One Day State Level Seminar on
The Role of ICT in Quality Education
Date: 20th April 2017
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* The Journal does not subscribe to the views expressed by the authors in the research Articles
PROCEEDINGS

One Day State Level Seminar on

The Role of ICT in Quality Education

Date: 20th April 2017

Organized by

Internal Quality Assurance Cell (IQAC)
M.S.P. Arts, Science and K.P.T., Commerce College,
Manora, Dist. Washim
Internal Quality Assurance Cell (IQAC) Organizes One Day State Level Seminar On The Role of ICT in Quality Education Date: 20th April 2017

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MESSAGE

It gives me a great pleasure that IQAC of M.S.P Arts, Science and K.P.T Commerce College, Manora is organizing a One day State Level Seminar on “The Role of ICT in Quality Education”, on 20th April 2017, which is the relevant topic to improve the Quality of Education in Higher Education.

Information and Communication Technologies (ICT) have become common place entities in all aspects of life. The world is moving rapidly into digital media and information, the role of ICT in Education is becoming more and more important and this importance will continue to grow and develop in 21st century. Technology has the capacity to promote and encourage the transformation of education.

The effort in holding this seminar is really commendable to motivate the institutes to improve and sustain the quality of education.

I wish the event all success and congratulate the organizers for this initiative.

(Murlidhar Chandekar)

Dr. N.S. Thakare,
Principal,
MESSAGE

I am happy to know that IQAC of M.S.P Arts, Science and K.P.T Commerce College, Manora is organizing a One day State Level Seminar on “The Role of ICT in Quality Education”, on 20th April 2017.

I hope that the deliberations by the learned speakers are bound to bring well meaning, thoughtful prepositions which will be of long term relevance. I am, therefore, sure that the seminar will be meaningful, relevant, interactive and credible worth remembrance and will be the best platform for dealing with all issues related to the field.

I extend my best wishes for successful organization of the seminar.

(Dr. Ajay Deshmukht)
Registrar

To,

The Principal,
M.S.P.Arts,Science and K.P.T.
Commerce College,
Manora.
Message

Arvind D. Ingole
President
Dyanopasak Shikshan Prasarak Sanstha, Manora

I am extremely happy to know that the internal Quality Assurance Cell of our college has organized a One day State Level Seminar on The Role of ICT in Quality Education on 20th April 2017 and to commemorate the academic event the organizing committee is publishing proceeding in an online Journal (Special Issue). I congratulate the Principal and the Convener for providing a platform to academic fraternity to come together and share their views to attain excellence in Higher Education.

Education is key to success in any field. This is an era of globalization and to compete with the world, it is essential to keep pace with time. The IQAC of any college is supposed to chalk out and carry out the academic programmes to ensure excellence in education. This is really a good effort of the IQAC of the college to undertake a venture to organize a State Level Seminar.

I wish all the best to all the participants and the convener good luck and grand success for the event.

(Arvind D. Ingole)
From Principal's Desk

I heartily welcome you all to this One Day State Level Seminar on 'The Role of ICT in Quality Education' organized by Internal Quality Assurance Cell of the College on 20th April 2017.

It has always been the vision of the institute to develop good and responsible citizens. So to fulfill this dream, we want to try our level best. Organizing this seminar is also a step towards the attainment of these goals.

This event will provide a platform to the Principals, IQAC Coordinators, and teachers to share their views and come up with new ideas for the qualitative improvement of the process of ICT in education.

(Dr. N. S. Thakare)
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TEACHING ENGLISH VOCABULARY THROUGH ICT

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Introduction:
Words are the currency of communication. Listening, speaking, reading, and writing are the interlinked areas of communication. A strong vocabulary can improve all areas of communication. Vocabulary is the first and foremost important step in language acquisition. Why is vocabulary learning so important? In order to understand a text, one must understand the words that represent the ideas or concepts. Studies show that there is a high correlation between vocabulary knowledge and reading comprehension. We also know that there are degrees of vocabulary knowledge, from “never heard this word before,” to “know this word and can use it in different contexts”. The proficiency of a person in language is directly determined by the vocabulary he has. Vocabulary is more than a list of words, and although the size of one’s vocabulary matters, how to use it matters most.

The purpose of this paper is to focus on how English vocabulary can be taught effectively through the use of ICT. The paper also discusses different tools of ICT that can be incorporated in the teaching of vocabulary items in a language classroom. Vocabulary includes single words, phrases, collocations, and strategic vocabulary, as well as grammatical patterning, idioms and fixed phrases. Therefore, teaching English vocabulary by means of the tools of new technologies and the modern learning methods seems to be the most challenging job. Vocabulary is a necessary element for all communication. The learners of the language encounter vocabulary problems every day. It is a big task before them to be able to acquire ample number of words from the language, and also to retain them forever. Being a language teacher, it is our responsibility to help students to develop a rich vocabulary inventory.

Learning English is a great opportunity for a student because it is required in an international world. The knowledge of English has many advantages that help in the economic, cultural, political, and social aspects of life. A strong vocabulary enables a student to speak with greater precision with other people. Words can be employed as the currency of communication. A large vocabulary is necessary to improve all areas of communication such as, listening, speaking, reading and writing. Improved vocabulary, consequently, improves the learner’s academic and social confidence, and also the competence. Traditional methods of teaching vocabulary have many drawbacks. They are not only slow but unable to create long lasting effects. Therefore, in this age of information and technology, the greatest tools we can give to our students for success in their life, are the tools of ICT. ICT brings change, not only in their education, but more specifically in their life. A rich vocabulary and the skills for using this vocabulary can definitely play a miracle in their life.

