RESERACHES AND INNOVATIONS IN PRACTICE TEACHING : USE OF MULTI-MEDIA IN DISTANCE EDUCATION

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"If a country is to be corruption free and become a nation of beautiful

minds, I strongly feel there are three key societal members who can make a difference. They are the Father, the Mother and the Teacher."

Dr. A.P.J. Abdul Kalam, Former President of India

21st Century is known as a knowledgebase century. As we know that in this century knowledge is must. If we want to be a success in different field, in these era we need quality base education not only knowledge or education. We all are seeing the innovation of Information Technology in 20th Century. Each and every field need new vision to see the world due to Information Technology and world become like a village – Global Village.

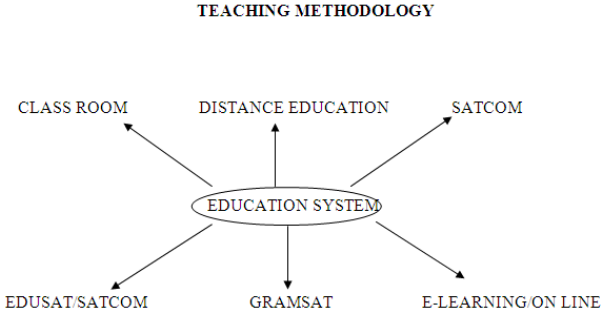
Computer, Communication, Tele Medicine, etc. is a part of Information Technology. Now a days we see all the sector's growth are nice, with the help of IT or Computer. Here we have just discussed education field only.

Indian culture is too rich rather then other country. Indian history is also rich and very ancient. In those days Education, Social, Economy and Religion all are include in the Indian Culture. Our past generation also know the value of Education and that's why developed 'Valabhi', 'Takshila' etc. institute in the old era. Generally education system divide in five eras.

(1) Gurukul (Vedic Education)
(2) Buddhism (Buddha Period)
(3) Medieval (Mughal Period)
(4) British Period
(3) Present and Future

Right time we didn't discussion about Vedic Education, Buddhism Period, Medieval, British Period Education system.

We have discussion present scenario and how to useful tools multimedia in distance education.



We have just discussed Distance education. In all education system there some benefit and some disadvantages and some challenges too.

Distance Education :

Distance education, or distance learning, is a field of education that focuses on the pedagogy, technology, and instructional system designs that aim to deliver education to students who are not physically "on site" in a traditional classroom or campus. It has been described as "a process to create and provide access to learning when the source of information and the learners are separated by time and distance, or both." In other words, distance learning is the process of creating an educational experience of equal quality for the learner to best suit their outside the classroom. Distance education courses that require a physical on-site presence for any reason considered a hybrid or blended course of study. This emerging technology is becoming widely used in universities and institutions around the globe. With the recent trend of technological advance, distance learning is becoming more recognized for its potential in providing individualized attention and communication with students internationally. The most widely cited pedagogical theory of distance education is that of "transactional distance". Distance learning is a flexible form of learning where a student can study from home, work, on the move or wherever else is convenient.

Difference types of distance education courses :

- Correspondence conducted through regular and electronic mail
- Internet conducted either synchronously or asynchronously
- Telecourse/Broadcast, in which content is delivered via radio or television
- CD-ROM, in which the student interacts with computer content stored on a CD-ROM
- PocketPC/Mobile Learning where the student accesses course content stored on a mobile device or through a wireless server.
- Integrated distance learning, the integration of live, in-group instruction or interaction with a distance learning curriculum
- Online tutoring

Main Benefits of use :

Distance education provides major benefits to at least six main markets or categories, such as:

- **Cost reduction:** Distance education can turn production of content into a repeatable and durable learning tool that does not require as much infrastructure. As most material can be packaged in an easy to deliver "just-in-time" format, the expanding payroll of educational institutions becomes unnecessary.

- **Emerging market opportunities:** Distance education fuels the public's need for lifelong learning in education by providing access to learners not in the traditional k-12 age group.

- **Expanding access:** Distance education can reach underserved populations of students who cannot attend a school that offers the educational services they desire, perhaps because they live too far away.

