



EDUCATIONAL TECHNOLOGY: Meaning, Concepts & Characteristics

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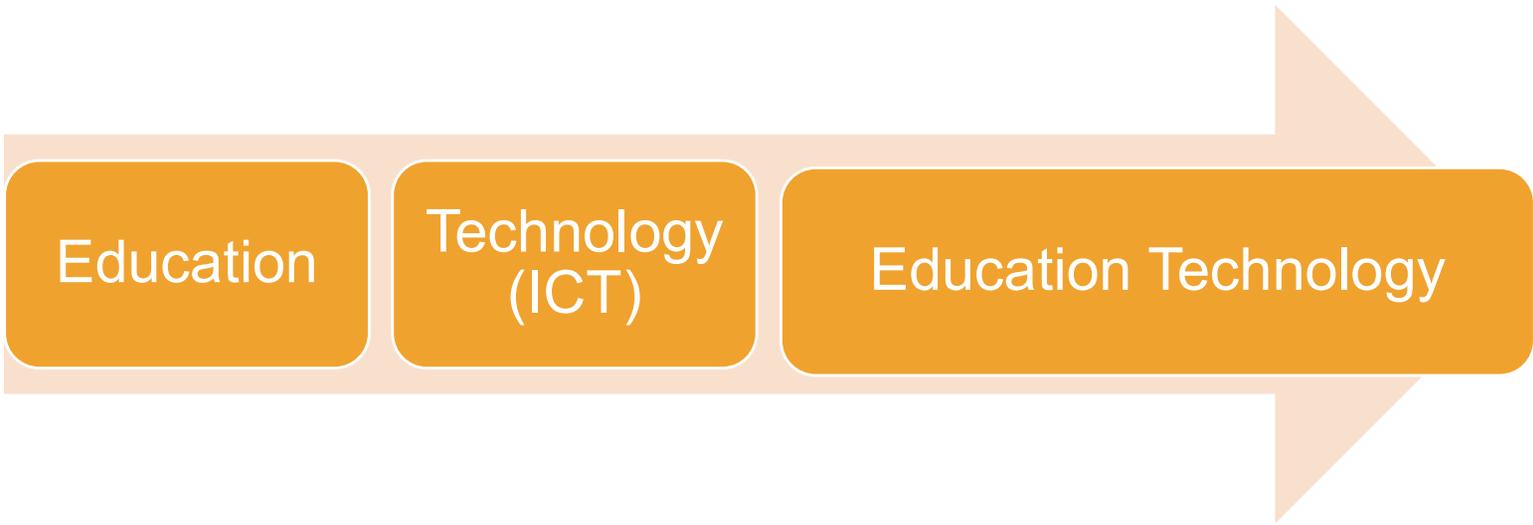
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K.K Chauhan





❖ What is Education ?

- The word "Education" has been derived from different **Latin words**.
- 'Educare' - which means to **bring out** or **to nourish**.
- 'Educere' - which means **to lead out** or **to draw out**.
- 'Educatum' - which means **act of teaching** or **training**.
- 'Educatus' - which means **to bring up, rear, educate**.

Denotative Meaning of Education

- Education is the process of bringing out hidden qualities or potentials of the child to make him a responsible and productive person of the society.
- Education is a systematic process through which a child or an adult acquires knowledge, experience, skill and sound attitude.
- It makes an individual civilized, refined, cultured and educated.
- Its goal is to make an individual perfect. It is the key to solve the various problems of life.
 - **Aristotle** - “Education is the creation of sound mind in a sound body.”
 - **John Dewey** – “Education is the process of living through a continuous reconstruction of experiences.”



General Introduction of Technology

- The word "Technology" is derived from the Greek word “Technikon” or “Technic” meaning **art or skill** and 'logia' meaning **science or study**.
- Technology is the **collection of techniques, skills, methods, and processes used in production of goods or services** or in the accomplishment of objectives, such as, scientific investigation.
- Technology refers to **tools and machines that may be used to solve real world problems**.
- The word "Technology" can also be used to refer **to a collection of techniques**.
- Technology is the branch of knowledge that deals with the **creation and use of in technical means and their interrelation** with life, society and with environment.
- Thus, technology is the **science of study of an art or skill**.

What Is Technology?

- Technology is the application of scientific and engineering principles to create useful tools, techniques, and systems that enhance and improve various aspects of human life.
- Technology refers to the tools, techniques, and systems to solve problems, improve efficiency, and create new products and services.
- Technology includes both physical objects and digital systems that are designed to perform specific tasks and functions.
- Technology has been used throughout human history to enhance and improve various aspects of life, from the development of the wheel to the invention of the computer.
- Today, technology is used in almost every aspect of modern society, from communication and transportation to healthcare and entertainment.
- Technology is driven by innovation and is constantly evolving to meet the needs of society.
- It has played a crucial role in the advancement of science, medicine, industry, and many other fields, enabling individuals and organizations to achieve new levels of productivity, efficiency, and creativity.



