



COMPONENTS OF EDUCATIONAL TECHNOLOGY

(HARDWARE & SOFTWARE)

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DEFINITIONS OF EDUCATIONAL TECHNOLOGY

- ✘ The **NCERT** defines educational technology “as the means of development, application and evaluation of three different things namely techniques, System and aids to improve the process of human learning”.
- ✘ Educational technology is defined by the **Association for Educational Communications and Technology** as "the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources."

COMPONENTS OF EDUCATIONAL TECHNOLOGY

The important and fundamental components of educational technology are:

- Hardware
- Software

COMPONENTS OF A

21st Century Classroom

Technology is undeniably changing the face of education, and it's easy to see the impact already. Imagine what classrooms will be like in 20 years with the speed of technological innovation. Learn more about some of the key advancements in the 21st century classroom.



of teachers have computers in their classroom...



...but just **1 in 5** feel their classrooms have the right level of technology

INCREASING THE PRESENCE OF THE FOLLOWING TECHNOLOGIES COULD CHANGE THAT RATIO DRASTICALLY

Real World Education

Project-based learning (PBL) teaches concepts, but also organization, articulation, project management and collaboration



Integrating life skills into education can improve student engagement and retention and prepare them for 21st century careers



Online Courses



Almost a third of all college students take at least one online course

Online enrollments saw 21% growth while overall higher education student population only saw 2% growth

Over 65% of education institutions count online learning as critical for long-term educational success



Games and Gamification



of teachers have used online games in the classroom

In one study, games raised average test scores:

91.5%
With the use of digital games

79.1%
Without the use of digital games

Learning Analytics

Help teachers assess top concerns and achievements related to their students



Registration for the Learning Analytics and Knowledge conference doubled between 2011 and 2012



One system claims to predict whether a student's likelihood of sufficient course completion with about 70% accuracy, highlighting risk factors for individual students



Open Source Textbooks

In the next decade, open source textbooks are expected to grow to 25% of the textbook market



By 2013, e-textbooks may comprise

11%
of textbook revenue

6 in 10 students have used a digital textbook - just 4 in 10 had in 2011 -

81% of teachers believe tablets enrich classroom learning

86% of students believe they study more efficiently with tablets

1 in 5 students have used a mobile app to keep their coursework organized

6% of teachers use social media for coursework, compared to now **10%** of college professors

59% of students would like to use their own mobile devices to enhance learning

Top 3 Reasons for Teachers to Use Technology in the Classroom



Adapt to diverse learning styles



Boost student motivation



Enhance the material being taught



Over 51% of colleges cited wireless upgrades as their tech priority in 2011-12 given the **60% increase** in mobile devices on campus in the previous year

Integration of Social Networks

Engaging students with a free tool they already use can help them learn in new ways, gain focus and increase participation



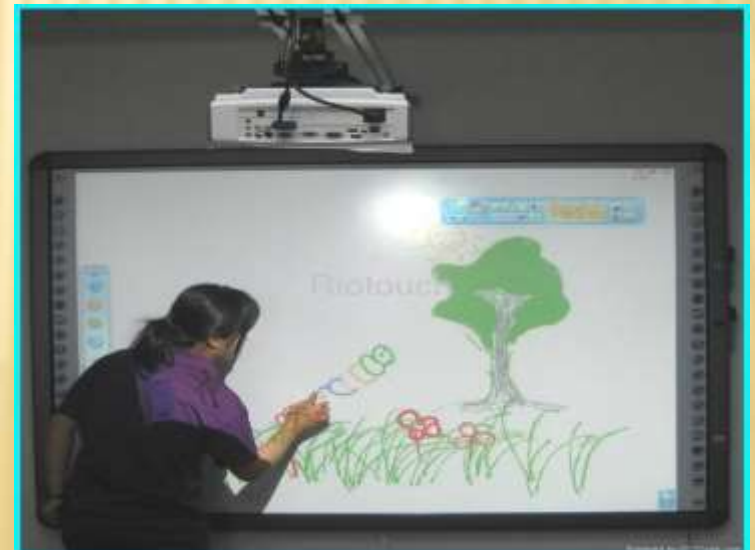
One social media pilot program assisted in a class' **50% rise** in grades



4 in 10 students believe integrating social networks into the classroom would benefit their education

HARDWARE

- ✘ It is nothing but all the components or the mechanical materials and equipment. It includes all types of projectors, boards of different kinds, writing materials of different types and so on. In general, all the physical components or aspects are coming under this heading. The use of these said materials in education or in teaching and learning process is known as hardware approach. This approach has its origin in physical sciences and engineering and is based on the concept of service. In other words, this approach is the byproduct of the scientific and technological developments of this century.



