

Chapter I

Technology Operation and Concepts for Teachers

ISTE NETS_T, I. Technology Operations and Concepts

Teachers demonstrate a sound understanding of technology operations and concepts.

ISTE NETS_T, VI. Social, Ethical, Legal, and Human Issues

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice.

Chapter Objective: *The teacher knows technology terminology and concepts; the appropriate use of hardware, software, and digital files; and how to acquire, analyze, and evaluate digital information.*

The Teacher Technologist

It is essential in the age of technology that teachers learn to appreciate and apply all that technology has to offer. It is becoming increasingly important that teachers of the 21st century learn to tap into this dynamic resource. In today's classroom, teachers must be able to incorporate technology in order to plan, organize, deliver, and evaluate instruction for all students. However, being a knowledgeable and competent technologist means much more than knowing how to use a word processor. The changing focus of technology in today's classroom requires that a teacher become competent in its use for enhancing instruction and student learning.

Over the past fifty years the educational system has experienced a drastic transformation with the advance of technology. The rapid changes and increase in technology require both students and teachers to familiarize themselves with the world of computers. All of the advances made possible by computers have created a more efficient and productive school environment. Computers are now widely used throughout primary and secondary schools and in colleges and universities, for both administrative and instructional purposes.

The beginning teacher is expected to be a teacher technologist in order to be effective in the classroom. This teacher will:

- Know basic technology terms and concepts.
- Understand the legal and ethical use of technology.
- Evaluate and help students evaluate technology and the information found there.
- Select the best technological tools and appropriate instruction to enhance learning.
- Communicate information to students and others with technology.
- Meaningfully evaluate students' technological products and projects.
- Understand the Digital Divide and how that applies to equity issues.

A Brief History of Computers

The history of computer development is often referred to in terms of the five generations of computing devices ranging from the early development of vacuum tubes to the more current development of artificial intelligence devices (Campbell-Kelly & Aspray, 1997).

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