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Technological Literacy

A Gallup poll conducted in the spring of 2001 asked a sampling of Americans what course of action the United States should take if there were a shortage of qualified workers in a particular area of technology: (a) bring in technologically literate people from other countries, or (b) take steps through our schools to increase the number of technologically literate people in this country.

Ninety-three percent said that steps should be taken through our schools to increase the number of technologically literate people in the U.S. The poll, commissioned by the International Technology Education Association (ITEA), also revealed that the American public is virtually unanimous in viewing technological literacy as an important goal for people at all levels.

That technological literacy is taking on a new significance in this country is further evidenced by a 2002 report from the National Academy of Engineering and National Research Council. The report calls for a “broad-based effort to increase the technological literacy of all Americans.” It states that technology education should begin as early as kindergarten and should involve all subjects.

What Is Technological Literacy?

A technologically literate person, according to ITEA, is “one who understands—with increasing sophistication—what technology is, how it is created, how it shapes society, and in turn is shaped by society.”

Technological literacy is being able to *use, manage, and understand* technology:

- Using technology involves the successful operation of state-of-the-art systems. This includes knowing the components of existing macro-systems, or human adaptive systems, and how systems behave.
- Managing technology involves ensuring that all technological activities are efficient and appropriate.
- Understanding technology involves more than possessing knowledge; it also involves the ability to synthesize information through new insights.

Critical thinking is part of being technologically literate. Because of the power of today's technological processes, society and individuals need to decide what, how, and when to develop and use technological products and systems. Since technological issues have more than one viable solution, decision-making should reflect the values of the people and help them reach their goals. Such decision-making depends on all citizens acquiring a basic level of technological literacy.

Do Technological Literacy Standards Exist?

ITEA and its Technology for All Americans Project developed *Standards for Technological Literacy: Content for the Study of Technology* in April 2000, defining what students should know and be able to do to be technologically literate. It provides standards that prescribe what the outcomes of the study of technology in grades K-12 should be.

This document, along with *Michigan Technology Content Standards and Benchmarks*, provides the foundation for Technology Education in Michigan.

How Is Michigan Advancing Technological Literacy?

Michigan supports the teaching of technology in a number of ways. Public schools offer structured technology learning activities in the elementary grades that provide real-world examples in math, science, and other core subjects. At the middle and high school levels, Technology Education is offered in specific courses and within the context of core subjects.

Michigan initiatives that support Technology Education include:

- The Michigan Curriculum Framework, which includes the standards and benchmarks for core academic subjects, the *Michigan Technology Content Standards and Benchmarks*, and *Career & Employability Skills Content Standards and Benchmarks*. The Curriculum Framework emphasizes hands-on, problem-solving activities to help students make connections between what they are learning and the real world.
- The Michigan Career Preparation System, which provides structure and resources for aligning Technology Education with the Michigan Curriculum Framework, Career and Technical Education, and Tech Prep. This alignment promotes the use of Career Pathways.
- Membership in the Center to Advance the Teaching of Technology and Science (CATTS) Consortium. This membership permits Michigan to provide direct input into the policies and direction of research and development for standards-based Technology Education at national and international levels—keeping Michigan in a leadership position in the technological literacy arena.

For Further Information

To learn more about technological literacy in Michigan, contact Dr. James S. Levande, Technology Education consultant with the Michigan Department of Career Development, at (517) 373-6731 or levandej@michigan.gov. Also, the National Academy of Engineering hosts a Web site on technological literacy. The “Technically Speaking” site can be viewed at www.nae.edu/techlit.