Technology in Education
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Abstract
Technology education is the study of human innovation, which provides an opportunity for students to apply and manage knowledge and resources related to the human made world. It incorporates collaborative, application-oriented, activity-based strategies used to develop creative thinking skills while solving real-world problems. The study of technology education prepares students to become lifelong contributing members of our technological society who comprehend the impact of technology and use it to improve the quality of life for all people.

Keywords
NII- National Information Infrastructure

I. Introduction
Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources. Technology of education is most simply and comfortably defined as an array of tools that might prove helpful in advancing student learning and may be measured in how and why individuals behave. Educational Technology relies on a broad definition of the word “technology.” Technology can refer to material objects of use to humanity, such as machines or hardware, but it can also encompass broader themes, including systems, methods of organization, and techniques. Some modern tools include but are not limited to overhead projectors, laptop computers, and calculators. Newer tools such as “smartphones” and games (both online and offline) are beginning to draw serious attention for their learning potential. Media psychology is the field of study that applies theories in human behavior to educational technology.

II. Technology Used in Education
A. National Information Infrastructure (NII)
A series of components, including the collection of public and private high-speed, interactive, narrow and broadband networks that exist today and will emerge tomorrow. It is the satellite, terrestrial, and wireless technologies that deliver content to homes, businesses, and other public and private institutions. It is the information and content that flows over the infrastructure whether in the form of databases, the written word, a film, a piece of music, a sound recording, a picture, or computer software. It is the computers, televisions, telephones, radios, and other products that people will employ to access the infrastructure. It is the people who will provide, manage, and generate new information, and those that will help other do the same. And it is the individual Americans who will use and benefit from the NII. The NII is a term that encompasses all these components and captures the vision of a nationwide, invisible, seamless, dynamic web of transmission mechanisms, information appliances, content, and people.

B. Network Technology
“The Evolution of Learning Devices: Smart Objects, Information Infrastructures, and Shared Synthetic Environments” explain their own functioning and help us create “articulate” educational environments. Information infrastructures provide access to experts, interlinked archival resources, distributed investigations, and virtual communities. Through illusion, shared synthetic environments aid us in better understanding and appreciating reality. The new messages these new media make possible can dramatically improve instructional outcomes, but such an evolution of education practice depends on careful design of the interface among learner, teacher, and tool.

C. Educational Software
Computer programs that enable children to learn math, spelling, geography and other subjects, often in the form of a game of adventure. Software for both individual and collaborative learning exists.

D. Computer Simulations
Programs with sophisticated graphics and commands that let child practice real-world knowledge and decision-making skills to, for example, plan and manage a city, excavate an archaeological dig or explore the intricacies of an ant hill.

E. E-Mail (Electronic Mail)
Typed messages sent from one computer screen to another along with a network linking the units. Transmitting messages from one computer to another offers children the ability to instantly communicate through written messages with scientists, teachers, other students and friends anywhere in the world.

F. On-line services and the Internet
Bulletin-board services and databases which give children access to vast amounts of information and enable them to interact with other people around the world.

G. Graphics
New creative tools allowing children to draw and to design their own original art and other imaginative creations.

H. Distance learning
Student in remote locations taking classes or visiting museums and libraries with live televisions, cable, computer or satellite hook-ups.

I. Electronic Portfolios
Keeping electronic records of a child’s work, which allows teachers and students to have easily accessible information.

III. Technology Effectiveness in Education
The Technology Effectiveness Framework was developed to assist educators, researchers, and policymakers in evaluating technology and technology-enhanced programs/curricula against specific reform goals for a school, district, state, or service agency.

IV. Technology effectiveness Framework
Ask yourself the following questions:
- What are the learning goals to which technology applies?
- How are these learning goals moving the school toward reform?
- How will a technology-enhanced curriculum support
instructions that addresses those learning goals?

- Does the technology-enhanced approach help restructure the school to meet its plant for educational reform?
- Do the students achieve the learning goals using the technology-enhanced curriculum?
- Can the school implement cost-efficient technologies given its goals and current realities?
- Can the school extend or adapt less functional technologies so that they are more functional to support a global community of learners in sustained learning that is challenging and authentic?
- Are there funding strategies/partnerships that can reduce the cost?
- How can a school continuously plan to use technology to reach for more powerful learning goals and reform?

Keep in mind the following variables that define learning:

The goals and metaphors that drive learning and instructions (vision of learning).

- The tasks that ultimately define the nature and level of achievement as well as the curriculum
- The assessment principles and practice.
- The instructional model.
- The characteristics of the learning context including where learning takes place, the nature of the learning environment, the nature of the relationship among teachers and students.
- The learner roles.
- Teacher roles.

Maintain the new definition of Technology Effectiveness to include:

- Authentic and multi-disciplinary tasks
- Addresses important issues and problems in the real world.
- Performance-based assessment.
- Interactive models of instruction.
- Heterogeneous groupings.
- Collaboration.
- Student’s exploration.
- Teacher as facilitator.

References


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