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Multimedia and ICT Skills of Contemporary Teachers

Pinkal R. Chaudhary * & Dr. Anjali Khirwadkar **

Abstract

This is an era of technology and Innovation. Lots of Practices are going on in the form of Innovation in schools and different educational organizations. Information and Communication has opened a new door to stay connected outside classroom. With the help of ICT, virtual classroom, Video Conference, E-learning, Internet etc. became possible. This has extended learning beyond imagination. Teachers can use ICT to deliver their lessons more effectively by using different media like Audio, Video, Animation, Picture etc. Students at adolescent age are influenced by network television, computer games, and Internet. Now it became necessary that teachers should also be equipped with ICT skills.

Introduction:

Education is a socially oriented activity and it develops all kind of skills among person.In order to meet the growing demand for higher education, Information and Communication Technology (ICT) be explored in the form of technology enhanced programmes. With the world moving rapidly into digital media and information, the role of ICT has become important and this importance will continue to grow in the knowledge and technology based society. Many Governing bodies like National Knowledge Commission (2009), National Curriculum Framework (2005), UNESCO (2002) has highlighted Importance of ICT in Education and given emphasis on the mechanism for feedback and subsequent interaction between teachers and the student, especially for pedagogical techniques that are new or require more continuous innovation from the teacher. This indicates the shift in emphasis on ICT in teaching learning and imparting instructions in education, and organizing various learning experiences. For this, it is essential to have motivated and well trained teachers. Thus, well trained and skilled teachers will be able to give quality education to the learner by exploiting ICTs and existing constraints within education system may be overcome.

ICT in Teacher Education

With the spread of ICT, there is a growing demand for it in teacher education. The National Policy on Education 1986, as modified in 1992, stressed upon employing educational technology to

ii. Online Resources:
These skills enable Teachers to engage students with the help of email, web Portal, Web 2.0 Tools, and Social Networking in more authentic learning tasks. This is achieved by creating a public forum for student expressions; building critical thinking into the culture of classroom routines; and using rich resources to augment core course content.

iii. Student Learning:
This skill is essential for teachers to develop ownership of learning in Student through progressive and developing integration of course goals with students' understanding. Teacher can develop Educational Site of Classroom and invite students to share their ideas and belief to express themselves. Learning as per students' own time and Pace, effective use of Multimedia representation of the subject content may lead to lifelong learning.

iv. Digital Citizenship:
Such Skill is important to develop critical thinking, reflection and, when required, informed action among Students rather than Teaching. Teachers can develop ICT integrated Lesson Plan for the enhancement of the effectiveness of the teaching. Online collaboration with the help of Internet may lead to Digital Citizenship.

v. Professional Learning:
This skill encompasses:
- Communication and collaboration
- Motivation and learner expectations
- Interactivity
- Knowledge creation and management
- Critical, creative and reflective thinking
- Local and global networks
- Problem solving
- Negotiation and risk-taking
- Assessment.

ICT skills that could be enhanced among teachers for technology driven education for the present study are:

1) Skill of Accessing: Take advantage of Internet and Intranet and locating useful information for the development of lesson plans.

2) Skills of Integration of Technology: Integrating application of technology/ software in the teaching learning process.

3) Skills of Technology Choice: Evaluating and selecting appropriate software for a particular subject and as per student needs.

4) Skills of Creativity enrichment: Generating printed documents like student assignments, newsletters, communication, etc. utilizing a variety of applications Educational software.

5) Skills of Information Management: Managing student data; using data management tools for efficiently managing learning. Using technology to gather, organizes, and report information about student performance like Excel and Access for database management.

6) Skills of Media Design: Developing tools to evaluate technology-based student projects including multi-media, word processing, database, spreadsheet, PowerPoint, and Internet/telecommunications.

7) Skills of Communication and Collaboration: Using the Internet to support professional development including locating professional organizations, communicating with other teachers electronically, and participating in on-line Collaboration.

8) Skills of Creative and Critical Thinking: Developing assignments and project work for students; giving them broader and deeper knowledge in a field of study; developing critical thinking and infusing creativity among students.

9) Skills of Techno-Pedagogy: Integration of technology into real time teaching. Practicability of the technology is enhanced.

10) Skills of Creating Web enhanced Learning Environment: Learning

environment for teaching with the help of technology developed. Online collaboration, Virtual learning, Blended learning is possible. Web 2.0 tools are integrated into teaching learning. For the collaboration, Professional Development, Discussion, Sharing Web 2.0 Tools can be used.

As these are 21st century skills that the teacher must possess in the technologically driven world to meet the requirement of teaching-learning. Multimedia as a Self learning can be effectively used for the enhancement of ICT skills.