HARDWARE INSTRUCTIONAL AIDS

PROJECTORS

It is an effective projective equipment. It is helpful in projecting slides, pictures, graphs, maps, diagrams in an enlarged view, for better understanding in the subject.



COMPUTERS

A computer is a machine that is able to take (input), do some work on or the information for output. It is helpful in providing both audio visual aid at the same time. It is easy to use and does not require any special knowledge.



TELEVISION

It is a powerful medium of communication that calls for the use of auditory as well as visual sense of the learners in receiving education.



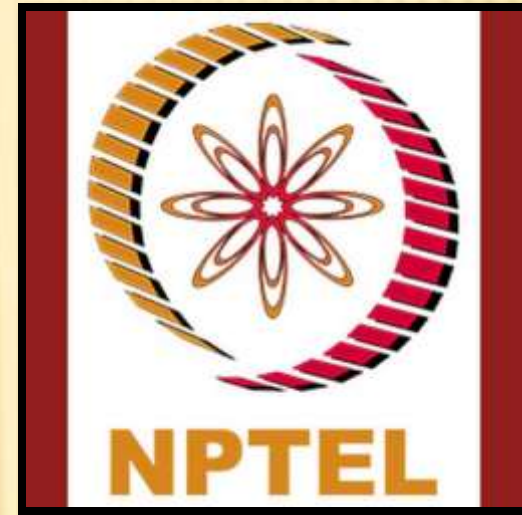
MOTION PICTURES OR FILMS

It is an effective instructional device which influences the auditory as well as visual sense of the learners. Usually, they resemble the televised programs.



SOFTWARE

- ✘ It includes all programmes, principles, rules, text and so on useful for teaching and learning process. For example, a video clip is software and the disk containing the clip is hardware. The use of the principles and the psychology of learning is known as software approach. This approach owes its origin to the behavioral sciences and their applied aspects concerned with psychology of learning. It is directly related to the psychology of learning, which comprises behavioral changes resulting from experiences.



SOFTWARE INSTRUCTIONAL AIDS

BLACKBOARD

It is the oldest and most commonly used teaching aid. Although, not a visual aid itself, it can be used for the display of visual materials in the classroom teaching



MODELS

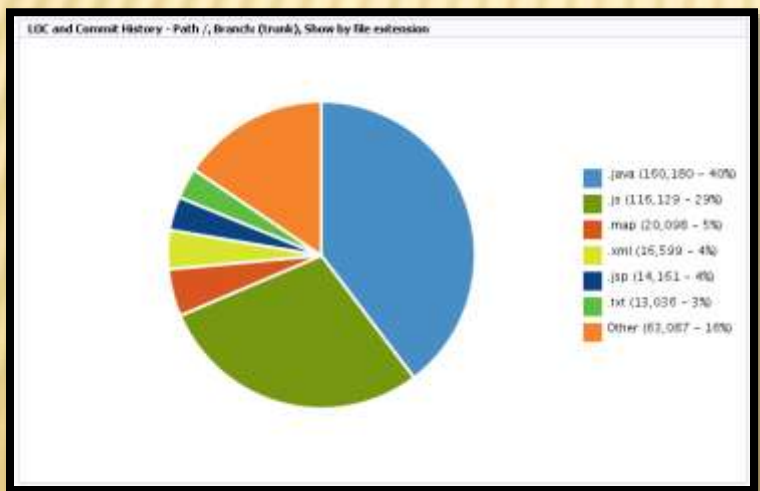
It is the replica, imitation of a thing act or process. They represent the reality as much as possible and to make them quite appropriate for being as an effective instructional aid.



OTHER SOFTWARE INSTRUCTIONAL AIDS

10 GREAT REASONS TO READ

- 1 Read to understand the past.
- 2 Read to explore your world.
- 3 Read to plan for your future.
- 4 Read to visit new places.
- 5 Read to create great things.
- 6 Read to make a good decision.
- 7 Read to have fun.
- 8 Read to exercise your mind.
- 9 Read to keep in touch.
- 10 Read because you can!



GARRISON PROPOSED COMPONENTS

The following **4 M's** are the major components of Educational Technology:

➤ **Methods:**

It is concerned with the devices such as Programmed Learning Team Teaching, Micro Teaching, Personalized System of Instruction in Teaching Learning situations.

➤ **Materials:**

Instructional materials such as Programmed Text book the material of this type may be handwritten or printed.

➤ **Media:**

The media used here are audio, or visual or audiovisual. A few examples are radio, tape recorder, charts, films, educational television etc.

➤ **Man Power:**

Man power controls educational technology in every way. Educational Technology without man is zero.

Thank
you