

development should be based on International Association for K-12 Online Learning standards.

- Chicago Public Schools launched a pilot program to add 90 minutes to the school day at 15 elementary schools using online courses that are not teacher-led (Evergreen Education Group, 2010).

In the following excerpt from his introduction to the U.S. Department of Commerce's report titled *Transforming Education and Training through Advanced Technologies*, Bill Gates, former chairman of the Microsoft Corporation, describes the impact of technology on the curriculum:

The Internet has brought an unprecedented level of great educational content to a wide audience, encouraging teachers to share curriculums and resources worldwide. E-mail has facilitated improved communication among administrators, teachers, students, parents and educational researchers, and emerging Web services technologies will create further opportunities for collaborative learning. Increased industry and government funding in learning science promises to vastly improve the ways technology is applied to learning. And in the years ahead, a whole generation of kids will leave college and enter the workforce with a broad understanding of the ways they can use technology effectively in their jobs.

TECHNOLOGY AND TRANSFORMATION OF THE CURRICULUM

Since the early 1980s, curriculum leaders have used computers as an instructional delivery system to present information to students. Today, these leaders use computers not only for highly structured drill-and-practice exercises, but as a catalyst for group investigation and inquiry. They incorporate up-to-date technology to stimulate students' higher-order thinking, creativity, and problem solving. Tech-savvy curriculum leaders understand that technology is a tool to create a rich, stimulating environment that fosters collaboration, inquiry, and decision making.

In response to the uneven quality of professional development for teachers and technical support, several state departments of education, school districts, and individual schools are taking steps to ensure that teachers have the help they need to integrate technology fully into their curricula. About one-third of states require technology training and/or coursework for an initial teacher license, and nine states require a technology test (*Education Week*, 2009). In addition, the International Society for Technology in Education (ISTE) developed the following professional standards for teachers related to integrating technology into the curriculum:

1. Facilitate and Inspire Student Learning and Creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

2. Design and Develop Digital-Age Learning Experiences and Assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the National Education Technology Standards for Students (NETS•S).