Definition of Technology

- According to J. Bloomer “Technology is the application of scientific theory to practical ends.”
- According to Ofiesh “Application of science in art is technology.”
- According to Page, T. (1976), "Technology is the application of scientific be knowledge to a practical purpose (problem)."
- According to Hierra, "Technology is the set of instruments and skills which are used to satisfy the need of community.“



Nature of technology

- **Innovation:** Technology is **driven by innovation, constantly evolving** to meet the changing needs of society and to solve new problems.
- **Problem-solving:** Technology is **designed to solve problems** and meet the needs of society by applying scientific and engineering principles.
- **Complexity:** Technology is **often complex, involving multiple components and subsystems** that must work together to achieve a specific function.
- **Interdependence:** Technology is interdependent, meaning that different technologies are **often connected and reliant on each other to achieve a particular goal.**
- **Advancement:** Technology is **always advancing, with new and improved technologies** being developed to replace older ones.

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- **Impact:** Technology has a significant impact on society, affecting various aspects of life, from communication and transportation to healthcare and entertainment.
 - **Adaptability:** Technology can be adapted and customized to meet the needs of specific users or applications, making it versatile and adaptable.
 - **Collaboration:** Technology often involves collaboration between individuals and organizations from different fields, working together to develop new technologies and solve complex problems.

Overall, the nature of technology reflects its importance in modern society, providing new opportunities for innovation, growth, and development. It has transformed to shape the future of human society.



INFORMATION COMMUNICATION TECHNOLOGY (ICT)

- Information and communication technology (ICT) refers to the technologies and tools that are used to create, store, process, and exchange information through electronic means.
- ICT includes a wide range of technologies such as computers, smartphones, the internet, software applications, social media, and other digital communication tools.
- ICT has transformed the way people communicate, work, learn, and access information.
- It has revolutionized industries, economies, and societies, enabling individuals and organizations to connect and share information and knowledge across geographic and cultural boundaries.
- ICT plays a crucial role in education, enhance productivity and efficiency, and improved the quality of life around the world.

Relationship between ICT and education:

1. **Access to information:** ICT provides students and educators with access to vast amounts of information from around the world, enabling them to learn about diverse cultures, perspectives, and ideas.
2. **Online learning:** ICT has enabled the creation of online learning platforms, such as MOOCs (Massive Open Online Courses) and e-learning modules, which provide students with access to educational materials and resources anytime, anywhere.
3. **Personalized learning:** ICT can be used to create personalized learning experiences for students, adapting to their individual needs and learning styles.
4. **Collaboration:** ICT provides opportunities for students and educators to collaborate and communicate with each other, breaking down barriers of time and distance.
5. **Multimedia learning:** ICT can enhance learning by providing multimedia resources, such as videos, animations, and interactive simulations, which can engage students and make learning more fun.

Overall, the use of ICT in education has the potential to increase access to education, enhance the quality of teaching and learning, and prepare students for the digital world.



EDUCATIONAL TECHNOLOGY:

- Educational technology, also known as EdTech, refers to the use of technology to enhance teaching and learning.
- It involves the application of various technological tools and resources such as computers, software, the internet, mobile devices, interactive whiteboards, and multimedia to create a more engaging and effective learning experience.
- Educational technology is not limited to the use of technology in the classroom, but also includes online learning, distance education, blended learning, and other forms of technology-enhanced education.
- The goal of educational technology is to improve the quality of education, increase access to education, and make learning more interactive, engaging, and personalized.

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- ❖ Educational Technology is the **development, application and evaluation of systems, techniques and aids** to improve the process of human learning.
 - ❖ Educational Technology is a profession like teaching. It is made up of organized effort **to implement the theory, intellectual technique, and practical application** of Educational Technology.
 - ❖ Educational Technology is the considered implementation of appropriate **tools, techniques, or processes** that facilitate the application of senses, memory, and cognition to enhance teaching practices and improve learning outcomes.

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- Let us understand the meaning of the term ‘educational technology’ by splitting it into ‘Education’ and ‘Technology’.
 - Technology refers to the systematic application of techniques and principles of science to achieve an objective effectively and efficiently.
 - ‘Technology’ is that branch of advanced scientific study which involves highly designed and sophisticated engineering software and hardware.
 - It deals with the application of knowledge for practical ends. Technology results in new designs and devices to improve human productivity.
 - Education is the process of modification of behavior, socialization, social efficiency, acculturation, and adjustment to the environment, harmonious and all round development of the human personality.
 - Hence, educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. As a field of study, educational technology emphasizes communication skills and approaches to teaching and learning through the judicious use and integration of diverse media.



❖ Definition of Educational Technology

Educational technology offers the means to reach large numbers in remote and inaccessible areas, remove disparity in educational facilities available to the disadvantaged, and provide individualized instruction to learners conveniently suited to their needs and pace of learning.

