareness and need for technology education needs to start in the early years. An opportunity exists for the engineering professions and associations to convey their knowledge and expertise at the K-12 grade levels through technological studies. Recognizing the need and making the case for technological literacy must be a part of the ongoing education of all individuals. Engineers and other professionals can use the following suggested strategies for promoting the development of technological literacy:

1. *[Providing] collaboration between education and engineering societies.*
2. *Informing key policymakers and decision-makers in education, industry, and government.*
3. *Publicizing the issue through media exposure.*
4. *[Providing] support for the development of educational standards.*

5. *Training for teachers (pre-service and in-service) on technology; for engineers on how to work with teachers and schools.*
6. *Develop[ing] activity kits and materials for classroom use.*
7. *Encouraging joint curriculum development between educators and engineers.*
8. *Creating an information clearinghouse.*

\*Taken from *Technological Literacy Counts*, IEEE Proceedings, (p.24)

There are no quick fixes, no cure-alls. Efforts directed toward developing technological literacy will have to be sustained over a period of years by individuals from many positions in our society. Making the case for technological studies will not be easy because technology is so vast that it means something entirely different for each individual. Getting people to realize the need for technological studies will require a concerted effort if a difference is to be made. That difference will positively impact the competitive edge held by the United States. Our citizens expect no less. Our students deserve much more. The time for action is now (ITEA, 1988).

### **References**

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