Multimedia and Educational Context

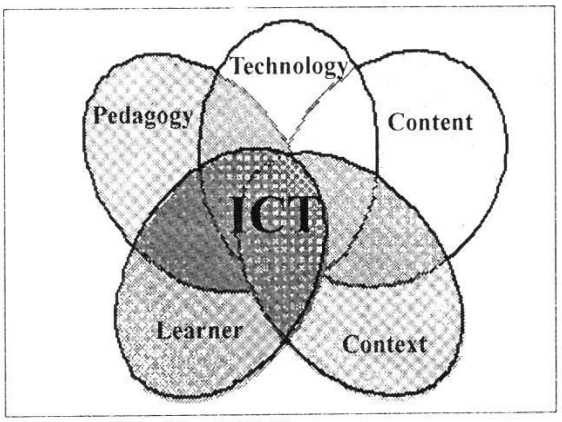
Multimedia are the set of information technologies that satisfy the growing demand of end users for richer interactive experiences (*Hong et al.*, 2003), which is a judicious mix of five basic types of media into the learning environment: text, video, sound, graphics and animation or it may mean the development of computer-based hardware and Software packages produced on a mass scale and yet allow individualized use, all of which are organized into some coherent program" (*Phillips*1998,*Fenrich* 2005 *Asthana* 2012). Multimedia provides a range of resources for education, including encyclopedias, instructional aids, interactive tutorials, reference books, reference works and teaching material. *Gayeski* (1993) defined multimedia as "Classroom of Computer driven interactive Computer system which create, store, transmit, retrieved textual information." *Tannenbaun* (2000) suggest that for a presentation to be truly considered as multimedia; it must enable the user to interact with the material and influence the course of presentation. According to *Padhiyar* (2010), multimedia can be delivered in three ways:

1. Website on Internet: In which Developed Multimedia material upload on Educational Website. Learner views the learning multimedia material and Interaction taking place on the website only. For such type of delivery mechanism Institute or learner should have Compatible Computer system with internet connection.

2. CD ROM Based: In which multimedia package is provided in the form of CD-ROM, Floppy, External Drive etc. CD is provided to the learner and they view and study material as per their time and pace. It does not require internet but require Compatible Computer with CD ROM.

3. Blended delivery Strategy: In which Multimedia can be delivered in Blended form, means modules in the form of Printed material is given to the learners along with CD of developed learning material. Interaction takes place face to face or through Website on internet.

Figure 2:
The ICT enhanced teacher Development Model



(Source: Engida, 2011)

Engida (2011) identified five areas of knowledge in Integration of ICT in teaching learning namely: content, pedagogy, Context, Learner and technology. Good teaching is not simply adding technology to the existing teaching and content domain. Rather, the introduction of technology causes the representation of new concepts and requires developing sensitivity to the dynamic, transactional relationship between all five components, which is

diagrammatically presented in the following figure 2. Teachers should be trained to handle various learning situations using /exploring ICT.

Conclusion:

Multimedia can provide experiences to the teachers that help to effectively infuse technology into their future classrooms. It would teachers to plan and implement ICT integrated learning experiences or creating learning environment for lifelong learning. Developing ICT skills among Teacher is very essential to cope up with 21st Century challenges.

REFERENCES

Asthana, A. (2012). *Multimedia in Education - Introduction, The Elements of Educational Requirements, Classroom Architecture and Resources, Concerns.* Retrieved on June 15, 2012, fromhttp://encyclopedia.jrank.org/articles/pages/6821/Multimedia-in-Education.html

Engida, T. (2011).*ICT-enhanced Teacher Development Model.* UNESCO-IICBA.

Federation of Indian Chambers of Commerce and Industry. (2009). *Making the Indian Higher Education Future ready.* Kolkata: Ernst & Young Pvt. Ltd.

Fenrich, P. (2005). *Creating Instructional Multimedia Solutions: Practical Guidelines for the Real World.* California: Informing Science Press.

Gayeski, D. M. (1993).*Multimedia for learning: Development, application, evaluation.* Englewood, N.J.: Educational Technology Publications.

Hong, M., Wu, M., & Hsieh, C. (2003). The application of multimedia in e-learning: Taiwan's experience. In Takashi Tajima (Ed.).*Multimedia and e-Learning: A New Direction for Productivity Promotion and Enhancement.* (pp. 42-51). China: Asian Productivity Organization.

March, T. (2009). *Digital Teaching Skill.* Retrieved from tommarch.com/strategies/skills-checklist/

Ministry of Human Resource Development.(2011). *National Policy on Information and Communication Technology (ICT) In School Education.* New Delhi: Govt. of India.

Ministry of Human Resource Development.(1986). *National Policy on Education.* New Delhi: Govt. of India.

National Curriculum Framework for Teacher Education. (2009). *National Curriculum Framework for Teacher Education: Towards Preparing Professional and Humane Teacher.* Delhi: NCTE.

National Curriculum Framework.(2005). *National Curriculum Framework 2005.* New Delhi: National Council of Educational Research and Training.

National Knowledge Commission. (2009). *National Knowledge Commission Report to the Nation 2006 - 2009.* New Delhi: New Concept Information Systems Pvt. Ltd.

Padhiyar, A. (2010). *Multimedia Introduction and Types.* Retrieved from http://bcahub.com/ ty-bca/multimedia/multimedia-introduction-and-types/.

Phillips, R. (1998). Models of Learning appropriate to education applications of information technology. In Black, B. and Stanley, N. (Eds.), *Teaching and learning in changing Times.* (pp. 264-268).

