CHAPTER I

INTRODUCTION

1.1 INTRODUCTION

In the age of knowledge explosion ICT has taken predominant position. ICT has a great capacity which overcomes old barriers in the way of transforming new knowledge to the masses. The great change has been brought by the ICT in the teaching-learning on the various stages of education. Teacher can use technology in the classroom for the teaching, to collect the resources for the teaching, to get update knowledge etc.

For the effective transaction of the content, teacher should have knowledge of the advancements in the field of technology. Teacher should be able to use technology effectively .With the help of technology teachers have got opportunity to improve their quality. Use of internet, intranet, blogs, wikis, and conferencing make teachers to disseminate information in a more effective manner in comparison than to the traditional classroom teaching. New technologies are being developed at a fast pace with the potential of use in all learning and teaching situations. Process is already in progress of these ICT innovations in teaching and getting better learning outcomes. In the area of ICT concepts like M-learning are also emerging which will definitely help to take education in the remote areas.

Teacher education plays vital role in this process as prospective teachers should be ICT enabled because with the help of these teachers we are dreamt 'India Superpower 2020'Teacher can brought desired change in the future generations

Present research is an attempt to study the awareness about the use of ICT among prospective teachers and to develop ICT skills according to their needs.

1.1.1 ICT AND TEACHER EDUCATION –

The teaching profession is becoming one of the most challenging professions in our society where knowledge is expanding rapidly and much of it is available to students as well as teachers at the same time. As new concepts of learning have evolved, teachers are expected to facilitate learning and make it meaningful to individual learners rather than just to provide knowledge and skills. Modern developments of innovative technologies have provided new possibilities to teaching professions, but at the same time have placed more demands on teachers to learn how to use these new technologies in their teaching. These challenges ask teachers to continuously retrain themselves and acquire new knowledge and skills while maintaining their jobs.

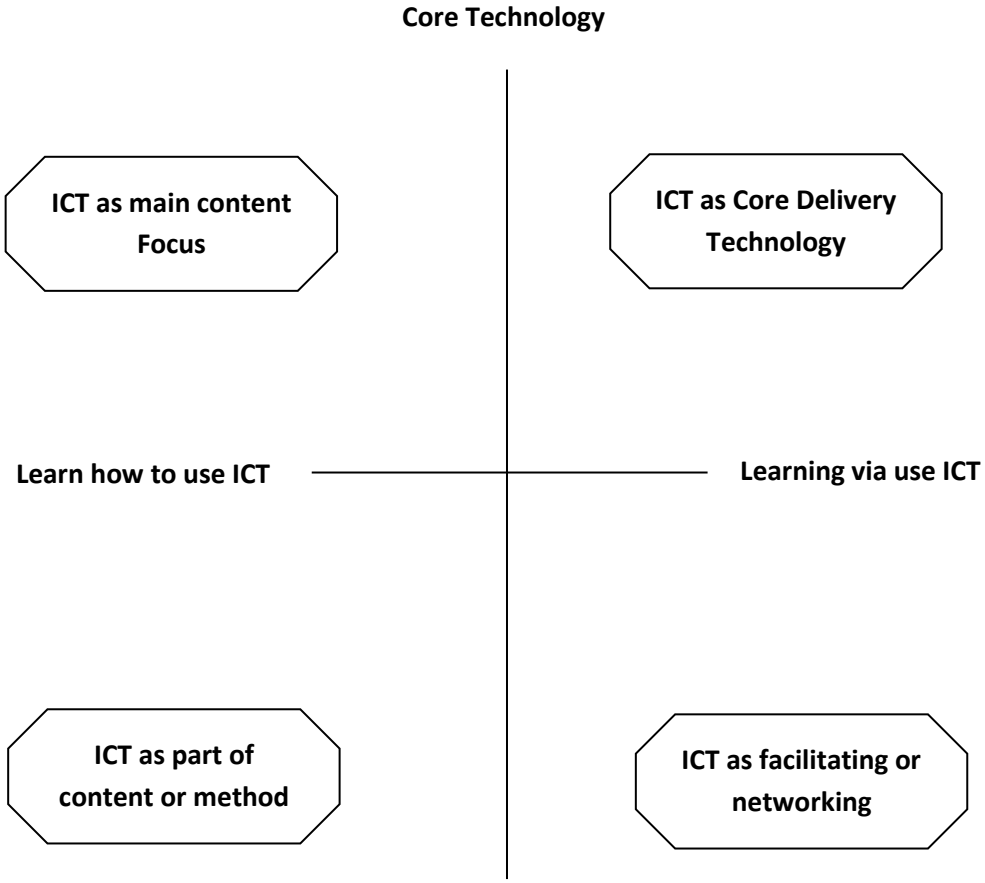
Today, a variety of Information and communication technology (ICTs) can facilitate not only delivery of instruction, but also learning process itself. Moreover, ICT can promote international collaboration and networking in education and professional development. There is a range of ICT option from videoconferencing through multimedia delivery to web sites which can be used to meet the challenges teachers face today. In fact, there has been increasing evidence that ICT may be able to provide more flexible and effective ways for lifelong professional development for today's teachers.

Because of rapid development in ICT, especially the Internet, traditional initial teacher training as well as in service continued training institutions worldwide are undergoing a rapid change in the structure and content of their training and delivery methods of their courses. However, combining new technologies with effective pedagogy has become a daunting task for both initial teacher training and in-service training institutions.

Researchers have proved that ICT can change the way teachers teach and that it is especially useful in supporting more student-centered approaches to instruction and in developing the higher order skills and promoting collaborative activities. Recognizing the importance of ICT in teaching and learning, a majority of the countries in the world have provided ICT teacher training in a variety of forms and degrees. Even though many teachers report that they have not had adequate training to prepare themselves to use technology effectively in teaching and learning, there seem to be

several efforts around the world in which countries are effectively using technology to train teachers, and/or are training teachers to use technology as tools for enhancing teaching and learning.

ICT teacher training can take many forms. Teachers can be trained to learn how to use ICT or teachers can be trained via ICT. ICT can be used as a core or a complementary means to the teacher training process.



Categories for ICT in Teacher Training

1.1.2 WORLDWIDE INITIATIVES FOR ICT SKILL DEVELOPMENT –

Most of the early ICT teacher training programs in the 1990's focused on ICT use as the main training content. This approach has an emphasis on teacher training in how to use ICT in the classroom. It addresses issues such as selecting appropriate ICT tools and supporting students in the use of those tools, using ICT to promote learning activities, developing new methods of facilitating learning and evaluating student performance, and so on. One example case from Singapore's initial teacher training is provided below.

A 30-hour ICT foundation course is entitled "Instructional Technology" and covers: "learning, thinking and the effective use of instructional technologies in the classroom; instructional planning models; selecting, creating, evaluating, and integrating instructional technologies and resource materials; promoting creativity and complex thinking through ICT project work activities; and organizing and managing instructional activities with appropriate ICT resources in the classroom." Besides taking these courses, NIE students pursuing a Diploma in Education must have five weeks of practicum during the first year of their pre-service training and ten weeks during the second year. The trainee is expected to use ICT while teaching, depending on the school's ICT infrastructure.