The teacher of English as a second language has several challenges before him during teaching English vocabulary. However, with the help of new technology and modern teaching methods it becomes an easy task. It becomes possible to make the correct connections between the form and meaning of words when understanding the second language. It also becomes easy while producing a language, to use the correct form of a word for the meaning intended. ICT tools help the learners and the teachers to face these challenges. With the help of ICT students can acquire a critical mass of words...
for use in both understanding and producing the language. They can remember the words overtime. They can recall them readily. They can develop the strategies for coping with gaps in word knowledge, and also to deal with unknown words or unfamiliar words with their uses. Thus, ICT can help them to take responsibility themselves for the expansion of vocabulary.

English has hundreds of thousands of words. Therefore, teaching vocabulary may seem a very difficult task. However, the teacher of English should always remember that an average native speaker uses around only five thousand words in his every day speech. Similarly, students do not need to produce each and every word they learn. It is enough that they should just recognize some of them. So, while teaching vocabulary, teacher should carefully select the words that particular a student uses and needs frequently. Once the teacher has chosen what to teach, the next important step is to consider how he should teach it. Here, the teacher can use ICT tools as an efficient way. With the help of these tools he can achieve the target of teaching vocabulary efficiently.

ICT makes the teaching of vocabulary easier to comprehend and assimilate. However, a teacher can only pay attention towards his methods only when he is completely dedicated to his profession and if his profession is his passion. Similarly, to adopt the ICT tools, a computer with necessary software and a LCD projector should be available. Using modern methods with ICT, the students can learn English in the same way as they learn their mother tongue, whereas, by traditional methods they learn English word by word through their mother tongue. But, if the teacher uses ICT as a teaching method for a particular group of students, they are likely to learn more quickly. Furthermore, using a variety of teaching methods will help students from being bored and learn in a new and exciting way. Today, we have great possibilities in terms of ICT tools as teaching methods, visual and listening aids, seating arrangements, etc. With this freedom in teaching, a teacher can use a large number of ideas during his classes and he can put into practice a lot of new ideas and activities. In order to motivate the students and to make the learning process as effective as possible teacher can make the effective use of ICT tools. Let us discuss the different tools a teacher can use in teaching vocabulary.

**ICT Tools for Teaching Vocabulary:**

As we know, any new lesson of English begins with a large or small number of new words, which students are supposed to learn, to be able to understand, and speak and write about it themselves. However, it is difficult for them to learn all the necessary words. If they learn it by heart mechanically, probably they will not remember it after a certain time. It is natural that after two or three weeks new learnt words are forgotten. So, in order to remember them and activate new vocabulary students need some new method or technique. ICT is immensely helpful in this regard. Let us see, how vocabulary can be taught with the help of ICT. The process of enriching the vocabulary can be hastened by

- Motivating the students to compose and edit on screen, using word processing software such as dictionary and thesaurus.
- Showing them short films or documentaries without audio and asking to guess and discuss the dialogues they expect.
- Using video camera or mobile to make a short film in order to make a documentary or advertisement. They may also be asked to write a script for the same.
- Creating online book communities for the students to encourage reading skill.
- Integrating the use of ICT tools in teaching language.

We can use various ICT tools for developing the vocabulary of the students. Many of the web-based activities and computer-based applications are essentially helpful in this regard. Some of them are:
Puzzles:

A plethora of websites provide online puzzles on English words. Students may be suggested to solve them. This may help them to recall and remember a large number of words for a long time. For instance, http://www.studystack.com/ (hangman, crossword puzzles, matching and word games) this website provides many interesting puzzle games and crosswords in English. Teacher can encourage the students to solve them individually or in groups.

Flashcards:

Flashcards can be used to introduce new words to the students. There are many sources available on the internet freely. Following are the websites for creating and sharing flashcards:

http://www.quizlet.com/ (study groups, flashcards, space race game, scatter game)

http://www.flashcardexchange .com/ (the world’s largest flashcard library)

http://www.muchobeets.com/ (picture flashcards)

It has been observed that the words introduced through Flashcards are imprinted on the students’ minds for a long time. This is one of the best ICT tools to develop the vocabulary.

Mind maps:

Mind maps are also very useful in developing vocabulary. Teachers can ask students to create a mind map on a certain essay, poem or story. This will encourage the students to remember a large number of words. There are softwares which can be used to create effective mind maps.

Online Concordancer:

A Concordancer is a piece of software that searches a corpus (a collection of texts in electronic form) for a selected word or phrase and presents every instance of that word or phrase in the centre or the computer screen, with the words that come before and after it to the left and right. A node word is a selected word, appearing in the centre of the screen. A concordance is the lines of text illustrating the search word, the node. A concordance can be used to:

2. Analyze the language in books, readers, and course books.
3. Analyze usage – when it is appropriate to use obtain rather than get?
4. Examine word order.
5. Explore word families.
7. Understand differences in meanings and patterns; find genuine examples …

We can find more ideas on http://www.teachingenglish.org.uk/think/articles/concordancers-elt.

Online Dictionaries:

There are many dictionaries available online. We can encourage the students to refer them. http://www.dictionary.com is a very useful portal which provides access to a number of online dictionaries. The habit of frequently referring a dictionary consequently develops the vocabulary.