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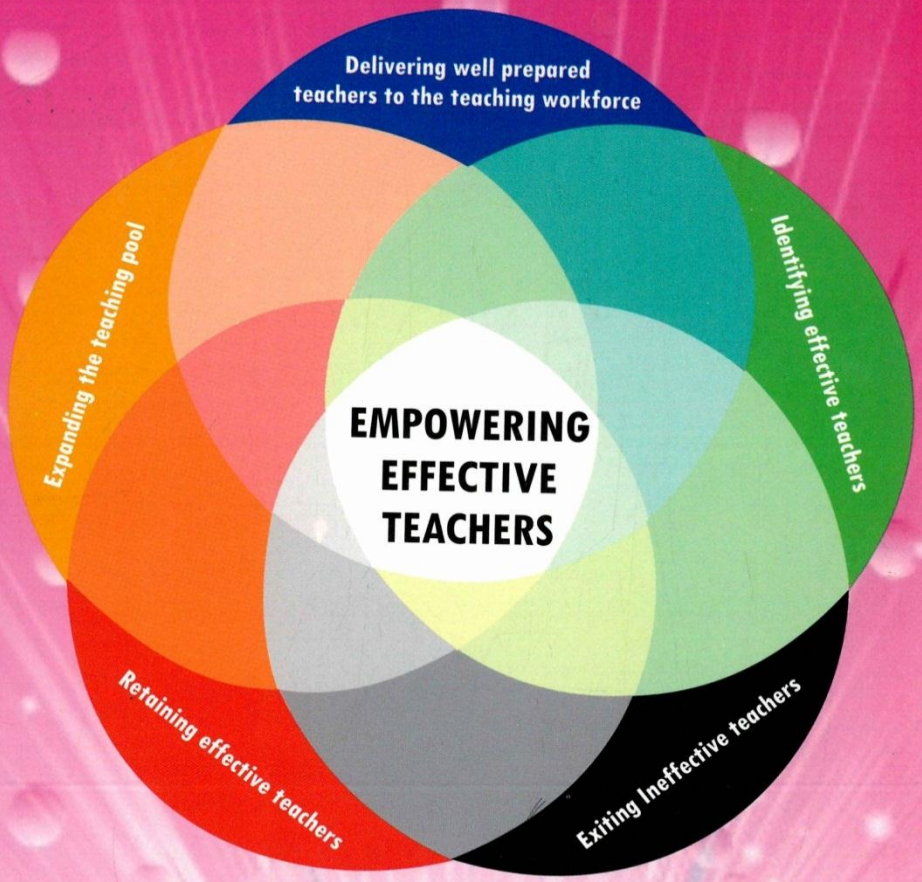
Quality Improvement in Teacher Education



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MULTIMEDIA BASED INFORMATION AND COMMUNICATION TECHNOLOGY INTEGRATION IN TEACHER EDUCATION

Pinkal Chaudhari

Dr. Anjali Khirwadkar

INTRODUCTION:

For learner centered education, it is necessary to select and use appropriate teaching strategies and innovations because they play significant role in increasing the effectiveness and quality of teaching learning process. World is moving rapidly towards Techno world. This revolution needs some innovation in the field of Education. Teacher Education deals with the development of teaching competencies which is required to teach/understand Students/learners. In this Technology driven Era, students are influenced by network television, computer games, Internet etc. By adopting some innovative practice in teaching learning process, learning becomes more interesting and wholistic. Education becomes EDUTAINMENT with the help of Multimedia where learning with entertainment is possible.

Learning software or "courseware" which includes animation, video, and audio does help student for effective learning. Multimedia Courseware can provideneeded experiences tostudent teachers prior to entering technology enrich classrooms and give them a common frame of reference from which discuss remedies for problems with the help of Technology. ICT course is not only solution of use ICT in education but Practical exposure of ICT course integrated with Multimedia is the perfect choice, because students could see situations that they might experience, try out various solutions, and observe the effects of their decisions without ever disrupting

a real classroom. An integral component in courses including Audio, Video, lectures, readings, images and discussions is not intended to present content as much as to provide opportunities for trying out various approaches to classroom discipline.

ICT IN TEACHER EDUCATION:

In light of the increasing acceptance that technology enhanced learningcan contribute significantly to the enhancement of teacher training. As per the principles of Technology Integration on Teacher education given by of the Society forInformation Technology and Teacher Education (SITE, 2002):

1) ***Technology should be infused into the entire teacher training Programmme:*** Throughout their teacher education experience, students should know how to integrate technology in their own teaching. Pre service student teacher should learn about a wide range of educational technologies from courses to student teaching and professional development experiences.

2) ***Technology should be introduced in the context:*** Teaching the pre-service students basic computer literacy-the traditional operating system, word processor or spreadsheet, database, and Telecommunication topics is not enough. As with any profession, there is a level of literacy beyond general computer literacy. This more specific or professional literacy involves learning to use technology to foster the educational growth of the student.

3) ***Students should experience innovative technology-supported learning environments in their teacher education programme:*** Technology can be used to support traditional forms of learning as well as to transform learning. Using multimedia cases to teach topics that have previously been addressed through lectures has increased the interest of the students in learning.

In the context of ICT usage in teaching learning, teachers become often moderator for student activities promoting team work,promoting project work and independent learning and acting as a resource facilitator mediating collaborative learning. According to Unwin (2002), there are two ways of using ICT in teacher training: teacher education in ICT; and teacher education through ICT.