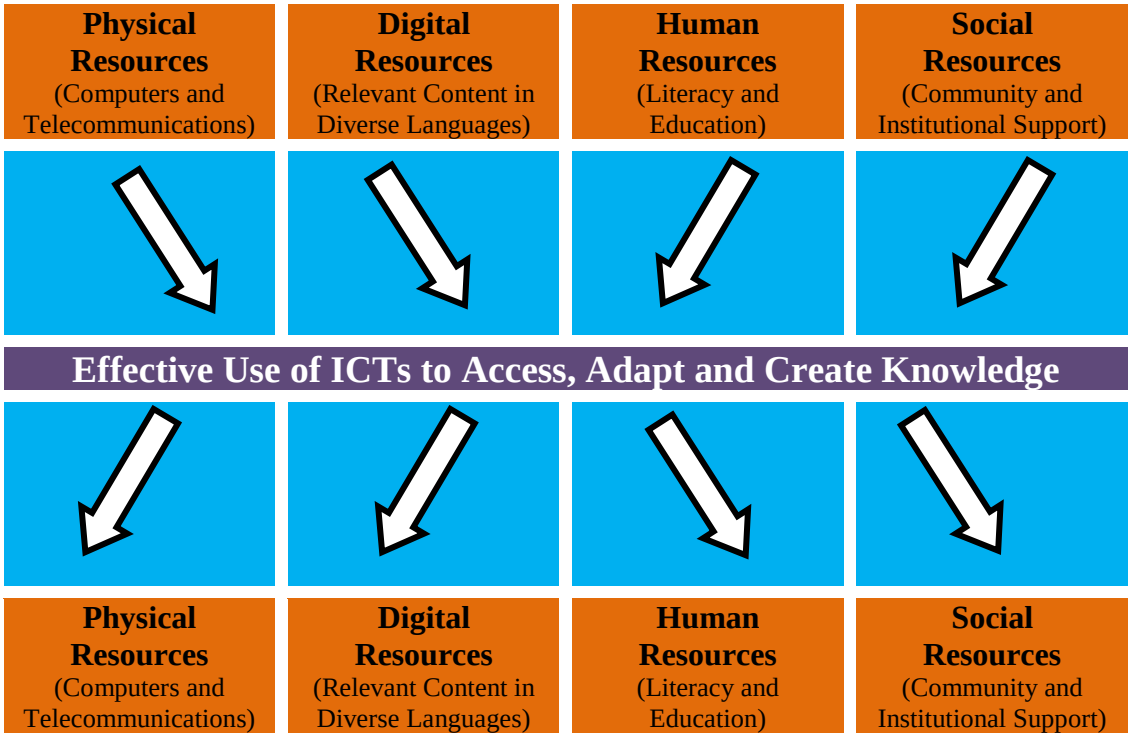
As shown in the NIE's case, this approach of using ICT as the main content focus of teacher training emphasizes the development of basic ICT skills, design and development skills, and pedagogical strategies. However, the basic ICT skill development, rather than the ICT-pedagogical integration, has been the major concern of teacher training. When interviewed about the new teacher training curriculum, student teachers at NIE agreed that the foundation course provided useful pedagogical strategies for the use of ICT in classroom teaching. However, they also reported that the 30 hours of instruction was not enough time to gain proficiency in ICT-pedagogy integration, and some wanted more ICT-pedagogy integration in the practicum.

ICT use as part of teaching methods: This approach integrates ICT into teacher training to facilitate some aspects of training. Two cases below show how a variety of ICT are adopted as part of effective training methods. In these cases, teachers are provided with examples of ICT- pedagogy integration in their training process.

Captured Wisdom is a resource developed by the federally-funded (USA) North Central Technology in Education Consortium for K-12 teachers, school administrators and extended to adult literacy educators. It uses videotape and CD-ROM to help US teachers to see how ICTs Pedagogy in Teacher Education technology can be integrated into their work. The Captured Wisdom CD-ROM Library is made up of stories about teachers who are making meaningful and creative uses of technology in their instruction. These CD-ROMs contain video descriptions and demonstrations of how technology is used in teachers' classrooms. They provide "examples of real educators and learners using successful practices of technology to support instruction and learning in their classrooms." Video sequences are viewed by teachers' focus groups who then discuss the strategies and techniques of classroom management, assessment, etc. In this specific case, teachers learn how to use ICT in their classrooms by actually being engaged in the process of ICT-integrated training. Another example of this approach can be found in the School Administrators' Technology Integration Resource project. It is a bilingual Canadian initiative which provides tools and resources to help school administrators successfully integrate ICT into curriculum in their school. It includes the National Center for Technology Planning clearing house of school district ICT plans, advice on how to provide technology, successful practices in introducing ICT, perspectives on staff development, a beginners' guide to the internet, etc. The focus of this project is not on the basic skill development but on the development of ICT pedagogy integration skills of educators by sharing successful cases and practical ideas. 'UNICEF's Teachers Talking about Learning also illustrates the application of this approach to ICT teacher training. It is designed for international collaboration between teachers in developing countries using the internet and television. It provides access to teacher training materials and useful links and promotes discussions among teachers. All the cases discussed above use ICT as part of training methods and promote teachers' ICT-pedagogy integration in the classroom by demonstrating examples and allowing discussions among teachers throughout the whole training process. Participants of the training are asked to actually use ICT to learn about ICT skills and develop ICT-integrated pedagogies. These training strategies seem to be supported by previous research that argues that teachers are likely to benefit by actively experiencing ICT skills as a learner. ICT as core technology for delivering teacher training: In this approach, ICT is used as the major way of providing the learning experience of

teacher training. The content of this approach does not necessarily focus on ICT skill itself but rather covers a variety of ICT applications. As you will see in the two examples below, the digital technology is frequently becoming the core technology of ICT teacher training.

The case of the Virtual High School in the USA provides an example of the internet-based ICT teacher training. VHS is a non-profit organization that facilitates a collaborative of participating secondary schools; for every semester a participating school offers a VHS Net Course that school can enroll up to 20 students in VHS courses. A limited number of student-only schools are allowed to enroll students on a trial basis, for a single year, after which they must train a teacher and join VHS as a fully participating school.



The VHS has developed two graduate-level online professional development courses for teachers of participating high schools: a 26-week Teachers Learning Conference (TLC) course which trains teachers to develop and teach a Net Course for VHS and a

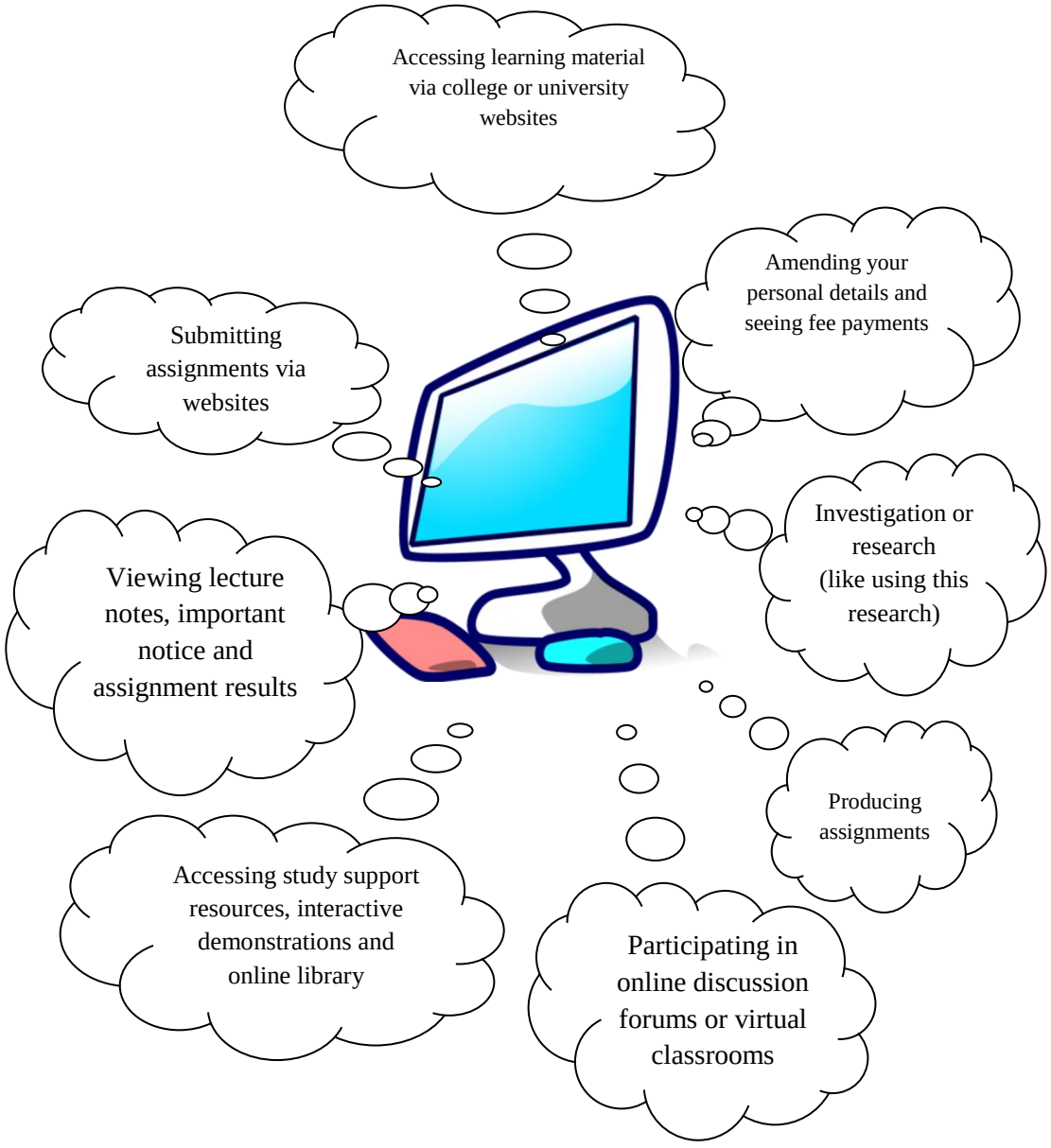
15-week Net course Instructional Methodologies (NIM) which trains teachers to teach an existing online VHS course. The TLC is designed to train teachers to become online course instructors and course developers whereas the NIM is designed to prepare classroom teachers to become online course instructors only. The TLC provides instruction on the pedagogy and methodology that each teacher will need to develop an effective Net Course to be offered to the VHS students. A facilitator, a veteran VHS teacher, is assigned to each TLC participant to ensure that they have the correct resources to achieve training objectives.