- **Adapting to new technology and environments:** Educational institutions may adopt distance education as a means to adapt to the rapid changes in technology being used in education today.

- **Flexibility for students:** Some distance learning programs allow students to tailor their individual classes and/or curriculum to meet their individual needs.

- **New fund-raising opportunities:** Distance education creates new graduates who might be willing to donate money to the school who would have never have been associated with the school under the traditional system.

Generally we have seen the academic structure of Distance Education as under :
- Study Material
- Lectures
- Assignments
- Practical Work

We have just seen the how distance education work and useful to the society. Now we have see the Multimedia and with the help of multimedia which type of changes required or benefit or challenges faces in distance education. So first of all see what is multimedia?

Multimedia :
Multimedia is media and content that uses a combination of different content forms. The term can be used as a noun (a medium with multiple content forms) or as an adjective describing a medium as having multiple content forms. The term is used in contrast to media which only use traditional forms of printed or hand-produced material. Multimedia includes a combination of text, audio, still images, animation, video, and interactivity content forms.

Multimedia is usually recorded and played, displayed or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance. Multimedia (as an adjective) also describes electronic media devices used to store and experience multimedia content. Multimedia is distinguished from mixed media in fine art; by including audio, for example, it has a broader scope. The term "rich media" is synonymous for interactive multimedia. Hypermedia can be considered one particular multimedia application.

The term "multimedia" was coined[citation needed] by Bob Goldstein to promote the July 1966 opening of his "LightWorks at L'Oursin" show at Southampton, Long Island. On August 10, 1966, Richard Albarino of Variety borrowed the terminology, reporting: "Brainchild of songscribe-comic Bob Goldstein, the 'Lightworks' is the latest multi-media music-cum-visuals to debut as discothèque fare.". Two years later, in 1968, the term "multimedia" was re-appropriated to describe the work of a political consultant, David Sawyer, the husband of Iris Sawyer—one of Goldstein's producers at L'Oursin.

In the intervening forty years, the word has taken on different meanings. In the late 1970s the term was used to describe presentations consisting of multi-projector slide shows timed to an audio track. However, by the 1990s 'multimedia' took on its current meaning.

In the 1993 first edition of McGraw-Hill's Multimedia: Making It Work, Tay Vaughan declared "Multimedia is any combination of text, graphic art, sound, animation, and video that is delivered by computer. When you allow the user – the viewer of the project – to control what and when these elements are delivered, it is interactive multimedia. When you provide a structure of linked elements through which the user can navigate, interactive multimedia becomes hypermedia."

The German language society, Gesellschaft für deutsche Sprache, decided to recognize the word's significance and ubiquitousness in the 1990s by awarding it the title of 'Word of the Year' in 1995. The institute summed up its rationale by stating "[Multimedia] has become a central word in the wonderful new media world"

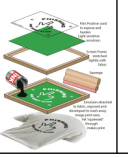
In common usage, the term multimedia refers to an electronically delivered combination of media including video, still images, audio, text in such a way that can be accessed interactively. Much of the content on the web today falls within this definition as understood by millions. Some computers which were marketed in the 1990s were called "multimedia" computers because they incorporated a CD-ROM drive, which allowed for the delivery of several hundred megabytes of video, picture, and audio data.

Education & Multimedia:
In Education, multimedia is used to produce computer-based training courses (popularly called CBTs) and reference books like encyclopedia and almanacs. A CBT lets the user go through a series of presentations, text about a particular topic, and associated illustrations in various information formats. Edutainment is an informal term used to describe combining education with entertainment, especially multimedia entertainment.

Learning theory in the past decade has expanded dramatically because of the introduction of multimedia. Several lines of research have evolved (e.g. Cognitive load, Multimedia learning, and the list goes on). The possibilities for learning and instruction are nearly endless.

The idea of media convergence is also becoming a major factor in education, particularly higher education. Defined as separate technologies such as voice (and telephony features), data (and productivity applications) and video that now share resources and interact with each other, synergistically creating new efficiencies, media convergence is rapidly changing the curriculum in universities all over the world. Likewise, it is changing the availability, or lack thereof, of jobs requiring this savvy technological skill.