Games podcasts:

Students may be suggested to play spelling games / quizzes / games based on grammar. They are freely available on Internet. Some of the useful websites are:

http://www.freerice.com

http://www.spellingcity.com

http://www.puzzle-maker.com

“Free Rice” is a program that presents a word and four answer choices on the screen. For each correct answer, the United Nations World Food Programme donates 10 grains of rice to countries in need. This game adjusts its difficulty level based on the
response, filling a bowl with rice as the player adds to his or her score. As a class activity, the teacher can project the website on screen and guide students in playing the game for 5 minutes daily. It will definitely improve their vocabulary. Similarly, “Spellingcity”, improves the students’ accuracy in writing the spellings of the words. “Puzzle-maker” is yet another platform for recalling appropriate words for a phrase or synonym.

**Videos:**

A large number of videos on English language learning are readily available on Youtube and other websites. They are also very useful in developing vocabulary. Some of the useful links are given here:

http://www.visualthesaurus.com/
http://www.visuwords.com/
http://www.youtube.com/

Students can watch and download these videos freely. They can learn correct pronunciation of the new words. This audio visual tool improves their vocabulary very fast. Even, it is very interesting to watch the dramatization of a poem or story on screen.

**Conclusion:**

Thus, to conclude, we can say that ICT has various implications in teaching language, especially in the area of developing the vocabulary of the students. With the help of different ICT tools, a teacher can literally do miracle in the class. In closing, we can say that teachers should go digital with word learning. These ICT tools when used with specific strategies and technology, it will support the wide reading, direct instruction, active learning, and interest in words that we know are essential to vocabulary development. In a digital world, knowing how to use the tools and resources available online is a part of becoming a strategic learner. This paper provides a useful and evocative jumping off point for integrating technology and media into the students’ vocabulary learning experience. With the tools of ICT, doubtlessly, teaching of vocabulary will not only be very interesting but effective and fast also.

**References:**


◆ ◆ ◆
Introduction:

Today almost every office desk in India has a PC and government’s computer policies shows its sincere efforts to reach out to every village in the country. For a nation like India which is geographically big and culturally and linguistically so varied, computer technology has proved to be a great tool of overall development. Successful efforts are made at government as well as non-government level to use this technology for the benefit of the Indian society.

The use of ICT has become more common during the last two decades with the existence of the Internet and the World Wide Web. The Internet is fast becoming the largest collection of information in the world. Finger et al. (2007) stated that —the evolution of computer technology can be described in terms of ‘yesterday’, ‘today’, and ‘tomorrow’. This is helpful in reminding us where we have been and where we are today, and for alerting us of the importance of adopting a future perspective. In support of this view Forcier and Descy (2002) commented:

“Any lasting changes and reforms will need to be preceded by a vision of what future learning environments will be like. What expectations will be placed on the learner? What will the role of the teacher be? What will the physical structure of the learning environment be?”

Finger et al. (2007) also mentioned that the term ICT has recently become more widely used globally to replace earlier terms such as ‘technology learning’ and ‘information technology’.

Several definitions have been given to explain and interpret the acronym ICT and the one given below seems to be the closest: ‘ICTs is a generic term referring to technologies that are used for collecting, storing, editing and passing on (communicating) information in various forms.’

Research is a way of examining practice. Research is undertaken within most professions. More than a set of skills, it is a way of thinking: examining critically the various aspects of your professional work. It is a habit of questioning what you do, and a systematic examination of the observed information to find answers with a view to instituting appropriate changes for a more effective professional service. The word research is composed of two syllables, re and search. ‘re’ is a prefix meaning again, a new or over again and ‘search’ is a verb meaning to examine closely and carefully, to test and try, or to probe. Together they form a noun describing a careful, systematic, patient study and investigation in some field of knowledge, undertaken to establish facts or principles. Research is a structured enquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable. Scientific methods consist of systematic observation, classification and interpretation of data.

Characteristics of Research:

Research is a process of collecting, analyzing and interpreting information to answer questions. But to qualify as research, the process must have certain characteristics: it must, as far as possible, be controlled, rigorous, systematic, valid and verifiable, empirical and critical. We shall see the various steps of research and role of ICT in each of the steps and measuring its quality.
1. **Formulating the Research Problem:**
While formulating the research problem, we carry out a survey and discuss with our supervisor and team partners. Even we google to collect information on the same problem. Now, let’s look at the main steps that are usually taken to conduct a research. The first two steps in any research activity are 1. Identifying your own world view and situate your research for evaluation. 2. Problem Identification by Literature review and design of research questions.

Research starts with an idea that researcher has, and now to conduct a research, that idea needs to be converted into a proper research question. ICT has to come in first stage while the researcher needs to discuss the ideas with others to get better user involvement.

2. **Extensive Literature Review:** A literature review discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain time period. A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. Literature reviews provide you with a handy guide to a particular topic and can give you an overview or act as a stepping stone. For scholars, the depth and breadth of the literature review emphasizes the credibility of the writer in his or her field. Literature reviews also provide a solid background for a research paper’s investigation. Comprehensive knowledge of the literature of the field is essential to most research papers.

For reviewing literature, we have to collect relevant literature. This was very difficult and time consuming when there were only print journals and books available. For this purpose researchers have had to visit various libraries, have had to stay there for months to collect the literature. After 1990s, it became very easy to search the literature on a single click at your desk. Even some articles can be asked for from its authors by mail which are not available online.

**CiteSeer** is a public search engine and digital library for scientific and academic papers, primarily in the fields of computer and information science, that has been replaced by CiteSeerX. Many consider it to be the first academic paper search engine. It became public in 1998 and had many new features unavailable in academic search engines at that time. CiteSeerX shares its data for non-commercial purposes under a Creative Commons license.

**ResearchGate** and **Academia.edu** are social networking platforms whose primary aim is to connect researchers with common interests. Users create profiles on these services, and are then encouraged to list their publications and other scholarly activities, upload copies of manuscripts they’ve authored, and build connections with scholars they work or co-author with. Academics use Academia.edu to share their research, monitor deep analytics around the impact of their research, and track the research of academics they follow.