The focus the NIM is on content and curriculum, as well as good online course delivery, experienced facilitators are assigned to help NIM participants access the correct resources and monitor each participant's progress. Both of the teacher training courses at VHS use the Internet as the main delivery technology and focus on ICT pedagogy integration in an online learning environment. Support given by facilitators of these courses is known as an important factor which helps teachers have positive experiences with technology and integrate technology into their own teaching. Another case of adopting ICT as the core delivery means of teacher training can be found in the Learn Link project supported by USAID and AED. The project has implemented Computer-mediated professional development programmes to improve training and support services for teachers in several developing countries For example, in Guatemala; the project includes the development of culturally appropriate Multi language instructional materials, and improvement of teacher's professional skills in Mayan languages. Necessary equipment and multimedia computer labs have been installed in several teacher training schools in the Quiche region and instructional materials for bilingual teacher preparation, including an interactive multimedia system on CD-ROM to train teachers in oral and written languages have been developed.

In Morocco and Namibia, the Computer-Assisted Teacher Training project has started to develop computer-assisted teacher training courses and construct communications network to facilitate interaction among teacher trainees, teacher trainers, and inspectors. Moreover, collaboration and information sharing among peers across the provinces have been emphasized. Similarly, the Connectivity for Educator Development project in Uganda has been designed to improve professional

development for primary school teachers, with a focus on multimedia-assisted teacher training and digital library resources. The US-Brazil Learning Technologies Network is an Internet-based learning environment and clearinghouse on the role of ICT in education and promoting interactive collaboration between teachers in the two countries. The Learn Link project is still under implementation. Some of the expected outcomes include: increased collaboration and interactions among educators in each country or among countries, institutionalization of support for learning technology in each country, greater ICT access for teachers and students, ICT-based curriculum reform, and enhancement of pedagogy, An internet-based online teacher training is recently introduced and has been found to provide a flexible and interactive training environment for teachers. However, costs related to the online training cannot be ignored in most parts of the world and effective online training pedagogies for ICT teacher training have yet to be explored. ICT used to facilitate professional development and networking: Whereas the use of ICT as core technology for delivering teacher training can be found in limited contexts, there are many examples of ICT, particularly internet and web-based communication technologies, being used to support teachers' ongoing professional development and networking.

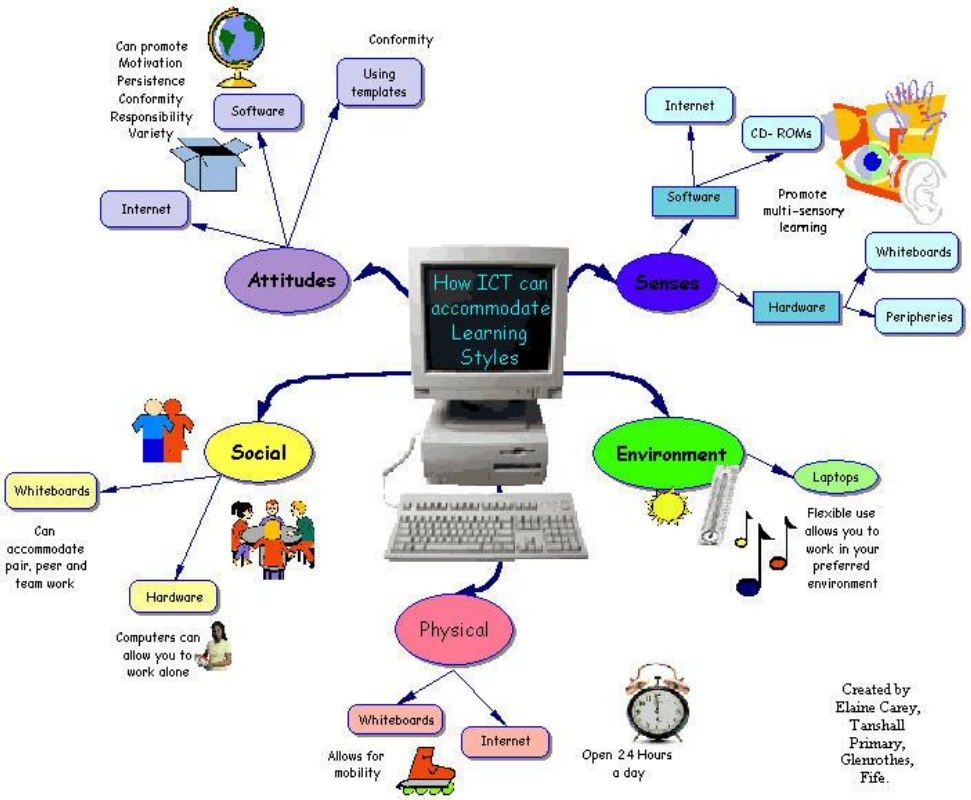
Many countries have developed a website or websites to provide online resources for teachers and facilitate teachers' networking based on the assumption that professional development should be an integral part of daily practice for all teachers and the use of the internet would enhance continuous professional development activities of teachers, connecting teachers to larger teaching communities and allowing for interaction with expert groups. Specific examples are discussed below.



Uses of Information Communication Technology in Teaching Learning

The UK Virtual Teacher Centre website provides a “Career Development” area which provides a variety of learning and teaching resources and links to support teachers’ continuing professional development. Under “Support Providers”, for example, teachers can find a range of resources for professional development, such as the ICT Support Network Directory which provides easy access to ICT provision and training. Teachers also find a link to the New Opportunities Fund (NOF), which is currently providing ICT training for teachers and librarians. “International Professional Development" helps teachers learn from and contribute to educational ideas and best practice throughout the world.

Teacher Net UK, an independent professional association for teachers, also supports teachers’ professional development and national and international teacher networking. The Korea’s EduNet is an integrated educational internet services for K-12 students and teachers managed by the Korea Education and Research Information Services. Through the EduNet, teachers can search the materials according to training institution, content, instructor, year of publication and type of training, and download them for self- training. These online materials can be also used for individual study in conjunction with face-to-face courses, or as learning resources for online teacher training courses offered by educational institutions. The US Teachers Network, a nationwide, educational nonprofit organization, identifies and connects innovative teachers exemplifying professionalism and creativity within public school systems. This network promotes interactive collaboration among teachers and educators to improve teaching and student achievement, provides resources for designing their own professional development, disseminates the work of outstanding classroom teachers, and attempts to provide teachers with the knowledge ,and skills needed for good teachers, At the international level, the World Bank’s World Links for Development (World) programme provides internet connectivity and training for teachers, teacher trainers and students in developing countries in the use of ICT and other technologies in education world then links students and teachers in secondary schools in developing countries with schools in industrialized countries for collaborative learning via the internet.



Other examples include: School Net SA, a South African organization providing supports to educators and learners who wish to use ICT in education; Singapore' Clearinghouse a website created by Ministry of Education to provide ICT resources and internet educational resources including lesson plans for various content areas for teachers; Swedish School Net, a website to stimulate the use of ICT in schools; and European School Net the European framework for the co- 208 0 ICTs and Teacher Training operation between the European Ministries of Education on ICT use in education. One of the best ways to develop teachers' ICT skills and promote ICT-pedagogy integration in their teaching is the provision of ICT-based training environments where on-demand access to materials, peers, and networks of experts where expertise and advices can be obtained and active discussion can take place in relation to technology or pedagogy. In this regard, the approach of using ICT to support teachers' ongoing professional development and networking can be very effective as long as organized support is provided.

1.1.3. EDUCATION AND INFORMATION AND COMMUNICATION TECHNOLOGY (ICT):

Today we have live into the age of science technology and we all are the part and parcel of that world. All the credit goes to man's intelligence and his research attitude to promote from wild life to really delightful and aggressive life that spend today and look our future also. In the present situations human being develop broad attitude through the impact of this scientific technological age. Today's mechanism and technological equipment play a vital role in daily routine of every human kind on this earth in that condition computer made a great role in all secrets used by anyone anywhere and whenever. All sectors use captures as the technological equipment like management office working, banking, finance, policy, Industrial planning, electricity control section, money printing press, hospitalizations as well as the education sector.

