



**International Technology  
Education Association**

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January 30, 2009

Mr. Arne Duncan  
U.S. Secretary of Education  
Room 7W301  
FOB-6  
400 Maryland Avenue SW  
Washington, DC 20202

Dear Secretary Duncan:

On behalf of the over 35,000 U.S. technology/engineering teachers at the K-12 levels, we congratulate your appointment as Secretary of Education. Please know that ITEA (the International Technology Education Association) and its educators have much to offer your new office, the 111<sup>th</sup> Congress, and the American people, and that we hope that we can be an integral resource for your administration. Technology and engineering teachers instruct and nurture over five million students during a typical school day, in preparation of a work force that will contribute to our country's success in the 21<sup>st</sup> Century. At the heart of what we do is teaching children how to design and make solutions to technological problems and become tomorrow's innovators.

We seek to engage our students in projects intended to make them comfortable with technological development and change—making them “technologically literate,” and to inspire them to engage in the next level of innovation and technological development.

Our goal is to produce students who are more than just technology content consumers or users as they work towards being content creators. We are primarily focused on citizenship—working towards having students become thinkers, but also better creators, innovators, consumers, and entrepreneurial leaders. We feel that an involved and informed citizen in this fast-moving, technological world will become a better member of our workforce.

We know that the future wealth of our nation will be measured by ideas evolving from ingenuity and involving innovation. We must be committed to constantly reinventing the nature of our innovative capability to improve the lot of humanity. This challenge towards greatness requires new skills, new social mechanisms, continuous learning agility, and a willingness to reinvent our education system.



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Since our focus is on technology and engineering in STEM (Science, Technology, Engineering, and Mathematics) education and in advancing technological literacy, ITEA recommends that new education-related initiatives:

1. Work towards making technology/engineering as core subjects at all grade levels in 21st Century curriculum.
2. Clearly differentiate between digital tools (information or educational technologies) and technology/engineering in program definitions and initiatives.
3. Include technology and engineering as areas in need in teacher-shortage initiatives.
4. Involve our members in legislation dealing with teaching students to be innovative, such as the America Competes Act.
5. Make school facility-improvement funding streams available to technology/engineering programs.
6. Expand STEM initiatives and recognition programs such as Presidential Awards to include technology/engineering educators.
7. Include technology/engineering instruction in any new provisions dealing with core curriculum development and/or expanded learning time.
8. Allow states to include technology/engineering in any definition of "rigorous curricula."
9. Allow after-school program funds to be used for technology/engineering activities.
10. Allow states that develop multiple assessment models or indicators for accountability purposes to include measures related to technology/engineering.

Secretary Duncan, we are ready to work with you to reinvent education at the K-12 levels, producing young people with a working knowledge of science, technology, engineering, and mathematics (STEM). It is time to place invention and technological literacy at the forefront of each student's educational experience. You have our support in doing so. We are ready to answer that call and to work with your administration and the 111th Congress to ensure a prosperous future for our country.

Warm regards,

A handwritten signature in black ink that reads "Kendall N. Starkweather".

**Kendall N. Starkweather, Ph.D.**  
Executive Director/CEO  
ITEA

A handwritten signature in blue ink that reads "David Janosz".

**David Janosz**  
Coordinator of ITEA's TIDEWatcher  
Learning Community



**Anticipated outcomes as the concept of technology/engineering education takes hold in schools; they are unlike any other area of the common school curriculum:**

#### **Superior Innovation Capacity**

Children can be taught to be innovative, creative, and competitive for success in an always-changing global economy. Technology/engineering is the only area of the common school curriculum that achieves this by creating opportunities for students to design solutions to real-world technological problems.

#### **Technological Literacy**

A main goal of technology/engineering education is to create technologically literate citizens capable of thriving in a technological society. A critical element of the education of all students for the 21st Century, technological literacy is the ability to use, manage, evaluate, and understand technology. An understanding of technology and its impacts will help students make informed decisions, participate in the democratic process, and contribute to society.

#### **Workforce Skills for the 21st Century**

In the 21st Century, technology/engineering should be considered a core subject in a student's educational experience. Technology learning activities are set up so that students can learn the "soft skills" required by today's employers including, but not limited to, critical thinking, time management, problem-solving, communication, and teamwork.

#### **Technology, Engineering, and Other Design Professions**

Technology/engineering education directly supports design-related professions, especially engineering, architecture, and industrial design and advanced study can provide an appropriate orientation and transition to these fields. Students learn what engineers, architects, and other designers do and how they solve problems and create technologies that can help people and improve lifestyles.

#### **Achievement in Mathematics, Science, and Language Arts**

Research shows that experiences in technology/engineering can have a positive impact on achievement, especially in math, science, and language arts. Technology/engineering education provides "hands-on minds-on" relevant learning. It breaks down the barriers of subject area separation and provides context for real-life application of knowledge. Students develop the ability to synthesize new information. Where other areas of the curriculum intend to build knowledge, the technology and engineering curriculum builds understanding of the designed world around us.

#### **Enhanced STEM Experience**

Consider how a comprehensive STEM experience for students must include all facets of the acronym. For students to be well versed, they should have experiences in all of the areas. Technology/engineering can serve as a unifying force, allowing students to bridge the naturally interconnected areas of STEM.



## **Proclamation:**

### **ITEA's Position on the "T & E" of STEM**

Whereas; Science, Technology, Engineering, and Mathematical (STEM) literacy is critical for the advancement of students to enter all careers of tomorrow, be it known that the (ITEA) International Technology Education Association believes that it is necessary for K-12 students to gain 21st Century knowledge, skills, and thinking abilities for the technological world.

ITEA's Board of Directors, on behalf of its membership proclaims that the delivery of STEM education content is closely aligned with the same core content as Standards for Technological Literacy. Furthermore, the goals of our content are essential for all students to achieve both academic and technological abilities in all career pathways and for future leadership in Technology, Innovation, Design and Engineering.

Further, that the content contained within our standards is the foundation for students to develop 21st Century STEM literacy—the very core of abilities needed for students to become advanced problem solvers, innovators, technologists, engineers, and knowledgeable citizens. ITEA believes that all true STEM programs must include Standards for Technological Literacy as a ladder to help students achieve STEM literacy.

Therefore, it is proclaimed that the Technology and Engineering within STEM is delivered by our content area. ITEA and its Standards for Technological Literacy continue to be supported by NASA, The National Academies of Science and Engineering, the National Science Foundation, and the National Assessment for Educational Progress. ITEA believes our content and standards are the foundation through which students may achieve STEM literacy with the partnership of science and mathematics to help all students achieve 21st Century skills.

*Proclamation approved by ITEA's Board of Directors  
January, 2009*