1) ***Teacher education in ICTs:*** To most obvious technique for professional development for teachers is to provide course in basic ICTs knowledge and skills. It is necessary for teachers to become the skilled

in operating the new technologies and in exploiting them effectively as educational tools. Teachers must master the use of information skills of research, critical thinking, linking diverse types and source of information, reformulating retrieved data. If they are to teach their students to develop these some skills,there needs to be more emphasize on training on pedagogy. There must be adequately equipped with more didactic competencies so as to assume their new role as experts in the learning process.

2) ***Teacher education through ICTs:*** ICTs can support effective professional development of teachers using ICTs as tools for training of teachers is an important as introducing basics of ICTs to the prospective teachers. As sources of information and expertise as well as tools for distance communication, ICTs can offer many new possibilities for teacher education. Teachers may through the regular use of these technologies. Uses of new media, new rules of communication- even a new language have to be learned.

Different recommendations showing in Figure 1 in form of Flow chart, suggested to integrate Technology into curriculum and at Pre service level produce Techno savvy Teacher to teach Students of 21st century and it also highlighted to adopt ICT to generate knowledge among Students.

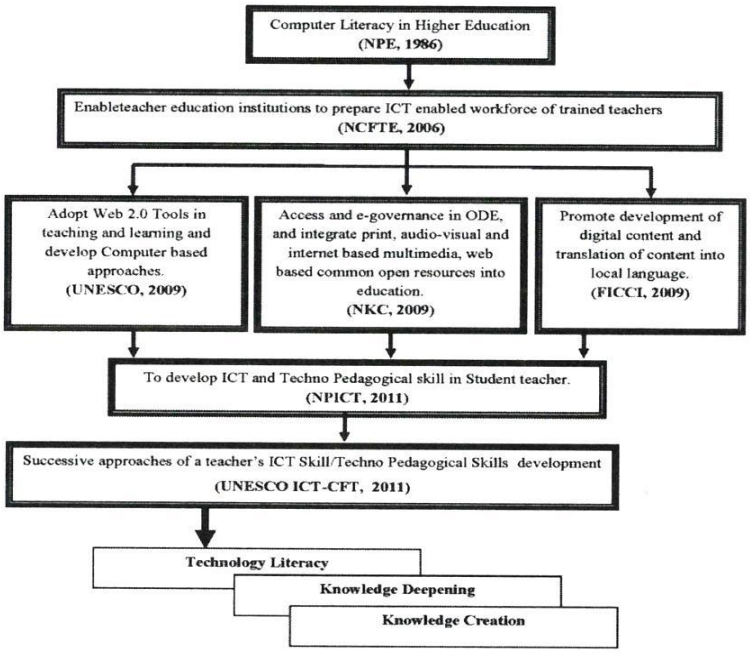


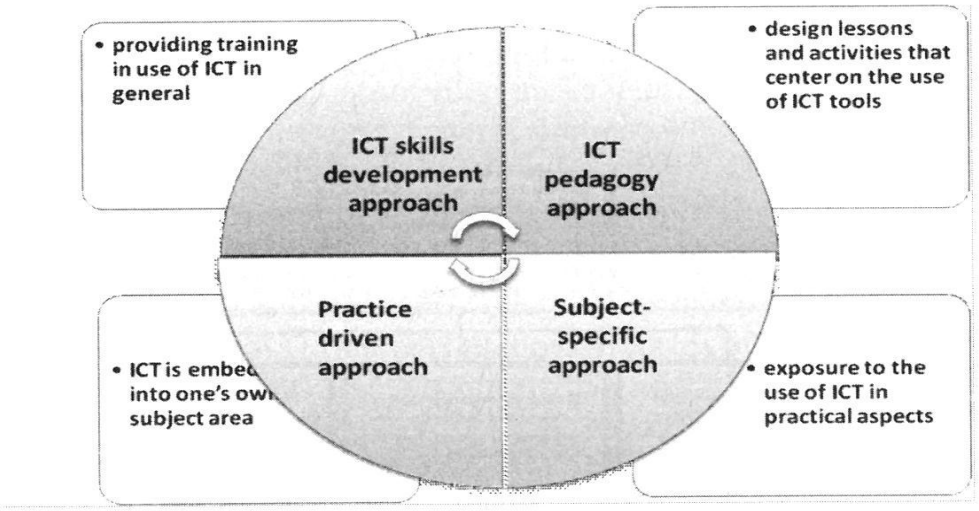
Figure 1: Evolution of Recommendation in context of ICT

Information and Communication Technology enabled education and training world not only be cost effective but also make education effective and efficient while offering mass customization of learning, and rendering continuous support. There are various approaches for harnessing potential of ICT for teaching and training.

Today's students are comfortable using technology to find and build knowledge, and no longer view a teacher as the primary source of information.There is variety of approaches to professional development of teachers in the context of used of ICT in education.

APPROACHES TO ICT INTEGRATION IN TEACHER EDUCATION:

Use of ICT within teacher training programs around the world is being approached in a number of different ways with varying degrees of success. These approaches was identified under four approaches namely: 1) ICT Skills development approach; 2) ICT Pedagogy approach; 3) Practice driven approach and 4) Subject specific approach by Koehler and Mishra (2005), that is diagrammatically presented in the following Figure 2:



(Source: Koehler and Mishra, 2005)

Figure 2: Different ICT integrated Approaches

1. ***ICT skills development approach:*** Here importance is given to providing training in use of ICT in general. Student teachers are expected to be skilled users of ICT for their daily activities. Knowledge about various software, hardware and their use in educational process is provided.