The fact is that many people do not know easily about the technological equipment and its uses. With the use of Information and communication technology to the world has come much nearer to all each and every human being is directly or indirectly related to ICT for doing his work and keeping his knowledge update. In the period of past 50 years a word computer is used only for a kind of machine and it was used only for a kind of machine and it was used only for doing arithmetical calculation in most famous objective. But later on the sudden change came into the thinking capacity of human being and considered that machine to do lot more work whenever necessary and finally today all kinds of work is done by computer it means that ICT (Information and Communication Technology).

At present age many types of computers are in a process and its usages also are increasing and each one can optimize to use computer into their life style. ICT is place for each and every factor of human being and they totally depend upon ICT for his speed, accuracy and updating knowledge and become a great one from any general group of people. Here also one thing can become remarkable that is the world's high speed super pram computer made by an Indian that name is Mr. Vijay Bhatkar. He gave to our country among all nations the world name and fame. But the information and communication technology use in teaching learning process is really helpful to clear concepts and ideas of a new teacher trainees as well all teacher educators also.

This can change rapidly the conditions of teaching and learning process into teacher education colleges or institutions.

The ICT Literacy Domain Process and Standards

1.1.4 RECOMMENDATIONS OF COMMISSIONS AND COMMITTEES FOR ICT IN EDUCATION:

ICT in teacher Education is not merely developing ICT skills and competencies, involves developing in the student teachers, the ability to continuously update themselves, to ascertain the kind of ICT suitable for the learning experience to be provided and the use of ICT for optimize the process of education the use of information and communication technology (ICT) in education is a relatively new phenomenon. Educators, researchers and thinkers have taken up the challenge of using ICT. The advent of interest and the World Wide Web has reissued new productivity and services demands, although research to quid best practice remains scant and elusive. The brief history of ICT raises a number of users that provide.

1.1.5 POLICIES FOR ICT IN TEACHER EDUCATION:

As we enter the 21st century, there has been considerable international attestation given to the role that ICT can play in economic social and educational change. This role has been most pounced in the worlds developed countries where technology has permeated business. Schools and homes change the way of people work, learn and play. The impact that ICT has had to date in the developed world, and the potential yet for further dramatic changes, is reflected in a range of multinational policy documents. For example, the leaders of the worlds, eight major industrialized, democracies have noted that ICT has become and engine of growth for the global economy and has the potential to contribute significantly to sustainable economic development to enhance public welfare, to strange that democracy, to increase transparency in governed, to nourish cultural diversity and to foster international peace and stability. At the same time the group emphasizes the need to develop human resources capable of responding to the demands of the information age and to nurture ICT literacy and skills through education, training and lifelong learning.

The organization of economic co-operation and development (OECD) also emphasize the important and impact of ICT in developed countries and points out the needs for these countries to develop a work force with the skills to use ICT to increase productivity, as well as the need for young people to develop ICT skills in preparation for adult life.

But it is not only the leader of developed nation that stress the importance of ICT. The united nation and the World Bank both advocate the use of ICT to support the development of the world poorest countries. A world bank report cities the potential that ICT has to improve efficient delivery of resources to the poor, to bring markets within each of rural communities to improve government services, and to transfer knowledge needed to meet the millennium development goals. The African had of state concur citing the potential for ICT to promote trade to improve health care, enhance good governess and make education more available. In this regard the World Bank report notes that ICT can increase access to education through distance learning enable knowledge network for students, train teacher. And broaden the availability of quality education material, much has been promised by multinational organizations for ICT to address the world economic and social needs, especially in the area of education. But it is left to individual nations to deliver on these promises. National policies and programmes can be an important tool for the realization of ICTs promise in education and that is the focus of this programmes.

National ICT polices can serve serial important functions, strategic policies can provide a rationale, a set of goals, and a vision for how education system might be with the introduction of ICT and how students, teachers, parents, and the general population might benefit from it use in school. These strategic policies can motivate change and co-ordinate disparate efforts so as to advance the nation's overall educational goals, companion operational policies can set up programmes and provide resources that enable these changes.

ICT based innovation can and does occur in classrooms and schools without their being a close linkage to national policies. Also there are often many ICT programmes and project sponsored by NGO's and corporations apart from national policies and programmes. But without the guidance of national policies and the resources of collaboratively programmes, it is less likely that individual school and class-room innovations will be sustained.

1.1.6 POLICY RATIONALES:

An analysis of national ICT policy statements identifies four alternatives, somewhat related rationales that are used to justify the investment of funds on educational ICT. These high level statements can be thought of as "strategic policies" some strategic policies promote social development, some policies focus more specifically on the impact of ICT on the education system, either to advance education reform or support education management.

1.1.7 PRESENT SCENARIO OF TEACHER EDUCATION:

By putting a tremendous faith and responsibility on them. The national policy on education (1986) expects a lot from the teachers, it boldly opined "No people can rise above the level of its teachers". It statements that the status of its teachers reflects the socio cultural ethos of society. It has been recommended that. The government and the community should endeavor to create conditions which will help to motivate and inspire teachers on constructive and creative lines. Teachers should have the freedom to innovate, to devise the appropriate methods of communication and activities relevant to the needs and capabilities of and the concerns of the community.

Well determined by the process of the process of teacher education the type of the teacher, the society aspire to have, the desired image of the teacher has to be built up, keeping in view it's the intellectual. As the Indian situation has certain peculiar characteristics which are distinct from many other nation. Education determines the status and standard of prosperity and welfare of a people. The quality of young boys and girls coming out of the portals of schools, colleges, and universities determines the success or failure of the national reconstruction with a view to rising.

"In Indian there are nearly 3.5 million teachers in the formal school system. Primary school teachers are required that have ten to twelve years of general school and two years of professional education. Secondary teachers must have a minimum of first degree from the university and one year of professional education. There are several institutions and systems for in-service education of teachers, ranging from school complexes at decentralized levels to programmers designed and execute at the central level, but co-ordination between various agencies is yet to be obtained (UNESCO 1990). In comparison with other states, karallas share with respect to the growth of

higher education is low currently. The national council for teacher education (NCTE) with the view to promoting and motivating quality research in teacher education, constituted a research and program Advisory is to enable teacher education institutions to prepare a work force of trained teachers who are fully conversant with the technology. It is signed and MOU with INTEL Technology India Pvt. Ltd. Bangalore on 20 December 2006 with a view to achieve the objectives of imparting sustained professional development of all teacher educators from all recognized institutions and making ICT a part of teacher Education Curriculum (Annual Report 2006-07). Rising societal expectations, sky rocketing parental as parathion android changes in technology has put tremendous pressure on contemporary school education. Under the impact of this pressure the content and progress of primary and secondary school education is in a state of flux obviously."

1.1.8 CONCEPT OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT):

Advanced technology has greatly contributed to the acceleration of human being in the recent past. Just ten year ago very few people have anticipated and even imagined the wide explosion of ICT information and communication and its profound effects in the development of higher education. ICT is defined as scientific technological and engineering discipline and management teachings used in information handling and processing their interactions with men and machines and associated social, economic and cultural matters (UNESCO 1968) it suggests that ICT are:

- **The accelerating pace of change diversity in the development of physical infrastructure.**
- **The spread of distribute connectives.**
- **Enhanced context and network management capabilities.**
- **The emerging social web continuing selective and technological innovation.**

TO ABOVE THE OBSERVATIONS PROVES THE-

The importance of ICT because would it's going to world globalization technology in this situation ICT will prove assistance in improving, learning the development efficiency in our teachers.

1.1.9 UPDATING INFORMATION-

ICT plays on a vital role while human being is lack of update but ICT can turn their thinking very fastly and accurately on day today daily updates with curriculum as well as current professional activities about progress.

1.1.10 USE OF ICT IN TEACHER EDUCATION:

"If a country is tube corruption free and become a nation of beautiful minds. I strongly feel there are three societal members who can make a difference they are the father, the mother and teacher" Dr. A. P. J. Abdul Kalam, former President of India.

1.1.11 THE KNOWLEDGE REVOLUTION AND ROLE OF THE TEACHER:

The pace of technological revolution and emergence of knowledge society can change the traditional role of the teacher and the students. Traditionally, the teacher used to be the source of knowledge for the students. There is some co-operation among students to explore new knowledge. In many cases the teachers do not posses adequate knowledge to supplement the view of the students and the main sourced of the knowledge remains limited to text book. The development of ICT changes the epic center of knowledge.