**PubMed** comprises more than 27 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

3. **Developing the objectives:** Objectives are the goals you set out to attain in your study. They inform a reader what you want to attain through the study. It is extremely important to word them clearly and specifically. Objectives should be listed under two headings: a) main objectives (aims); b) sub-objectives. The main objective is an overall statement of the thrust of your study. It is also a statement of the main associations and relationships that you seek to discover or establish. The sub-objectives are the specific aspects of the topic that you want to investigate within the main framework of your study.

4. **Preparing the Research Design including Sample Design:** In this phase of research there has to be active Participant Involvement. The researchers has to have proper Survey Design,
correct Sampling and have to sort out all Statistical issues for conducting Qualitative/Quantitative Research.

In the following ways ICT Tools can be used by researchers for qualitative research.

- As a medium of communication ICT tools provide powerful communication channels mostly text based but increasingly enhanced with moving and still images and sound, thus competing fairly with the traditional medium of interaction. Researchers can log into any of these channels and practices, either for studying the way people use computer mediated communication in cultural context or can utilize these to interact with participants by initiating a discussion.

- As a network of computers-Internet, the most popular and powerful ICT tool, breaks all boundaries and makes physical distances between people disappear thus providing a platform like online communities, blogs and discussions forums to reach out to people all across the globe for collective and collaborative research with seamless possibilities for the researcher to utilize this space particularly for collecting information.

5. Collecting the Data: Data can be collected by surveying, interviewing and sampling. The qualitative research process starts with a Questionnaire / Survey Design. Survey can be created using ICT tools web, Word Processors (WP), Spreadsheets and now most popular online tools like google-forms and surveymonkey.com, and can be distributed using email and discussion boards.

The data collected using one or many such online tools needs a proper database structure for storage and retrieval thus tools like relational databases (SQL Server, ORACLE etc.) ; open sources databases using MySQL and Access, Flatfile database using Spreadsheet, wikis, GIS [Google earth, Google Maps, Flickr, ArcView/explorer]) can be used. In high sophisticated laboratories almost all the instruments are computer aided.

6. Analyzing the Data: Data Analysis is a an area where a lot of works is being done and a huge collection of open source tools are available for researcher e.g. for Relationship mapping techniques like Herring or fish bone mind maps, SWOT Analysis, PMI, Venn etc. software like Inspiration, kidspiration, smart ideas, Cmap, Mindmapper, freemind would be useful and also the open source Online tools available at

1. www.gliffy.com,
2. www.mindmeister.com,
3. www.drawanywhere.com/

An open source statistical software programming language like R is found very useful by researcher. For preparing Graph using Spreadsheet, digitizer, for typical data analysis using Calc or excel, preparing Checklist (any Word Processor , Spreadsheet) and Mashing tools like intel mash up is now very common.

If you have conducted a large quantitative survey, this section may contain tables, graphs, pie charts and associated statistics. In the earlier days, all these practices were carried out manually and were very lengthy and hectic. Use of computers made it so easy and time saving. The preliminary data analysis like table, graphs, charts, mean, mode, median, percentage etc. can be carried out by using MS Office in general and Excel in particular. But for high computational research like standard deviation, standard error, ANOVA, Chi-square, regression, variation, correlation, etc. can now be calculated online. For this, some of the websites are

1. www.mathportal.org/calculators/statistics-calculator,
2. www.easycalculation.com/statistics,
3. http://homepage.stat.uiowa.edu/~mbognar/applets/bin.html,
4. www.alcula.com/calculators/statistics,
If you have conducted a qualitative piece of research this section may be descriptive prose and various computer aided tools are available. Images of the objects can be grabbed by using camera fitted with some software. Various drawing tool kits are available to draw the correct and proportionate diagrams.

7. Preparation of the Report or Presentation of Results: Formal write ups of conclusions reached. The final step in the process of any research activity is Writing up Research by Research Reporting Guidelines advised using the word processors.

To make the research outcomes reach maximum numbers of stakeholders proper planning for printing, mailing and/or posting on community forums plus translation is required. Making research results accessible to various audiences through website, Research Portfolio, Newsletter, and other Community reports is now a common practice. Presenting research at Conferences/ Seminars and thus making findings known to users should be planned. Events happening across the globe on the theme of research can be found out easily today through Internet.

Bibliography: Web pages, as with journal articles, books, encyclopedias and other material consulted while researching, need to be properly cited in a bibliography, a reference list or a list of works cited. There are a lot of Citation & Style Guides online which provide more information on citation.

Publication Abstracting and Indexing: Once you published your work in any journal it can be cited by the other authors across the world. The quality of research you published and journals is measured and that is called author’s metrics and journal’s metrics respectively. For abstracting and indexing various agencies are available. You can calculate the h-index yourself, or let one of these databases do it for you. Remember that they only gather information from the journals they index.

Scopus is the largest abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings. Delivering a comprehensive overview of the world’s research output in the fields of science, technology, medicine, social sciences, and arts and humanities, Scopus features smart tools to track, analyze and visualize research. Use the Author Search tab to conduct an author search then select the correct author. An author profile opens with detailed research information, including his/her h-index number along with the h-Graph. Scopus only includes articles published after 1995 when calculating the h-index.

Web of Science. You can do an author search or use the Author Finder. If your name is common you will need to do a lot of refining using topics, institutions, and years. When you have a good list of articles, use Create Citation Report to see the h-index.