Here I am trying to see the difference between Lecture, Audio, Print, Multimedia result with different aspects like video, written, color, still picture etc. how student react or understand when lecturer learn them. How student understand? Etc.

LECTURE	AUDIO	PRINT	COMPUTER [MULTIMEDIA]
Voice	Voice	No	Voice [With the help of media]
Writeen	No	Written	Written
Colour	No	Colour	Colour
Still Picture	No	Still Picture	Still Picture
No	No	No	Animation
No	Events	Events	Events
No	No	No	Full Movement [With the help of media]
			

In short we have say computer is a key tools of Multimedia. From a pedagogical point of view these consideration are still valid and the parameters still of the highest importance to consider when we design learning materials. The different symbolic systems do support different communicative actions and, in that way, stimulate different aspects of the learning process.

From a technological point of view the diagram is an illustration of how fast some technologies change. In relation to the computer all Bates' 'question marks' and 'no's' are outdated! At the moment the computer is able to support communication in voice, written language, colour, still picture, animation, dramatic events and full movement almost at the same level as television. Furthermore, the computer offers the student an opportunity to interact physically with the learning material on a symbolic level, whereas the other media – at the physical level – only allow for browsing and repetition (turning the pages and winding-rewinding the tapes).

This possibility for interaction on the symbolic level is what makes the computer unique. The computer is no longer one option or one choice of media among others in a media mix as it was considered a few years back, when computers primarily were used for word-processing, e-mail, computer conferencing and running of CBT-programmes. The computer has other options because it relies on a new language using a binary code (0 and 1) which is able to handle both signs, visuals, sounds and other kinds of formal systems in approximately the same way as the alphabet supports print and written language (Finnemann 1996).

The computer is an integrated medium for

- production (paper, pencil, typewriter, brush,etc.)
- preparation (content, form, layout, etc.)
- storage (book, library, database, etc.)
- copying (printing, copy machine. etc.)
- search (index, catalogue, etc.)
- distribution (mail)
- communication (telephone, fax)
- of knowledge or symbolic formulated content.

Due to this integration of previously disintegrated functions and operations the computer has become the vehicle for multimedia. But this development has not been supported so much by 'the computer as a machine' similar to the radio and television monitor as by 'the computer as a medium' using a digital communications system different from the analog system used in other media.

To clarify the term 'multimedia' further a recent Danish publication on 'multimedia and the development of technology' (Jensen, 1995) has drawn up a diagram with a separation between multimedia and non-multimedia on the one hand and interactivity (symbolic interaction) and non-interactive on the other diagram. Following this diagram it becomes obvious

that not every application which runs on a computer is a multimedia, e.g. text-based programmes – hyperstructured or not.

		Non-Multimedia	Multimedia
Non Interactivity	Television, radio, film, print, books, dias, etc.	Linear presentations and demos etc.	
Interactivity	Non-Hyperstructure	Word processing, desk-top-publishing, spread sheets, database, etc.	Computer games, computer fiction, etc.
	Hyperstructure	Hypertext	Non-linear persentations, www, etc.

that the term multimedia is used also for application which are non-interactive, e. g. linear presentations or demos which may run on computers, that within interactive multimedia there is a dividing line between hyperstructured and nonhyperstructured applications.

Learning Media for the Future

The advantage of the computer is the use of digital information processing, but this way of handling data is about to be integrated into other media. At the moment most telephone communication is digital – at least in the Western world, and television will become digital within a few years offering the users High Definition Television, a multiplication of available programmes and several interactive services. Especially, families connected to cabletelevision will have these new options and providers of cable-television are at the moment exploring the possibilities of offering telecommunication facilities as telephony, e-mail and internet access through the cables exchanging the remote-control with a small key-board. From an educational point of view one of the important questions is: will the home-based PC and interactive television merge into one medium? In that case we – as providers of education and learning materials – would only have to develop for one platform: the digital interactive television with integrated two-way communication.