At present in a number of cases the student is more informed than the teacher, furthermore there is likely to be confusion in the teachers mind about his/her new role in relation to the use of these technologies. Ex. Teachers find themselves in a situation where they are no longer the principle sources for delivery of information. In the new phase of knowledge revolution the source of knowledge has sniffed from a one source to a different source. In other words we can say that there is a decentralization of the knowledge source. This has and overall impact on the development of learning. Abilities among the children, there is a need to facilitate training on ICTs for teacher both at the preserves level and in-service level.

Information and communication technology (ICT) which is often linked with computer and computer related technology has become the buzz word in sectors of life. The use and access of has spread wide and far. Due to its tremendous capability of networking and the benefits that user get, it has changed the entire world of education

Teaching at School as well as Higher Education, mostly, concentrates on giving information which is not the sole objective of Teaching. Along with giving information, the other objectives are:

- developing understanding and application of the concepts
- developing expression power
- developing reasoning and thinking power
- development of judgment and decision making ability
- improving comprehension, speed and vocabulary
- developing self-concept and value clarification
- developing proper study habits
- Developing tolerance and ambiguity, risk taking capacity, scientific temper, etc.

With the present infrastructure, class size, availability of teachers, quality of teachers, training of teachers, etc., it is difficult to achieve all the objectives. Further, most of the teachers use Lecture Method which does not have potentiality of achieving majority of above mentioned objectives. The objectives are multi-dimensional in nature, so for their achievement multiple methods should be used in an integrated fashion. At present ICT may be of some use. It is a well known fact that not a single teacher is capable of giving up to date and complete information in his own subject. The ICT can fill this gap because it can provide access to different sources of information. It will provide correct information as comprehensive as possible in different formats with different examples. ICT provides online interaction facility.

Students and teachers can exchange their ideas and views, and get clarification on any topic from different experts, practitioners, etc. It helps learners to broaden the information base. ICT provides variety in the presentation of content which helps learners in concentration, better understanding, and long retention of information which is not possible otherwise. The learners can get opportunity to work on any live project with learners and experts from other countries. The super highway and cyber space also help in qualitative improvement of Teaching – Learning Process. ICT provides flexibility to learners which are denied by the traditional process and method. Flexibility is a must for mastery learning and quality learning.

1.1.12 ICT A SOLUTION FOR THE IMPROVEMENT OF THE EXPERTISE OF TEACHER:

ICT enabled distance education is posed to rule the world. This would not only strengthen the elementary education needs of the country but would also increase the dependence of education on ICT technological development always warrants transition to newer technologies by jeopardizing the cast effectiveness of teacher education, So as to improve also the quality of education. India is one among the few countries in the world which has not allowed the expenditure on education to shrink over the years, The increase in expenditure on elementary education alone over the last four five year plan periods has been more than the increase in expenditure on education as a whole.

1.1.13 ROLE OF TEACHER IN ENHANCING LEARNING ACHIEVEMENT OF CHILD:

Education, as we know is instrumental in ensuring that the future generation is well informed and competent, Unfortunately because the quality and accessibility of education various so greatly between regions the teacher education system of our country often fails to deliver the level of education necessary to ensure such competency many schools/have limited resources for buying books, stationery, institution and other classroom materials, Teachers lack adequate qualification and training to engage their students in learning. Their lessons plans are most often out-dated or irrelevant. These jeopardize the available quality of education, ICT enabled

teacher education, to a great extent can combat this problem. Because the present day teacher education learning is ICT enabled, most of the programmes include computer and internet training to facilitate the use of essential technology. The acquisition of fundamental ICT skills among teachers and students helps knowledge sharing, there by multiplying educational opportunities. However all teachers are not willing to introduce new technologies to themselves first and subsequently to their student. In order to implement ICT driven teacher education programmes, the teachers must first understand and be comfortable with the technologies. They must be given opportunities for acquisition of a new knowledge. This can being by promoting computer programmes for teachers. Monetary incentives can be offered as means of motivation. The use of ICT can effectively enhance learning where traditional models have failed. While these technologies offer advantages, they also pose challenges; several studies have been conducted in the west about the use of ICT in middle and high school student.

1.1.14 TEACHERS EDUCATION THROUGH ICTS:

ICTs can support effective professional development of teachers, using ICTs as fools for training of teachers is as important as introducing the basic of ICTs to the prospective teachers. As sources of information and expertise, as well as tools for teaching learning communication. ICTs can offer many new possibilities for teacher education. Teachers may through the regular use of these technologies. Use of new media, new rules of communication even a new language has to be learned.

ICT has been characterized as having the potential to enable national development; however, ICT has been conceptualized mostly as a monolithic and homogeneous entity (Sein and HaridraNath). To a great extent the ambiguous findings and diverse opinions on the role of ICT in national development can be attributed to this limited focus. ICT are important to all aspects of life. ICT have become fundamental to basic life. Thus information system plays on important role in society. It has helped in serving the needs of the user community. The user community is not restricted to those who use it directly. Thus ICT has become one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core education alongside, reading, writing and numeracy. To quote unesco' technological developments lead to changes

in work and changes in the organization of work, and required competencies are therefore changing. Gaining in important are the following competencies (UNESCO). Generalist competencies ICT competencies, enabling expert work, decision making.

"The information and communication technology insurgency brings particular challenges to education systems around the world. This mainly occurs in three broad areas, one occurs with participation in the information society. The second is ICTs impact on access to do with the way ICT changes the education progress. Here the formal learning of ICT is in schools and higher education institution which make available organized education. Thirdly non formal education occurs with continuing education. Adult education through distance education and other organized programmes. The acquisition of ICT skills in educational institutions helps knowledge sharing thereby multiplying educational opportunities. In education ICT can act as an auxiliary device integrating ICT literally will be crucial as it means harnessing technology to perform learning skills, it must encompass the use of ICT to manage complexity solve problems and thing critically, creatively and systematically towards the goal of acquiring thinking and problem solving skills. The need for teacher training is widely acknowledged. Professional development to incorporate ICTs into teaching and learning is an on-going process teacher education curriculum needs to update this knowledge and skills as the school curriculum change. The teacher needs to learn to teach with digital technologies while many of them have not been taught to do so. The aim of teacher training in this regard can be either teacher education in ICTs or teacher education through ICT. Teacher professional development is central to the overall change process in education. They are unsure of how to make most effective use of ICT as a powerful and diverse resource and one which can potentially alter traditional teacher student relationship. If they are to invest the time and energy in embracing the technology teachers need to understand and experience the potential benefits of using ICT and to have access to the evidence that supports the improvements in teaching and learning.

ICT in teacher education in not merely developing ICT skills and competencies, involves developing in the student teachers the ability to continuously update themselves, to ascertain the kind of ICT suitable for the learning experiences to be provided and the use of ICT of optimize the process of education. The use of the information and communication technology (ICT) in education is a relatively new phenomenon.

1.1.15 CHANGING TEACHING:

Teachers could give many different and specific example of how technology hand changed their work. Number of things is being done with web sites, from giving students notes which one teacher describes as a “low and thing” getting students to create their own web pages. One teacher was using a web site to enhance an actual field trip. The web site introduces students to the animals and tells them what they are going to be going while on the field trip. It shows them techniques they can use to analyze the ecosystem and record the data. Several teachers mentioned that they used power point and other computer programmes to improve their presentation of material to class. Teachers explained that technology enabled teachers to deliver more material to students and it also eliminated several basic problems such as poor handwriting, poor atomistic skill, contrast, lighting and visibility. Another teacher makes extensive use of software programmes to help to tech subject. The students to into the laboratory and collect their data using the computer, then they used word processing programmes along with excels to do graphs and presentations. The software allows the students to collect different kinds of data using various attachments that are plugged Dina to computer using computer technology students have more times to explore beyond the mechanics of counting dots and seating up the experiment. It actually lasts them look at it can understand the concept better. Another teacher made the point that resourced based teaching or resource based learning is almost becoming “seamless almost natural” in everything that teachers do because information is becoming easier to access.

1.1.16 CHANGING THE TEACHING AND LEARNING RELATIONSHIP:

Teachers reported that the relationship between teacher and learner is sometime reversed with regards to information and communication technology. Many teachers mentioned that when students could help teachers it gave the students a big confidence boost. Some teachers went as far as to use terms like “co-learners” to describe the new relationship between teacher and student. Teachers also saw the potential for technology to be isolating and realized the classroom and other activities had to be arranged in a way that reduces the likelihood of isolation. Another point made, was that in some ways the use of new technology may be increasing socialization in some ways. People away be able to find someone who has interests

similar to their own to converse with through the internet. One teacher put forth the idea that the use of technology in the classroom will mean the arts and music as areas where students interact will increase in importance to increase socialization.