2. ***ICT pedagogy approach*:** Emphasis is on integrating ICT skills in a respective subject. Drawing on the principles of constructivism, pre-service teachers design lessons and activities that center on the use of ICT tools that will foster the attainment of learning outcomes. This approach is useful to the extent that the skills enhance ICT literacy skills and the underlying pedagogy allows students to further develop and maintain these skills in the context of designing classroom-based resources.

3. ***Subject-specific approach*:** Here ICT is embedded into one's own subject area. By this method, teachers/subject experts are not only exposing students to new and innovative ways of learning but are providing them with a practical understanding of what learning and teaching with ICT looks and feels like. In this way, ICT is not an 'add on' but an integral tool that is accessed by teachers and students across a wide range of the curricula.

4. ***Practice driven approach:***Here emphasis is on providing exposure to the use of ICT in practical aspects of teacher training. Focus is on developing lessons and assignments. Using ICT and implementing it in their work experience at various levels provides students an opportunity to assess the facilities available at their school and effectively use their own skills.

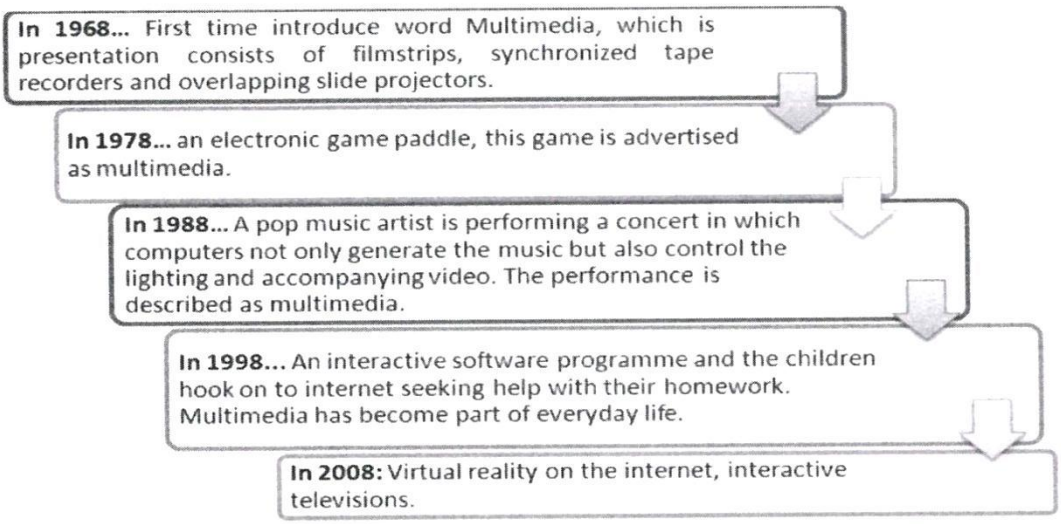
Every approach has its own advantages and Limitationsbut all these approaches lead to a common goal of developing knowledge about ICT and related among Student teachers. Technology has further provided scope to view curriculum, from Multiple Intelligence perspective by providing many ways of learning which are not there in traditional ways. Multimedia design projects are effective way to develop student higher order thinking skills for example web Quest are popular as they help student focus on actually using information, not just acquiring it and student must then analyze, synthesize and evaluate the information.

With the realization of importance of ICT in Teacher education,we need to adopt approach to teach withtechnology, and in this regard Multimedia based ICT approach is most appropriate to integrate ICT in Teacher Education.

MULTIMEDIA:

In the last two decades, due to the advent of computer technologies, information delivery has got new meaning. Development, access, and transfer of text, sound, and video data have given a unique face to classrooms, libraries, and training and resource centers, in the form of

interactive multimedia programs (Mishra and Sharma, 2005). Multimedia are a set of information technologies that satisfy thegrowing demand of end users for richer interactive experiences. (Hong et al., 2003), which is a judicious mix of various mass media such as print, audio and video or it may mean the development of computer-based hardware and software packages produced on a mass scale and yet allow individualized use and learning (Fenrich, 2005). Multimedia combines five basic types of media into the learning environment: text, video, sound, graphics and animation, thus providing a powerful new tool for education. (Asthana, 2002), all of which are organized into some coherent program" (Phillips,1997).



(Resource: Pant, 1998)

Figure 3 Evolution of Multimedia

As indicated in figure 3, people heard Multimedia word first time in 1968 and after that an electronic game paddle was introduced in the form of Multimedia. In 1988, computer generated music and accompanying video, was described as multimedia. An interactive software programme was introduced in the form of multimedia and become part of everyday life and now world take advantage of internet in form of Virtual reality.

Multimedia can provide an enhanced and augmented learning experience and it can provide long term benefit to all. In essence, multimedia merges multiple levels of learning into an educational tool that allows for diversity in curricula presentation.Multimedia enables learning through exploration, discovery and experience. With multiple, the process of learning can become more goal oriented, more participatory, flexible in time and space, unaffected by distances and tailored to individual learning styles and increase collaboration between teachers and students.