Google Scholar provides an h-index for an author only if the author has created a user profile for themselves. GS also calculates the h-index and i10 index, listing the articles used to arrive at those numbers. i10 is the number of articles receiving at least 10 citations from other authors.

Microsoft Academic Search. Search for the author’s name. You may be offered a choice between people with the same name, but working at different institutions. You are provided an h-index and the articles used to arrive at that number. The other databases listed here also provide basic statistics like number of articles published per year, number of citations to the journal each year, and number of references made each year.

- Journal Citation Reports
- CiteScore
- Eigenfactor.org
- Google Scholar Metrics
- Scopus Journal Analyzer
- SCImago Journal & Country Rank

Merits of use of ICT in Research

1. Linkages: ICT and the Internet have also enhanced linkages between research institutions at
national, regional and international levels. Most universities now operate elaborate campus wide area networks and have gateways to other similar institutions facilitating collaboration and exchange of research and development information.

2. **Check on Plagiarism:** In scientific writing, plagiarism is perhaps the most serious and the most widely recognized ethical lapse. It can occur in many forms and some of the more subtle instances, while arguably unethical in nature, may be raised to the level of research misconduct by federal agencies such as the National Science Foundation (NSF) or the Office of Research Integrity (ORI). ICT enable us to check degree of plagiarism as number of free online plagiarism checkers are available viz., www.grammarly.com/plagiarism, http://plagiarisma.net/, www.duplicehecker.com, www.paperrater.com/plagiarism_checker.

3. **Citation tracking or citation analysis:** This is an important tool used to trace scholarly research, measure impact, and inform tenure and funding decisions. The impact of an article is evaluated by counting the number of times other authors cite it in their work.

**Demerits of use of ICT in Research**

1. Missing of writing skills: As plenty of literature is available on internet, there is a threat that researchers may copy it and paste. This may lose the writing skills of the researchers.

2. Volatility: Information should be easy to obtain or access. Information kept in a book of some kind is only available and easy to access if you have the book to hand. The information and data on internet is not available for longer time; that is sometimes cached. Sometimes the domain of the website is expired and therefore researchers can’t find it back for verification by reviewer.

**Conclusion:** Thus, there are some innovative tools available today that support researchers in the entire research process i.e. researcher can get help to Search intelligently, assess the quality of search results, help in recording, organizing and producing information using online notecards, and also help in formatting the bibliography in MLA, APA, or Chicago/Turabian whichever style that is required. So hopefully now you see that ICT plays a full role in any type of research undertaking you may embark on or in understanding the results of research studies related to your area of interest.

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IMPACT OF ICT IN EDUCATION

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ABSTRACT

ICT can be used for providing education to the people who are not able to come to school due to various constraints. ICT can play a great role in formal and non formal forms of education. The paper examines certain important issues related with the effective implementation of ICTs in all levels of education and provides suggestions to address certain challenges that would help in the implementation of ICTs in education and simultaneously increasing Quality of education. Many teachers are reluctant to use ICTs, especially computers and the internet. Some of the reasons for this reluctance include poor software design, scepticism about the effectiveness of computers in improving learning outcomes, lack of administrative support, increased time and effort needed to learn the technology and how to use it for teaching, and the fear of losing their authority in the classroom as it becomes more learner-centered. In terms of using internet and other ICT as a resource for lesson preparation, most of the teachers interviewed, admitted to never or rarely using it, while very few used the internet to gather information sporadically or regularly.

Keywords: ICT, Computer, Internet, World Wide Web, Teleconferencing, Radio, T.V

Introduction

To accurately understand the importance of ICT in education there is need to actually understand the meaning of ICT. ICTs stand for information and communication technologies and are defined, for the purposes of this primer, as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information.

The Internet is a driving force for much development and innovation in both developed and developing countries. Countries must be able to benefit from technological developments. To be able to do so, a cadre of professionals has to be educated with sound ICT backgrounds, independent of specific computer platforms or software environments. Technological developments lead to changes in work and changes in the organization of work, and required competencies are therefore changing. Information and communication technology (ICT) has become, within a very short time, 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 of education, alongside reading, writing and numeracy. One of UNESCO’s overriding aims is to ensure that all countries, both developed and developing, have access to the best educational facilities necessary to prepare young people to play full roles in modern society and to contribute to a knowledge nation. Maintaining a capacity to advise national governments on the use of technology in schools and, in particular, on the optimal balance, given local circumstances, between ICT and older educational technologies and assisting countries in developing educational software and materials that reflect their own national and regional cultures are key components of the Organization’s strategy to achieve the Education for All goals.

ICT TOOLS:

There are various ICT tools available which can be utilized for the knowledge creation and dissemination in the modern world. Tools include...
Radio, T.V, Internet, Mobile phone, Computer, laptop, tablets and many other hardware and software applications. Certain ICT tools like laptops, PCs, mobile phones, and PDAs have their own implication in Education. These devices can be used in imparting education and training for teachers and students. Many of the ICT tools are much hyped but have not given fruitful results till now. Use of radio for pedagogical practices has been very much popular in past and is still in use in India by IGNOU. But One-to-many broadcast technologies like radio and television are seen as less revolutionary ICTs in education, as their usage is seen as reinforcing of traditional instructor-centric learning models, unlike computers, which many see as important tools in fostering more learner-centric instructional models. Successful ICT initiatives meet three intertwined objectives: availability, access, and demand. Educational ICT tools are not for making educators master ICT skills themselves, but for making educators create a more effective learning environment via ICT. Teachers can utilize ICT tools to get benefits from using these tools in the areas of content, curriculum, instruction, and assessment. ICTs include fixed-line telephony, mobile telephony, newspapers, radio, television, radio trunking, very small aperture terminal (VSAT), computer, and internet must be accessible to rural public as per their demand.