1.1.17 ADMINISTRATION AND EXPANDING PROFESSIONAL NETWORKS:

The use of information and communication technology has changed teacher education institution at administration in several ways. One teacher explained that when she started teaching six years ago, it was not expected that teachers know how to type their own test. Now teachers are expected to know how to use word processors and have their tests done in a proper format. Several teachers noted that there is a move toward recording grades and attendance electronically. Teachers are expected to check their e-mail and lot of things that use to be done at a staff meeting are now done via e-mail and lot of things that use to be done at a staff meeting are now done via e-mail, in addition most of the teachers use email to keep in touch with other teachers and friends.

"The use of ICT is changing in several ways, with ICT teachers are able to create their own material and thus have more control over the material used in the classroom than they have had in the past. Rather than deskilling teachers as some scholars claim. It seems that technology is required teachers to be more creative in customizing their own material. Also using web pages to enhance an activity demonstration that technology can be used to complement other aspects of good teaching rather than replace them. It is evident that involving students in the creation of useful material as a part of a learning exercise is a way to make teacher education institution for trainee teachers.

1.1.18 TEACHERS AND ICT COMPETENCES

ICT is meant to support learning processes, not only of the students but also of the teachers themselves as part of their professional development. It is an established fact that the role of the teacher has changed during the last decade: from acting in front of the class to coaching the individual student or small groups of students. Moreover, there is an increase of available software and hardware, for instance the smart board there are two types of advantages of the use of ICT in teaching. First the

organizational advantages: time and place- independent teaching, easy updating of materials, cost- effectiveness by automation of (some) teaching activities. As a second type of advantage, better communication, internationalization, teaching just in case and just in time, bridges visual, material or additives disadvantages. There are seven starting points for the use of ICT in teaching: better collaboration between students, active learning, direct feedback, a lot of interaction between teachers and (fellow) students, possibilities for different learning styles, learning in context and a great variety of working in classroom. Teaching institutes use one or more of these arguments to introduce ICT in a broad sense. In the top to down approach the organization, management and curriculum are the dominant controlling mechanisms of ICT innovations. The bottom- up strategy starts with the teacher who stimulates the ICT innovation just by using the ICT themselves, but no results are known as to the effectiveness of this strategy. In top-down approach the organization and the management frequently prescribe which software all divisions of the institute should use. The management can stimulate individual teachers by a financial bonus and by making the use of ICT part of the policy cycle. The implementation of ICT in the curriculum is often based on arguments not from the content of teaching but on arguments coming from outside, like everybody should become acquainted with the computer. They support the idea to start the professionalization with the vision of teachers on their use of ICT. This is essential. Another crucial aspect is to create support in a structured way. In every day practice the strategy to introduce ICT in teaching is not always lucid. The bottom-up approach, starting with individual teachers, in combination with the top-down approach seems the best way to receive the most benefit of the use of ICT. Teachers need some time for experimenting with ICT in order to become inspired. It turned out that these experiments need to be done in a safe environment meaning that mistakes are allowed and success more or less assured. And the organization needs to facilitate this. After these experiments the use of ICT has to become part of the organization in order to make this innovation a success on the level of the whole institute.

Apart from the strategy of introduction of ICT, some confusion is found about ICT competences to be acquired by teachers. In the Dutch Act on Professions in Education it is formulated as follows:

A teacher has to be a professional with respect to the content and pedagogy of the teaching of that content. This includes that the teacher knows (reflectively) the process of designing teaching strategies and teaching materials, including ICT. And also: The teacher selects a diversity of learning tasks, adapted to the students, using modern materials and tools, including ICT. If applicable he uses an electronic learning environment which enables time-and place-independent learning and which supports effective communication about the learning from different locations. The ICT competences of teachers should support the following educational goals: making teaching flexible, creating individual learning paths, enhancing the possibilities of part time education, creating rich learning environments, trying out new teaching concepts, intensifying interaction teacher - students, supporting collaborative learning, motivating students, preparing students for lifelong learning, enhancing the effectiveness of teaching, costs reduction, enhancing the attractiveness of the profession of teachers. The Dutch Inspectorate has the task to check the use of ICT during school visits, more in particular: the functionality of the use of ICT inside and outside the school, the contribution of ICT to the effectiveness of the teaching, the contribution of ICT to the learning environment, the extent to which ICT enhances the learning in meaningful contexts.

1.1.19 AN OVERVIEW OF THE PROFESSIONAL COMPETENCES OF A TEACHER IS AS FOLLOWS:

- Personal ICT competences: teachers in training should have basic skills in Office applications and applying these skills in communication.
- ICT as mind Tool: teachers should be able to use applications to support meaningful thinking and working.
- ICT as Pedagogical Tool: teachers should enhance their knowledge, skills and experience in resource based learning and collaboration in digital environments.
- ICT as teaching tool: teachers should know the educational possibilities and impossibilities of ICT.
- Social aspects of the use of ICT: teachers should not only be aware of ICT but also deliberately use ICT. Also the following ICT competences apply:
- The use of hardware

- The use of software.

  The use of ICT in the learning process and the coaching of the students
- The use of ICT in the neighborhood of the teaching
- The use of ICT in further professionalization.

All these ideas were combined in the U-teacher matrix. The professional competences of teachers are manifest in interaction with oneself (reflection), one's students, one's colleagues and one's environment, for instance the parents (based on the Dutch Act on Professions in Education). The themes are: pedagogies, curriculum, professional development, school organization, policy, ethical aspects, innovation and technical aspects.

Explaining the content of the cells of the matrix takes too much space. So, we explain only the cells in the row 'interaction with students', using the U-teacher. The content of these cells is related to support the learning and development of the students. The cell 'pedagogies' is about the support of the learning activities of the student, for example the use of Excel in mathematics classes. The cell 'organization' has to do with the organizational and administrative activities, for example the administration of the students learning results. And cell 'policy' concerns the development of teachers' vision about learning and teaching with ICT in relation with the school and national policies with respect to the use of ICT in teaching. ICT competences with respect to 'curriculum' are about the use of ICT with respect to a specific curricular topic, for example the use of a computer algebra system in mathematics classes. A-teacher is ICT competent in his 'professional development' when he can plan and perform activities with the help of ICT, which aim at the development of his teaching in general and at the welfare of his student in particular, 'Ethical aspects' refer to the fact that the teacher adjusts the use of ICT to the welfare of his students. 'Innovation' means the shift from teaching to learning in rich learning environments. The 'technical aspects' implicate the use of ICT in all its aspects.

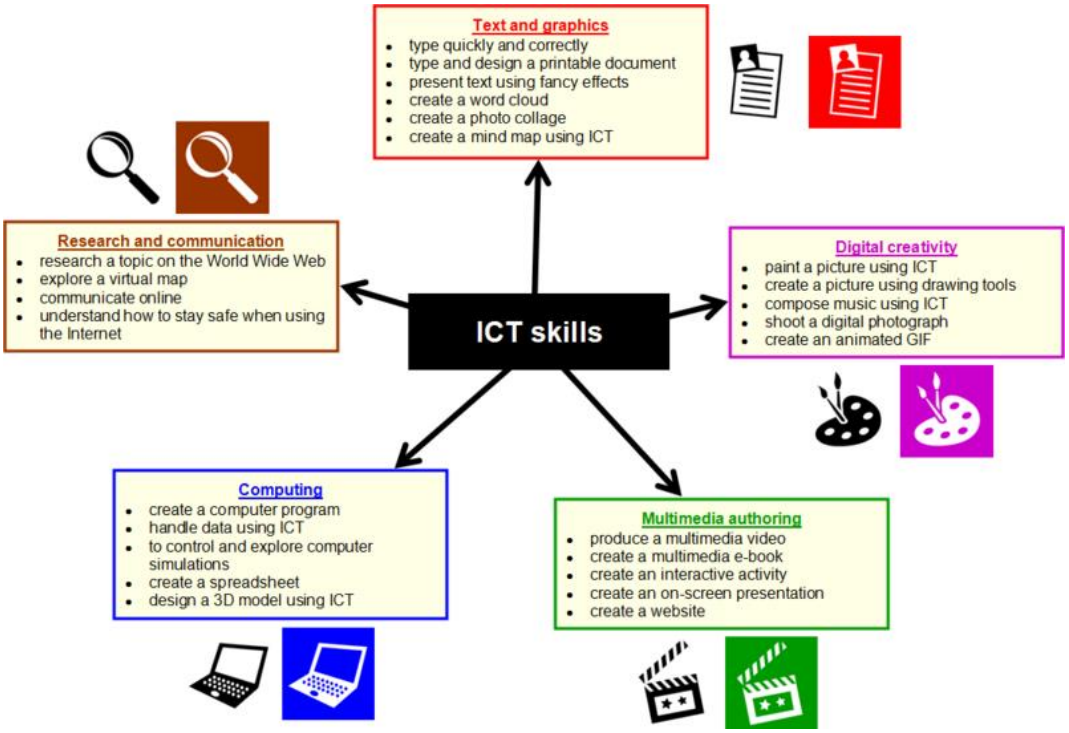
1.1.20 PEDAGOGICAL PERSPECTIVE

Over the last years the attention for use of ICT in teaching is changing from general aspects as introduction and organization towards educational aspects as mentioned in the matrix of U-teacher: more specific the pedagogical aspects as coaching, optimal instruction of the content of a teaching - learning arrangement. In this approach the use of ICT is part of the teacher's pedagogical performance. By this performance the teacher shows his answers to such questions as;

