Introduction

Technologies in the classroom are now the norm in schools equipped with multimedia, graphics and animation, access to the Internet, and handheld and remote devices. Students use these technologies as once they used pencils, books, and manipulatives to learn content in all subject areas. Learning is surpassing mere skills and facts; students are thinking and solving problems using these new skills. Literally, the world has become their classroom. Technologies help students master content aided by the fastest Internet connections at home as well as school. Technologies are the norm rather than the exception as tools for learning and content to be taught and mastered in school.
Technologies are transforming how teachers teach and how their students learn, making it possible for both to attain the demands of ever-increasing standards. To meet these demands, educators have come to consider technology as a content area to be learned and as tools to be mastered.

**Technology as a Content Area**

The competent student uses technology to access, generate, and manipulate data and to publish results; to evaluate performance of hardware and software components of computer systems and apply basic troubleshooting strategies as needed; to enhance professional growth and productivity, communicate, collaborate, conduct research, and solve problems, and promote equitable, ethical, and legal use of technology resources.

The competent teacher applies technologies that support instruction in their grade level and subject areas. The teacher plans and delivers instructional units that integrate a variety of software, applications, and learning tools. Lessons reflect effective grouping and assessment strategies for diverse populations. The competent teacher also understands the changes in instructional technologies, their effects on workplace and society, their potential to address lifelong learning and workplace needs, and the consequences of their misuse; integrates advanced features of technology-based productivity tools to support instruction, extend communication outside the classroom, enhance classroom management, perform administrative routines more effectively, and become more productive in daily tasks; and uses computers and other technologies in research, problem solving, and learning development. Finally, the competent teacher develops information literacy skills to access, evaluate, and use information to improve teaching and learning and engage in collaborative planning and teaching with other educator colleagues and the larger school community.

A summary of some general and specific technology awareness issues presented in leading schools throughout the country is depicted in Table 1.