Some statistics on the penetration of communication hardware in Danish households may give an indication of the direction in which the development is moving. Denmark is in this matter on line with the other Scandinavian countries and in the upper end of Europe as a whole.

Communication Hardware : in Danish Households 1996 (percent)

Television	97 %
Text-tv	69 %
Video	66 %
Cable-tv	56 %
Satellite-receiver	11 %
Telephone	96 %
Mobil-telephone	43 %
Home based PC	47 %
Modem	9 %

The low penetration of modems put severe limitations on the use of computer-based communication in learning and especially in distance learning. In practice it restricts the possibilities of using multimedia in home-based education to stand-alone systems like CD-ROM and excludes facilities like the WWW and e-mail – at least for the next years. Compared to the situation in the United States the amount of modems should have been doubled. Probably, the low penetration is caused by the relatively high level of local rates on telephony in Europe.

As a consequence of these limitations for computer networking the educational providers may place confidence in digital interactive television. Not least, because this development will be pushed foreward by the apparently never declining market for entertainment. A small Danish co-operative company with interests in local television has launched its visions for this coming piece of hardware – a 'TVPC 2005 Digital Standard', which could be available on the market for Christmas year 2005 (AEM Invest, 1996). A selected list of the imagined

specifications look like this:

TVPC 2005 Digital Standard

Hardware :	**Software:**
Sony Color Monitor	MS Windows
Intel Processor	Electronic Programme Guide
Digital Video Drive (Music, Video, CD-ROM)	Children Safe

Remote Control
Nokia Digital Desk
Nokia Mobile Phone (Hand-free)
Build in stereo speakers
Sony Web (modem)

Television:
10 National Channels
20 European Channels

Extra Equipment:
Key Board
Multi-room server
Video Phone Recorder
Phone Exchange
Room surveillance
Health and Light regulation
Surround Sound Link
Colour Printer
Scanner
Microphone
Joystick
Karaoke

Extra Programme Packages:
A European Package
An American Package
A Global Package
Pay Television:
International News :
Sport, Nature, Children etc.
FilmNet
SEGA (games)
On-line Services:
Alta Vista
Opasia
Newspapers on-line
National Information Service
TicketNet
Home Shopping:
Banks, etc.

Certainly, this is an impressive piece of equipment – 100% digital, independent of cable-network for interactive communication, instead, using mobile telephony and satellite desk receivers. On the software side the user will have a running on-line update of the latest version of any programmes he or she signs up for.

My main point is that the TVPC and the homebased PC are two different media. They relate to each other in approximately the same way as films relate to television. Films may be shown on television, but the experiences of watching in the living room are very different from that of going to the cinema.

On television – and also on educational television – the presenter, normally, is photographed

from an angel slightly below giving him or her authority. But try to present these images on a computer and you will have the feeling of the presenter speaking down to you. Educational material on the computer has to respect the equality between the learner and the learning material – the computer supports an anti-authoritarian mode of communication in learning.

Presentation, in this educational context, is referring to the level of discourse, viewing presentations as, basically, sender dominated one-way communication of information in one of two formats didactic or narrative. In a didactic presentation information is told by an expert, organised according to logic and displayed in a sort of 'eternal' tense with no clear separation of past, present and future.

Interaction in educational communication is also, basically, dealing with presentation of information. Although, the learner has a possibility to interact with the learning material the communication is one-way. Interactive media are stand-alone systems in which all the information is stored before the interaction begins. Interactive media are more suitable for presentation

of information organized along logicdidactic lines than for presentation as narratives. The hierarchic and ramified structures which are used to present material in interactive media correspond more easily with logic. Both are speaking in a discourse of 'eternal' tense. Interactive media may be ranked in four categories according to levels of possible interaction:

+ browsing + consultation + games + hypothesis Testing

Dialogue is not a learning mode in its own right – unless we follow a Socratic model – but an option to combine with any dissemination of information. Both didactic and narrated presentations as well as interactive materials may be integrated with dialogue – especially on the synchronous level, but through telematics also at the asynchronous level.

I have just try to give few information regarding the multimedia and its technology how to use in the field of education.

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