- what to teach (short term goals)
- why to teach (long term goals)
- how to teach (design of lessons, examples, practicing, tools,
- forms of collaboration, testing
- whom to teach (prior knowledge, motivation)
- and (possibly) when to teach (in case of time independent teaching)

Teaching always includes collecting information, collaboration with colleagues (inside but also outside the school), reporting learning results to students, management and communication with parents of the students. Furthermore, internationalization, connections with prior and following education becomes more and more important in the teacher's' job. In all these activities the use of ICT is obvious; another important field in which teachers should use ICT is the design of the teaching-learning arrangement: initiation, sequence and lay out of learning processes are mostly done by means of a set of learning tasks. The design of these tasks, in combination with the textbook, can be done with support of ICT. In this design process all the mentioned ICT competences come together: content and goals, phasing, role of tools, role of the teacher, role of the fellow students, degree of control, distribution of the teacher' attention and tools over teaching process and learning results. It is needless to say that teachers should not be able to do all this from scratch. However, a teacher needs to be in control that is the kernel of the process. Nowadays not only ICT but more generally all modern media play a prominent role. So, if we make an overview of the competences of the teacher, we prefer to speak of media competences instead of ICT competences, Of course we restrict these to the modern digital media, and then not only the use of (educational) software, but also (new) hardware. Using the term 'media' means that it is about

means that support the teachers' main professional task in the classroom: supporting the learning processes of the students by his or her teaching.



The individual media competence is the effective use of software and hardware in teaching. This is more than simply the use of software tools. So we include the use of tools as smart boards and voting systems. The critical media competence is to be able to select critically appropriate media to support the teaching learning process. Relevant words are: educational, humane, social. The teacher should be able to select the right media tools. The right selection includes not only the right selection form an educational perspective, but the right selection from a humane and social perspective. The Internet suffers more and more from sites with no values and standards. The teacher is a role model for the students. His behavior is an important example for the students. Furthermore, he should teach his students to become critical. The Internet is sometimes manipulative and dishonest. Computer games are sometimes aggressive. The medium gives a wrong image of reality, digital harassment is inadmissible. The teacher should educate his students to become adult users of the medium. The lifelong learning competence is also the extension in the teacher’s repertoire of available media for supporting learning processes, The use of ICT in the teacher’s profession is the outcome of both bottom-up and top-down approach. This implies that that ‘once a media competent teacher always a media competent teacher' is not valid. The development of IT tools continues. The same applies for the professionalization of the

teacher. Every year new possibilities arise, leading to adaptations of teaching content and curriculum. So, ICT competences of teachers are, 'by definition', lifelong learning competences. In this aspect, the teacher is fully comparable to the worker in the IT sector.

The competence to guide teaching-learning in order to get a successful completion for students, the assignment of the teacher is to do the work with his students effectively and efficiently. Goals are not only relevant for the next lesson or next week, but students should also perform well in the long run. Sometimes it is about a concept or a specific skill, sometimes a relation between concepts, sometimes an attitude, but eventually what counts is are the students well prepared for their next education, job or as members of society? Learning processes refer to the individual student and to the group of students. The teacher should phase these learning processes, coach the students and help them to acquire the aimed learning results. The media competent teacher supports this by providing the optimal media tools. By doing so these tools are not additional but integrated in the professional performance of the teacher. However, learning concepts together with the use of some connected ICT tool may have a negative aspect. For instance when a mathematical concept is explained with the use of a spreadsheet, this could cause the problem of interference between the concept and tool.

The competence to design teaching-learning arrangements is the competence to be able to design and develop materials and ways of working with the new media. This crucial competence refers to the following aspects: the teacher knows which software and hardware are available, how he can use them, which their meaning is and what the consequences are. It also includes making the right selection for this software and hardware, to use them in the teaching practice and to professionalize him-self continuously with respect to selection and use.

The technical media competence is the skilled use of the media. A quite obvious competence is the ability to use the medium effectively.

Teachers should not confirm this negative image in their lessons. If by any chance the students are more ICT skilled than the teacher, he can always ask them to assist him. Such an approach is helpful to teachers and students.

In our view the whole of these six media competences are more to the point for the teachers' main task in the classroom. In the background of the teachers' activities the environment with school policy and national policies with respect to the use of ICT in teaching plays also a role.

OF COURSE, THERE IS A STRONG OVERLAP WITH OTHER ICT COMPETENCE FRAMEWORKS FOR TEACHERS. IN THE UNESCO ICT COMPETENCY STANDARDS FOR TEACHERS THE FOLLOWING TEACHERS SKILLS WITH RESPECT TO ICT ARE MENTIONED:

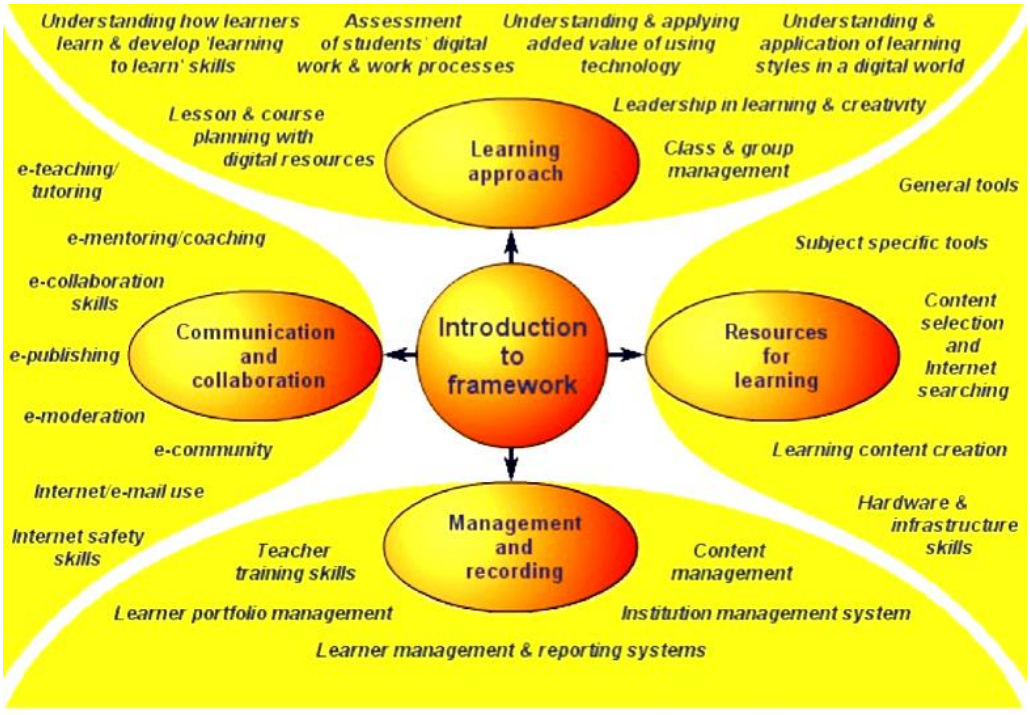
- Teachers must know basic hardware and software operations, as well as productivity applications software, a web browser, communications software, presentation software, and management applications.
- Teachers must be aware of a variety of subject specific tools and applications and able to flexibly use these in a variety of problem-based and project based situations. Teachers should be able to use network resources to help students collaborate, access information, and communicate with external experts to analyze and solve their selected problems. Teachers should also be able to use ICT to create and monitor individual and group student project plans.
- Teachers must be able to design ICT-based knowledge communities and use ICT to support the development of students' knowledge creation skills and their continuous, reflective learning.

But, again, our six media competences are more focused on the teachers' main task: supporting the learning processes of the students by the teaching.

1.2 NEED OF THE STUDY –

For the better education of a child teaching learning plays vital role , with the help of ICT concepts can be taught very effectively ,better learning experiences can be given to the students. Animations ,simulations makes the content live &interesting , as we see children pay more attention in playing animated & virtual reality computer games. In the education rotation of the earth can be presented in effective manner, solar & lunar eclipse, functioning of the heart, many such topics can be made easy with the help of technology.