E-LEARNING IN CONTEXT

E-learning refers to the use of ICTs to enhance and support teaching and learning processes. It is the instructional content or learning experiences delivered or enabled by electronic technologies and it incorporates a wide variety of learning strategies and technologies. E-learning ranges from the way students use e-mail and accessing course work online while following a course on campus to programmes offered entirely online (Commission on Technology and Adult Learning, 2001; OECD 2005). It is thus an alternative solution, which enlarges accessibility to training and becomes essential to complement the traditional way of teaching (i.e. face-to-face).

E-LEARNING TECHNOLOGIES

Functionally, e-learning includes a wide variety of learning strategies and ICT applications for exchanging information and gaining knowledge. Such ICT applications include television and radio; Compact Discs (CDs) and Digital Versatile Discs (DVDs); video conferencing; mobile technologies; web-based technologies; and electronic learning platforms. This section discusses what these ICTs entail and their pedagogical, technical and cost implications.

PEDAGOGICAL, TECHNICAL AND COST IMPLICATIONS OF E-LEARNING TECHNOLOGIES

<table>
<thead>
<tr>
<th>e-learning technologies</th>
<th>Pedagogical implications</th>
<th>Technical implications</th>
<th>Cost implications</th>
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</thead>
<tbody>
<tr>
<td>TV/Radio</td>
<td>Effective use of TV/radio depends on three key moments in the application: before, during and after the viewing session and give instructions, explanations, questions or evaluation before and after each moment</td>
<td>Equipments are needed depending on the objectives and the scope of the training application, which includes audiocassette, video camera, PCs, editing software, distribution channel and receiving and displaying equipment</td>
<td>Costly in terms of TV/radio production, which includes animation and graphic designers, hardware, access to the broadcast network</td>
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<tr>
<td>CD/DVD</td>
<td>Web-based technologies</td>
<td>Videoconferencing</td>
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<tr>
<td>• Simulation for self-study</td>
<td>Permanent accessibility (24 hours, all days of the week), speed, direct communication, links to related topics and up-to-date notes.</td>
<td>• New pedagogical methods required to provoke interaction</td>
<td></td>
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<tr>
<td>• Used with the presence or remote support of the trainer</td>
<td></td>
<td>• Require small groups</td>
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<td></td>
<td></td>
<td>• Both trainers and learners require some basic training</td>
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<td></td>
<td></td>
<td>Required equipment: (i) Sound proofing and controlling the lighting conditions; (ii) Audio-visual peripherals – TV monitor or video projector, camera(s), microphone(s) and sound playback; (iii) Videoconferencing codec (Rollabout) (iv) Multimedia PC (with PCI-based as well as software based videoconferencing codec) and (v) More bandwidth is needed for higher-quality images</td>
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<tr>
<td></td>
<td></td>
<td>Costs are higher than for printed materials - replication downloading free products or buying ready-made products can lower the costs.</td>
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<td></td>
<td></td>
<td>Hardware, technical expertise and Internet subscriptions costs</td>
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<td></td>
<td></td>
<td>There are two types of costs: setting up the videoconferencing system and operational costs.</td>
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</table>
### ICTs help improve the quality of education

Improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways:

- by increasing learner motivation and engagement,
- by facilitating the acquisition of basic skills, and
- By enhancing teacher training. ICTs are also transformational tools which when used appropriately, can promote the shift to a learner-centered environment.

ICTs such as videos, television and multimedia computer software that combine text, sound, and colorful, moving images can be used to provide challenging and authentic content that will engage the student in the learning process. The teachers strongly felt that the visual aural combination if integrated judiciously with the textbook and syllabus, can work wonders in getting across abstract concepts and logics to the children in a short span of time. The potential of each technology varies according to how it is used. Haddad and Draxler identify at least five levels of technology use in education: a) Presentation b) Demonstration c) Drill & Practice d) Interaction e) Collaboration

### Conclusion

Therefore this paper is an attempt to present the important issues that must be addressed by both pre-service teacher’s education and in-service teacher professional development programs if schools and other educational institutions are to fully exploit the potential of computers and the Internet as educational tools. In terms of using internet and