MULTIMEDIA AT THE EDUCATIONAL CONTEXT:

Gayeski (1993) defined multimedia as a "Classroom of computer driven interactive computer system which create, store, transmit, retrieved texual information." Tannenbaun suggest thatfor apresentation to be truly considered multimedia; it must enable the user to interact with the material and influence the course of the presentation. A number of factors inhibit the realization of the potential of multimedia. Multimedia provides a range of resources for education, including encyclopedias, instructional aids, interactive tutorials, reference works and teaching material. According to Chung(1999), commercially produced educational software attempts to be informative as well as entertaining.

According to Sidhu and Ramesh (2006), all students are not understand or gain knowledge in the subject matter if there are a large number of students taking common subject. As such condition some students, particularly weak learners would require alternative learning aids such as multimedia package to aid them in their learning.Our sensory organs have conjunction with our brain, from sensory organs like our eyes and ears transformation of meaningful data into information. he old saying that *"a picture is worth a thousand words"* often understates the case especially with regard to moving images, as our eyes are highly adapted by evolution to detecting and interpreting movement.

Tannenbaun (2000) suggest that for a presentation to be truly considered as multimedia;it must enable the user to interact with the material and influence the course of presentation.According to Padhiyar (2010), multimedia can be delivered in three ways: firstWebsite on Internet. Second one is CD ROM Based and third is Blended delivery Strategy in which Multimedia can be delivered in Blended form.Engida (2011) identified five areas of knowledge in Integration of ICT in teachinglearning namely: content, pedagogy, Context, Learner and technology. Good teachingis not simply adding technology to the existing teaching and content domain. Rather,the introduction of technology causes the representation of new concepts and requiresdeveloping sensitivity to the dynamic, transactional relationship between all fivecomponents.

PRESENT SCENARIO OF MULTIMEDIA BASED ICT AT GLOBALAND INDIAN PERSPECTIVE:

Information and technology (ITs) is very useful for the globalization and integration of different subjects. Information and Communication has opened a new door to stay connected outside Classroom. It extended learning beyond imagination. With the help of ICT, virtual classroom,

Video Conference, E learning, Internet collaboration is possible. Teacher can use Information and Communication Technology to deliver his/her Lesson more effectively by using different media like Audio, Video, Animation, Picture etc. Several Committees and Commissions like NPE (1986), National Policy on Information and Communication Technology (ICT) in School Education (2011), NCTE (2006), UNESCO (2002, 2009), UNESCO ICT-CFT (2011), NKC (2009), FICCI (2009) have also recommended the use of ICT in education.

Advent Technology is already rooted in the western developed countries. Different research already proved that Multimedia based Information and Communication technology was Effective from School Education to Teacher Education. According to George (2011), Multimedia package was effective to develop Environmental Awareness among Student teachers at Secondary level.Many Studies related to use of Multimedia Packages in Subjects content like Discovery Education, Environment Awareness, Bio Science, Optimisation Applications which were found to be effective in learning concept (Richard (2011), Beder (2001), George (2011), Sankey and Nooriafshar (2005), Booth and Henderson-Begg (2011)).

Self-regulated learning with hypermedia and e-Learning instructional material presented with animation of Macromedia Flash was also found effective (Moos (2010), Sun and Cheng (2007)).Neo and Neo (2001)were assessed students' skills in framing and solving problems using multimedia technologies.Anbarasan (2003) explored the capacity of software such as MS Office, Startoffice etc. available for desktop for developing educational software with multimedia capacity.

In Indian Context, Multimedia package was found effective for student teachers of Computer Education and Educational Technology (Patil (2006), Shikare (2007)).Chaudhary and Sharma (2011) studied Teacher Professional development through ICT Training.

After reviewing research on ICT and Multimedia, use of multimedia in teaching learning process is well advanced and highly successful in Developed country like USA, UK, China, Malaysia, while many studies revealed that lack of Infrastructural facilities is create obstracle for development and implementation of Multimedia in teaching learning process in context of developing counries and Poor country. During the implementation of Multimedia based Information and Communication Technology, factors like Belief, relatedness, Personal Values, motivational factors in context of Teacher is very essential while development and implementation of Multimedia based teaching at Pre Service teachers.

(Toth (2002), Thomas (2008), William et al. (2009)).Use of multimedia in teaching learning process is successful in Indian context, so More scope of using of Multimedia in Indian Context.

THE CHANGING ROLE OF THE TEACHER DUE TO MULTIMEDIA BASED ICT:

In order to be effective multimedia design needs to shift the focus away from the teachers and onto the learner. Role of teacher has shifted from that of transmission of knowledge to that co-learner and facilitator. According to Furneaux (2004) Teacher is become facilitator of learning. Teaching involves some short of intervention by a person into the learning process of the students in an attempt to facilitate the students' acquisition of important skills and content." Role of teacher is to help student development skills in order to determine how to find, analyse, understand and apply information.

The main element of shift and notes that the role of teaching in multimedia learning. Multimedia learning often includes notions of increasing the quality of learning-resulting in the intellectual development of students so that they take control of their own learning. According to Sidhu and Ramesh (2006), Multimedia has ability to take users into environments otherwise in accessibility by conventional methods, create a dynamic and interactive atmosphere for learning, the high memory retention of experience and the ability to reach out to visually oriented learner. In this respect, using the text only, even in a creative way, has obvious limitations as compared to the use of both text and pictures. Benefits of Multimedia based ICT to Learners according to Reddi (2003) are listed below:

BENEFITS TO LEARNERS:

- Work at own pace and control their learning path
- Learn from an infinitely patient tutor
- Actively pursue learning and receive feedback
- Drill and practice to master basic skills
- The development of writing skill
- Problem solving
- Acquisition of computer skills for general purposes, and for business and vocational training
- Individualized and cooperative learning

Besides student use, teachers should find multimedia of great use in

delivering their lessons. For example, a Science teacher could use a multimedia CD to create a lecture related to topic by using film clippings and audio tapes on particular topics and incorporate other audio visual information with text to make the subject come alive.