One more reality we have to accept that because of mushrooming of the B.Ed. Colleges many students take the degree of B.Ed. every year but Govt. cannot give jobs to them, many such qualified students are jobless, but one more opportunity is brought by technology for these jobless teachers. This opportunity is that such students can do job as e-tutors .There are many countries like USA, UK, Australia where we find dearth of good Science, Mathematics & Social Science teachers With the help of internet our jobless qualified teachers can guide them and find a resource for their livelihood. Moreover roles of the teachers has been changed in many ways we see that teachers are required for e- content development & for writing scripts for the Virtual learning Programmes, Television programmes etc. until and unless our teachers shows interest in learning ICT skills their involvement in the ICT programmes development is impossible. Prospective teachers should not be aloof from the ICT skills otherwise it will be the same situation in the future as it is now that teachers are not IT literate so they find difficulty in making teaching learning effective ,moreover school children are having great exposure of ICT.



The Researcher has undertaken a Minor Research Project funded by University Grants Commission. Title of the project is "Study of ICT Awareness among Prospective Teachers from Aided B.Ed. Colleges of Mumbai & Pune University". When the researcher has collected and analysed the data it is revealed that awareness and acquisition of ICT sills among B.Ed. students are not satisfactory. The researcher has taken this base for the present research .There is a strong need of developing need based ICT skill development program for the B.Ed. students. It is also a fact that there is a Compulsory paper of Information Communication Technology in the B.Ed. syllabus of Mumbai University so also the paper of Computer Education is also there in the syllabus as an optional paper .But the is no practical part included in the syllabus for the development of ICT skills. Student teachers have to prepare two computer assisted power point presentations. 20 marks are given for this practical. Student has to prepare this presentation individually; no any type of training is given to complete these practices. Time is also not allotted in the syllabus. Some of the colleges give informal guidance and hands on experiences to complete practical in their time table. The proposed research will contribute in this regard and enable students for effective transaction of content.

1.3 TITLE OF THE RESEARCH PROGRAMME:

"EFFECTIVENESS OF ICT SKILL DEVELOPMENT PROGRAMME FOR B. ED. TEACHER TRAINEES"

1.4 OBJECTIVES OF THE STUDY:

Following objectives were formulated for the present study.

- To develop ICT skill programme for B. Ed. Teacher Trainees.
- To assess the effectiveness of the ICT skill development programme.
- To study the ICT skill performance on the basis of Educational qualifications (faculty) of B.Ed. trainee teachers.
- To study the ICT skill performance on the basis of gender.

1.5 VARIABLES:

Following variables are considered in the present study

1 ICT skill programme developed by the researcher.-Independent Variable.

2 Performance of the Students in ICT Skills- Dependent Variable

1.6 OPERATIONAL DEFINITIONS OF IMPORTANT TERMS:

- **ICT Skill Development Programme** – ICT skill development programme is the programme developed by the researcher to developed specific ICT skills among the B.Ed. Teacher Trainees. Following ICT skills were included in the programme.

  - MS Office skills
  - File management skill
  - Internet skill
  - Web 2.0 skills
  - Software Related Skill
  - Internet /computer safety skills
  - Online resources use skill
  - Peripheral Related skills/ Essential skill for Computer /Technical skills
  - social Networking related skills
  - Day to Day use of ICT related skills

- **B.Ed.** - A degree course of Secondary Teacher Education.

- **Student Teachers** – Students enrolled for the B.Ed. course in colleges affiliated to the University of Mumbai.

1.7 ASSUMPTIONS:

1) There is a need of ICT skill program for the B.Ed. Teacher Trainees.

2) There is no special training available in B.Ed. course for the development of ICT skills in University of Mumbai.

3) There is a little usage of ICT for the teaching–Learning activity by the pupil teachers of B.Ed. curriculum.

1.8 HYPOTHESES OF THE STUDY:

1) There is no significant difference in the mean scores of ICT skill performance of experimental & control group before and after implementing pre-test and post-test'
2) There is no significant difference in the mean scores of ICT skill performance on the basis of gender before and after implementing pre-test and post-test.
3) There is no significant difference in the mean scores of ICT skill performance on the basis of Educational qualifications (faculty) trainee teachers before and after implementing pre-test and post-test.

1.9 SCOPE OF THE STUDY

- ICT has been being used in all the fields. Effective use of ICT is accepted everywhere. For the present study the researcher has taken the field of teacher education. For the effective teaching learning ICT can be effectively used.
- In the teacher education also there are various streams like B.Ed., B.A. B.Ed. (Integrated) M.Ed. etc. but for the present study B.Ed. degree course is selected by the researcher.
- Student teachers studying in B.Ed. course affiliated to Mumbai University were taken.
- The programme developed by the researcher is useful for the in-service teacher training programme, and other teacher training programmes also.
- Some of the components of the program can be used in general ICT training programme also.
- For this study B. Ed. Teacher Trainees from Two B.Ed. Colleges namely Gokhale Education Society's College of Education and Research, Parel, Mumbai and Gurukrupa College of Education and Research, Kalyan West of Academic year 2012-13 were considered. Duration of the B. Ed. Course was one year only.

- For this study from these two colleges male and female B. Ed. teacher trainees of academic year 2012-13 were considered.

- For this study from these two colleges Arts, Commerce and Science faculty B. Ed. teacher trainees of academic year 2012-13 were considered.

- For this study ICT skill development programme prepared by Researcher was implemented on B. Ed. Teacher Trainees of academic year 2012-13 from Gokhale Education Society's College of Education and Research, Parel, Mumbai.
    - Following ICT Skille were considered for the Programme.

1) MS Office skills

- Word
- Excel
- Access (data Base)
- Microsoft publisher (publication news letter)
- Paint brush
- Developing a desktop published document
- Power point presentation multimedia

2) File management skill

- Create and name new folders
- Copy, delete and rename files
- Types of files
- Zip/ unzip
- Complex searches for file

3**) Internet skill**

- Browser
- Search skill
- E mail

4) Web 2.0 skills

- Wiki
- Blog
- Website construction
- Web design skill
- Web site evaluation
- Teacher Tube
- You tube

5) Software Related Skills-

Installation/Un installation /run software

- Window /Linux/ Moddle/open office
- CD /DVD
- Encarta
- Software evaluation skill

6**) Internet /computer safety skills**

- Antivirus
- Net safety
- Computer safety
- Password management
- Netiquettes
- Plagiarism
- Copy right

7) Online resources use skill

- Downloading
- Uploading
- Slide share
- Online course
- Online news paper
- Webinar
- Educational website
- Research related website
- Course era
- Shodh ganga
- Educational games

8) Peripheral Related skills/ Essential skill for Computer /Technical skills

- Basic computer Knowledge hardware software trouble shooting set up, maintains(general computing)
- Printer
- Scanner
- Web camera
- Smart phone
- Smart board
- Networking
- LCD projector management/smart board

9) Social Networking related skills

- Whats App
- Face book
- Skype
- Chat
- Video conference
- Forum
- Use of yahoo messenger G talk

10) Day to day use of ICT related skills

- Netbanking
- LIC Premiums
- Online payment
- Filling of application
- Gas cylinder booking
- IRCTC/make my trip booking /MSRTC
- Searching for educational seminar /conference workshop
- Use of various Google app
- Google group
- Project base learning skill
- Educational films

1.10 DELIMITATIONS OF THE STUDY

Due to paucity of time and resources the present study was delimited to the following.

1. Only two B.Ed. colleges affiliated to the University of Mumbai considered for the present study and results are limited for only these two colleges.

2. Only 200 B. Ed. Teacher Trainees from two B.Ed. colleges affiliated to the University of Mumbai were considered for this study.

3. Developed program of ICT skill prepared by researcher implemented on the experimental group only.

4. Only Two Variables namely ICT skill programme developed by the researcher and Performance of the B. Ed. Teacher Trainees in ICT Skills were considered for the study.

5. For this study B. Ed. Teacher Trainees from two B. Ed. Colleges affiliated to the University of Mumbai admitted in the academic year 2012-13 were considered.

1.11 SIGNIFICANCE OF THE STUDY

This study helps to remove barriers in the way of ICT skills acquisition of B. Ed. Teacher Trainees. This study has given very important model to develop ICT skills among B. Ed. Teacher Trainees. With the help of ICT skills development programme our teacher will be ICT enabled and able to face teaching learning challenges of 21st century. ICT skills development programme makes teaching learning effective. This study helps the B. Ed. Teacher Trainees to make them techno savvy and smart. This study will convert our teacher in to global teacher.