(NPE, 1986)

Educational technology is a communication process resulting from the application of scientific methods to the behavioral science of teaching and learning. This communication may or may not require the use of media such as television broadcasts, radio, cassettes etc.

-(UNESCO, 2001)

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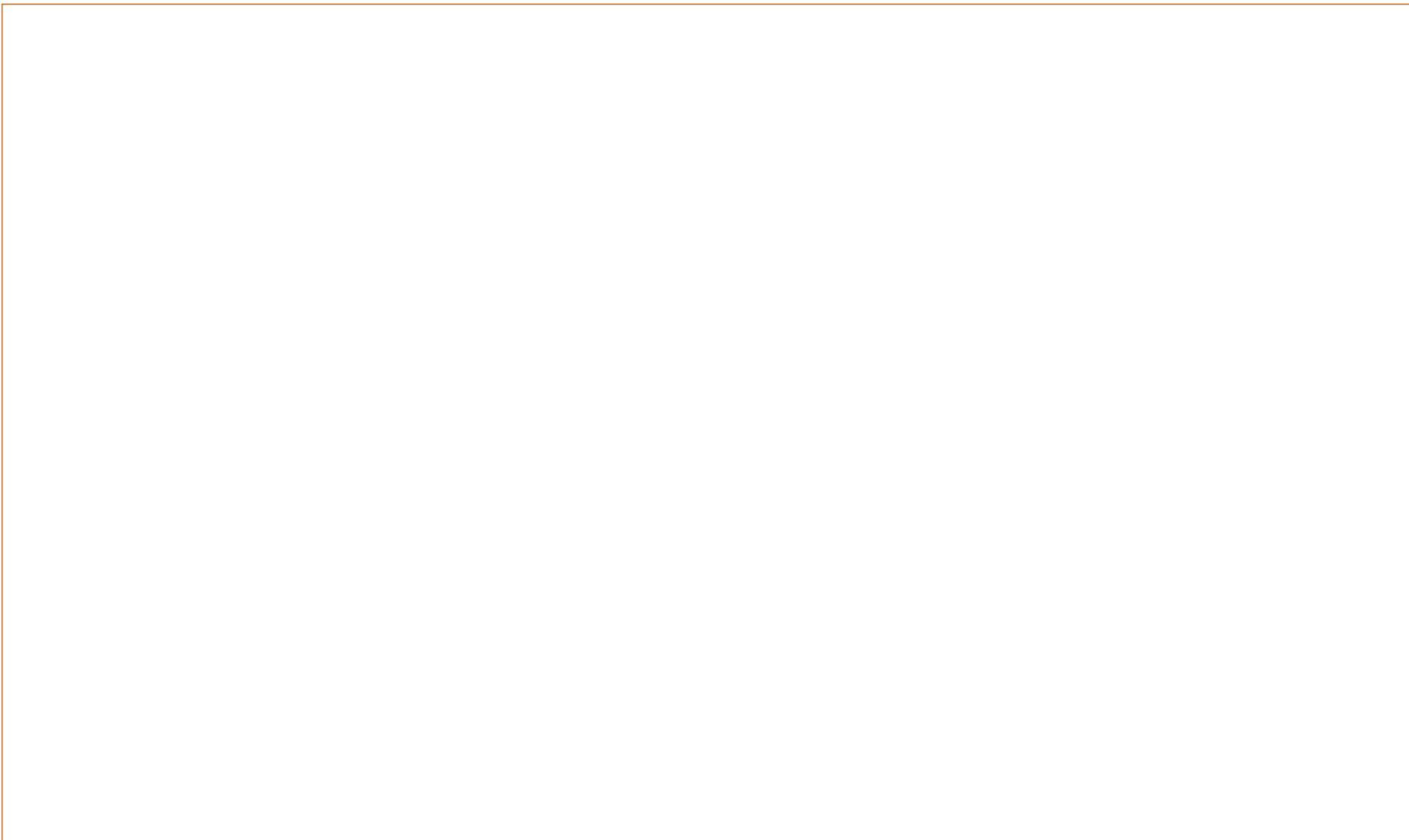
-Januszewski & Molenda, (2008).



Origin of Educational Technology

- The history of educational technology dates back to the earliest forms of human communication and teaching.
- The earliest educational technologies were simple tools, such as sticks used for drawing in the sand, and the invention of writing systems.
- Later, educational technologies included books, blackboards, and overhead projectors.
- The first real educational technology was the chalkboard, which was invented in the early 19th century.

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- The 20th century saw a rapid expansion of educational technologies, including film, radio, television, and computers.
 - These technologies allowed for new forms of instruction, such as distance learning, and the creation of new fields of study, such as educational psychology.
 - Today, educational technology includes a wide range of tools, such as online learning platforms, digital textbooks, and educational apps. These technologies continue to evolve, and their impact on education is likely to continue to grow in the future.



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