Teachers might use a multimedia CD to prepare or to update information or to teach and also add insight to his/her teaching. The uses of multimedia need not beseen as a tool for classrooms only. Simulated learning can take the place of actual hands on training by using all the features of interactive multimedia. Training can thus take place individually at the learner's pace and on his/her own time.

BENEFITS TO TEACHERS :

- Allows for creative work
- Saves time for more challenging topics
- Replaces ineffective learning activities
- Increases student contact time for discussion.
- Simulation in Subject
- Understanding abstract of the subject
- Access and communication to understand
- Access for teachers and students in remote locations
- Management and administration of classroom activities

With the use of Multimedia courseware, the application looks better. In short the inclusion of nontextual media into courseware adds pedagogical value to the application. If the Multimedia includes a few images have little pedagogical values, it gives relief from screens of text. For example, a courseware describing a application of ICT would be more valuable to the student, if it included images and videos of its application, such as mass communication, Better visualization, Portability, easy and affordable access etc.

Multimedia requires good computers with good operating system. Sound, images, animation, and video, constitute large amounts of data, which requires enough space in the compute and compatible operating system. It may not be accessible to a large section of its intended users if they do not have access to multimedia-capable machines. While proponents of this new technology are very enthusiastic about its potential, they often leave the financial and technical issues unattended.The prerequisites for using multimedia include to computers with related software, the user must possess a minimum level of computer literacy in order to exploit the capabilities of this medium for learning.

CONCLUSION:

Multimedia based Information and Communication technology can be effective medium of instruction. Teacher should use it as assistance to teach. Many concepts can be teach effectively with the help of Multimedia based ICT and inclusion of different media into teaching learning has promote lifelong learning. It is beneficial to students and learners also but teacher should taking care of feasibility aspect. Multimedia based ICT should be context specific and it should take care of needs of the learners. We must address some of the identified barriers alongside the instructor, textbook and blackboard before multimedia, or for that matter, any media technology becomesas accepted as the printed text.Overall it is not the technology that is issue, but rather Societal, Social, organizational and legal issues which exhibit the implementation of multimedia in Teacher education.

REFERENCES:

Anbarasan, N. (2003). Developing Educational Software within Application Software.Presented In: SIXTH TAMIL INTERNET 2003 CONFERENCE.Retrieved on September 12, 2003, from .

Asthana, A. (2012). Multimedia in Education - Introduction, The Elements of Educational Requirements, Classroom Architecture and Resources, Concerns. Retrieved on June 15, 2012, from http:// encyclopedia.jrank.org/articles /pages/6821/Multimedia-in-Education.html

Beaudin, L., &Hadden, C. (2005).Technology and Pedagogy: Building Techno-Pedagogical Skills in Preservice Teachers. Innovate, 2 (2). From http://www. innovateonline.info

Beder, S. (2001).Environmental Context: A CDRom Based Multimedia Educational Pack. Retrieved on July, 2012, from http://herinst. org/sbeder/ home.html #resources

Booth, P., & Henderson-Begg, S. (2011). A comparison between Flash and Second Life programmes as aids in the learning of basic laboratory procedures. Journal of Interactive Learning Research, 22(3), 445-465.

Chaudhary, P., & Sharma, S. (2011). Teacher Professional Development through ICT training. Proceeding of the Research in Education, CASE, Vadodara.

Chung, U. (1999). A Low-Cost Approach to Do-It-Yourself Multimedia Courseware Development. Retrieved on August 30, 1999, from http://www.uic.edu/depts/accc/newsletter/adn06/lowcost.html

Federation of Indian Chambers of Commerce and Industry. (2009). Making the Indian Higher Education Future ready. Kolkata: Ernst & Young Pvt. Ltd.

Fenrich, P. (2005). Creating Instructional Multimedia Solutions: Practical Guidelines for the Real World.California: Informing Science Press.

Furneaux, C. (2004). The potential and constraints of multimedia in university settings.5 Jan, 2011, from eprints.qut.edu.au/796/

Gayeski, D. M. (1993).Multimedia for learning: Development, application, evaluation. Englewood, N.J.: Educational Technology Publications.

George, R. (2011). Multimedia Information Package in Developing Environmental Awareness among Student Teachers at Secondary Level.Retrieved on February 16, 2011, from http://rachelgeorge5.blogspot.in/2011/02/multimedia-information-package-in.html.

Hong, M., Wu, M., & Hsieh, C. (2003). The application of multimedia in e-learning: Taiwan's experience. In Takashi Tajima (Ed.).Multimedia and e-Learning: A New Direction for Productivity Promotion and Enhancement. (pp. 42-51). China: Asian Productivity Organization.