<table>
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<tr>
<th>e-learning platforms</th>
<th>ICTs help improve the quality of education</th>
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<tr>
<td>• Adding and changing content as course is progressing.</td>
<td>Improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways:</td>
</tr>
<tr>
<td>• Template for inclusion of course content.</td>
<td>- by increasing learner motivation and engagement,</td>
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<tr>
<td>• Support multimedia presentation of course content while others are text based.</td>
<td>- by facilitating the acquisition of basic skills, and</td>
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<tr>
<td>• Complex structuring of content allowing for multiple links and cross-reference possibilities.</td>
<td>- By enhancing teacher training. ICTs are also transformational tools which when used appropriately, can promote the shift to a learner-centered environment.</td>
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<tr>
<td>(i) Server platform hardware requirements; (ii) Client platform hardware requirements; (iii) Operating system/cross platform; (iv) organization/ registration/administration; and (v) The learning content should be in standard formats that can easily be stored, accessed and distributed. Such formats include HTML, PDF, RTF, GIF, JPEG and MPEG.</td>
<td>ICTs such as videos, television and multimedia computer software that combine text, sound, and colorful, moving images can be used to provide challenging and authentic content that will engage the student in the learning process. The teachers strongly felt that the visual aural combination if integrated judiciously with the textbook and syllabus, can work wonders in getting across abstract concepts and logics to the children in a short span of time. The potential of each technology varies according to how it is used. Haddad and Draxler identify at least five levels of technology use in education: a) Presentation b) Demonstration c) Drill &amp; Practice d) Interaction e) Collaboration</td>
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<tr>
<td>• Hardware cost implications</td>
<td><strong>Conclusion</strong></td>
</tr>
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<td>• Cost for maintenance</td>
<td>Therefore this paper is an attempt to present the important issues that must be addressed by both pre-service teacher’s education and in-service teacher professional development programs if schools and other educational institutions are to fully exploit the potential of computers and the Internet as educational tools. In terms of using internet and</td>
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<td>• Operational costs (technical and administrative support)</td>
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other ICT as a resource for lesson preparation, most of the teachers interviewed, admitted to never or rarely using it, while very few used the internet to gather information sporadically or regularly. The teachers particularly felt that they had both access and training inadequacy and hence were unable to utilize internet and other facilities. More teachers were comfortable however, with using computers as an individual than as a teacher. A positive find is that all those teachers who are not well versed with the computer and other technology, expressed keen interest in undergoing training for the same. They felt that if trained, they would be in a position to make use of resources available in the school. Support of school administrators and, in some cases, the community, is critical if ICTs are to be used effectively. In addition, teachers must have adequate access to functioning computers (or other technologies) and sufficient technical support. Shifting pedagogies, redesigning curriculum and assessment tools, and providing more autonomy to local schools all contribute to the optimal use of ICTs in education. Very few strong examples of integration of ICT into classroom teaching learning is visible, though some schools do use the audio visual aids and integrate teaching of some lessons. Largely however, even where ICT is used in the classes, it is usually as an information source and not a part of core learning process.

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THE IMPORTANCE OF ICT FOR QUALITY EDUCATION IN DEVELOPING INDIA

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ABSTRACT

Information and Communication Technology (ICT) can be utilized for the education sector. Education includes online, distance and part time education. There are unlimited applications of ICT in the real world. In his paper emphasis is on the education field. Traditional Non-formal education system process includes activities like admission, personal contact programmers, exam for any course in a university or institution. In this process ICT can play a effectively great role in all the activities by providing a lot of benefits to students, teachers, parents and universities itself. ICT can be used rural area education to the people who are not able to come to school due to various constraints. ICT can play great role in formal and non formal forms of education. The paper examines certain important issues related with the effective implementation of ICTs in all levels of education and provides suggestions to address certain challenges that would help in the implementation of ICTs in education and simultaneously increasing Quality of education.

Keywords: ICT, IT, Education, MIS, Quality Education, Rural area

1. Introduction

Information Technology (IT) has become a buzzword while talking about technology and its applications. IT is used in various business and management functions but not in the improving the quality of education. Quality of education has been issue of concern in the absence of standard parameters of to measure the quality. The hardware, software, methods how required or used in acquiring, storing, processing and displaying data and information is collectively known as Information Technology (IT). Also on other hand, many developments and achievements took place in communication technology sector after and Second World War. Hardware, know how, programs and the methods used in ensuring that message is transmitted correctly, efficiently and cost effectively and collectively known as Communication Technology (CT). Both of these technologies became complementary to each other means progress in one alone is not much beneficial. Hence IT and CT started moving together and a new term was coined named as Information and communication Technology (ICT). Usage of ICT is one of the way by which India’s large population base can be effectively reached. Moreover in enhancing the quality and delivery of services through ICT-especially in case of developing relations with citizen- Government will be better positioned [17]. Passive learning occurs when students use their senses to take in information from a lecture, reading assignment, or audiovisual. Traditional lecture is not an effective learning environment for many of our students because so many students do not participate actively during a traditional lecture [16].

2. ICT application for quality improvement in formal and non-formal education:

ICT applications are becoming indispensable parts of contemporary culture, spreading across the globe through traditional and vocational education. In Indian scenario, mainly education system has three tiers primary (including nursery and preprimary), high school or secondary level (High and senior secondary levels) and the college or higher level (including college, university levels). In all these levels of education ICT can be utilized for better teaching learning process and improving quality of education. Using multimedia in education results
in the increasing productivity and retention rates, because people remember 20% of what they see, 40% of what they see and hear, but about 75% of what they see and hear and do simultaneously [15]. Interactive whiteboard helps teachers to structure their lessons, supports collaborative learning, can help to develop student’s cognitive skills, enables ICT use to be more integrated into classroom. Government of India has announced 2010-2020 as decade of innovation. Reasoning and critical thinking skills are necessary for innovation [3]. Multimedia projector and computer can be used to teach phonetics and pronunciation. Lessons, poems & lectures by eminent scholars stored in computers or other ICT tools can easily be shown to the students time and again anywhere. Such type of teaching and learning retains for long time in the minds of the children. At high school level subjects like History, Geography, Political science, Physics, Chemistry, Biology, Physical education etc are taught.

Lessons in these subjects can easily be taught by showing small movie related with the subject to create interest among the students. Such type of movies and related multimedia material is easily available at academic repositories and from various related sites with the help of Internet. Internet is basic tool which can be utilized by teachers and students to find any information on any topic. This type teaching –learning makes the environment very interactive and is liked by students. Educational and practical CD’s available in the market make this task easier to implement. At college level various facilities like computers, Electronic Board, Educate [1] facility initiated by various state Governments, MM projector and other peripheral devices related with teaching learning process are easily available. All such instructional material may be uploaded at the University portal and CDs of those lectures may be provided to the students instead of printed or hard copy material. Online fees payment system can also be made on the portal of concerned University or Institute. Students will be saved from a lot of hardships they face in depositing fees, attending PCPs, taking exams and many more. Exam results in such cases may be provided online on the same day as same is happening in case of online exams and entrance tests. Advantages of utilizing such tools include saving of lot of paper work and help the environment making it pollution free. This will also bring transparency in the whole system of functioning.