Koehler, M. J., & Mishra, P. (2005). What Happens When Teachers Design Educational Technology? The Development of Technological Pedagogical Content Knowledge, J. Educational Computing Research, 32(2) 131-152.

Ministry of Human Resource Development.(2011). National Policy on Information and Communication Technology (ICT) In School Education. New Delhi: Govt. of India.

Ministry of Human Resource Development.(1986). National Policy on Education. New Delhi: Govt. of India.

Mishra, S. & Sharma, R. C. (2005).Interactive Multimedia in Education and Training. London: Idea Group Publishing.

Moos, D. (2010). Self-regulated learning with hypermedia: Too much of a good thing? Journal of Educational Multimedia and Hypermedia, 19(1), 59-77.

National Curriculum Framework for Teacher Education. (2009). National Curriculum Framework for Teacher Education: Towards Preparing Professional and Humane Teacher. Delhi: NCTE.

National Curriculum Framework.(2005). National Curriculum Framework 2005. New Delhi: National Council of Educational Research and Training.

National Knowledge Commission. (2009). National Knowledge Commission Report to the Nation 2006 – 2009. New Delhi: New Concept Information Systems Pvt. Ltd.

NCERT. (2006). National Focus Group on Teaching of Science. New Delhi: NCERT.

Neo, M., & Neo, T. K. (2001). Innovative teaching: Using multimedia in a problem-based learning environment. Educational Technology & Society, 4 (4).

Padhiyar, A. (2010). Multimedia Introduction and Types.Retrieved from http://bcahub.com/ ty-bca/multimedia/multimedia-introduction-and-types/

Pant, A. (1998). Methodology of Multimedia Production. Paper presented at the International Conference on Multimedia for Hmanities, The Indira Gandhi National Centre for the Arts (IGNCA), New Delhi, from http://ignca.nic.in/clcnf180.htm

Patil, A. T. (2006). Development of Multimedia Instructional System on Computer Education for B.Ed. Pupil Teachers.In D. R. Goel, ChhayaGoel, R. L. Madhavi (Eds.).Abstracts of Research Studies Conducted by Teacher Education Institutions in India Volume II. The M.S. University of Baroda, Vadodara: CASE.

Phillips, R. (1998). Models of Learning appropriate to education applications of information technology. In Black, B. and Stanley, N. (Eds.), Teaching and learning in changing Times. (pp. 264-268).

Reddi, U. V. (2003). Multimedia as an Educational Tool.In Usha V. Reddi and Sanjaya Mishra.Educational Multimedia: A Handbook for Teacher-Developers. New Delhi: Graphic Shield.

Richard, M. S. (2011). Measuring the impact of multimedia on student achievement in the area of science education.Unpublished Ph. D. Thesis.Wingate University, United States.

Roach, R. (2004).Technology: Riding the Waves of Change.Retrieved on June 17, 2004, from http://diverseeducation.com/article/3767/.

Sankey, M., & Nooriafshar, M. (2005) Multiple representations in multimedia and e-learning materials: an issue of literacy. In Son,

Jeong-Bae and O'Neill, Shirley, (eds.) Enhancing learning and teaching: pedagogy, technology and language. (pp. 149-172). Flaxton, Australia: Post Pressed.

Shikhare, V. P. (2007). Development of Multimedia Instructional System on Educational Technology for B.Ed. Pupil Teachers.In D.R. Goel, Chhaya Goel, and R. L. Madhavi (Eds.).Abstracts of Research Studies Conducted by Teacher Education Institutions in India Volume II.The M. S. University of Baroda, Vadodara: CASE.

Sidhu, S. M., & Ramesh, S. (2006). Multimedia Learning Packages: Design Issues and Implementation Problems. Malaysian Online Journal of Instructional Technology (MOJIT), 3(1), 43-56.

Society for Information Technology and Teacher education.(2002). Statement of Basic Principles and Suggested Actions.Retrieved on August 10, 2012, from http://site.aace.org/position-paper.html.

Sun, P. and Cheng, H. K. (2007) The design of instructional multimedia in e-Learning: A Media Richness Theory-based approach. Computers & Education, 49(3): 662-676.

Tannenbaum, R. S. (2000). Theoretical foundations of multimedia.The ACM DigitalLibrary Doi:10.1145/347634.347643.

Thomas, C. N. (2008). A Comparison of Three Instructional Methods—Teacher- Directed Lecture- and Text-Based Instruction, Analog Video Instruction, and Multimedia Anchored Instruction—on the Knowledge, Beliefs, and Skills of Preservice Teachers. Unpublished Ph. D. Thesis.University of Texas, Austin.

Toth, K. T. (2002). Teacher motivation and the use of Computer-based Interactive Multimedia.Unpublished Ph. D. Thesis.University of Tennessee, Knoxville.

United Nations Educational, Scientific and Cultural Organization.(2011). UNESCO ICT Competency Framework for Teachers.UNESCO.

Unwin, T. (2004). Towards a framework for the use of ICT in Teacher Training in Africa.Retrieved on October 29, 2004, from www.gg. rhul.ac.uk/ict4d/ict%20tt%20africa.pdf.

Williams, M. K., Foulger, T. S., & Wetzel, K. (2009).Preparing Preservice Teachers for 21st Century Classrooms: Transforming Attitudes and Behaviors about Innovative Technology. Journal of Technology and Teacher Education, 17(3), 393-418.