3. ICT for Content development and administration

ICT can be utilized for the major areas which are content and administration. In this area certain initiatives have been taken at state and centre levels. For content development in India certain initiatives have been taken for creating digital repositories and learning objects. Delhi Government has been a pioneer in using ICTs for better administration of the education system. The Department of Education, Government of Delhi, having a lot schools , teachers and students under its administrative jurisdiction has developed a comprehensive and functionally effective Web-based and GIS-based Management Information System (MIS) . Employee Attendance Report also facilitates an objective inspection, as the attendance of all the schools are on display for the purview of the officers of the Department [13]. With the help of such a transparent system everyone including citizens, schools, zonal offices, district offices, regional offices, and various branches at the headquarters can share information using the Web-enabled software. Information for all stakeholders—students, teachers, and administrators—is available online through the Directorate’s Web site (edudel.gov.in) this includes information on admissions, mark sheets, teacher attendance, transfers, and pay slips etc.. United Nations Educational Scientific and Cultural Organization (UNESCO) [14] has published a summary of case studies conducted in nine countries in different parts of world and most of these studies reflect the necessity of having multi-prong strategies for teacher education and to improve their expertise.
Existing Open and distance education systems use different technology options for delivering content-Educate, other TV and Radio channels [6]. All these options use ICT. A local area network at school level can enable automation of a variety of processes.

4. ICT and teachers Training

In the modern world of ICT there is decentralization of knowledge source. Technology is only a tool and it must be utilized only to remove the barriers and challenges present in the existing system. ICT provides opportunities to complement on the job training and continuing education for teachers in a convenient and flexible manner. Use of ICTs in education requires major shift in the way content is designed and delivered. New technologies cannot be imposed without enabling teachers and learners to understand these fundamental shifts. Ongoing training is necessary for the trainers in institutions and organizations who are engaged in the design of curriculum, teaching materials and delivery of ICT-enabled education [9]. ICT is applied in their teaching practices as well as for delivery for these trainings. In order to implement ICT-driven distance education programmers, the teachers must first understand and be comfortable with the technologies. They must be given opportunities for acquisition of a new knowledge. This can begin by promoting computer-training programmers for teachers. Use of ICTs for teacher training has been recognized by the governments of most South Asian countries and teacher training programmers like Intel Teach across India, Pakistan, and Sri Lanka; Microsoft Shiksha in India; and several other initiatives in Nepal and Bhutan are focused on using ICTs for training teachers [12]. The International Society for Technology in Education (ISTE) has created the most comprehensive set of ICT standards for teachers, students, and administrators. The training batches duration may be on weekly or fortnightly basis by expert in ICT and its implementation for education. In teacher training colleges, computers and the Internet can be used to increase teachers basic skills of teaching and subject related knowledge by accessing the resources that can later be used in classrooms teaching.

5. Solutions of applying ICT for learning

At present, ICT in school education is strictly limited to a handful of elite schools. Beyond that, it’s just a computer lab that’s held apart from the conventional educational process [10]. Though computers came to Indian classrooms in the year 1984-85, the level of adoption of modern technology in the teaching and learning process has been limited and uneven [11]. Various ICT tools must be available and it must be accessible at demand. Many schools have limited resources for buying books, stationery, furniture and other classroom materials. Role of private sector providing services in such sectors may be taken into account. ICT hardware and software are not designed as per educational purposes rather they are designed for general purpose. One first thinks about the available technology and then a try is being made to apply it into education field, but if we look at in reverse way then possible outcomes may be more useful and may give good results. As per latest tradition only special subject like IT or ICT is available and that is also optional one there is need for to have basic knowledge of computers and IT to utilize various ICT tools to be used for teaching learning. Only computer teachers would not be able to carry this important mission of being agents of change. To sort out infrastructure problems for providing ICT education in schools one can split the screen in half vertically and at two sets of an application can be displayed and used by two users (students) simultaneously. Computer Programmers at various levels of quality parameters can be used to control, manage and put strict discipline in the campuses through use of computer application for Curriculum development, Teaching and learning, Research and extension, Governance and leadership, infrastructural facilities and use of expert system in suggesting intelligent decisions to top management in policy making and other important areas in higher education.

Proceeding of One Day State Level Seminar on The Role of ICT in Quality Education on 20th April, 2017
Conclusion

Quality in education through ICT and its awareness among stakeholders will have positive impact on the society. ICT can be helpful in quality and standards of education by implementing it in various phases of education. ICT can be employed in formal and Non-formal types of education and would eventually make the learners employable and socially useful part of the society. By employing ICT in teacher training can save a lot of money of the Government. Moreover a lot of qualitative improvement can be seen as resource persons for the training can be best of the world. By employing ICT in administration can help in solving the problem of Absenteeism of students and teachers. Good quality content is one of the major issues and directly affects the standards of education and quality. By overcoming the certain challenges involved in the process of education can help a lot in this side. Conclusively a lot of quality improvement is possible after careful and planned implementation of ICT in education by various stakeholders.

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THE ROLE OF ICT IN TEACHING-LEARNING AND EVALUATION

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ABSTRACT

ICT stands for Information & Communication Technology. The use of ICT in teaching-learning and evaluation process is a relatively new phenomenon. The effective integration of this technology into classroom practices poses a challenge to teachers.

This empirical study aimed at finding out the factors influencing use of ICT to make teaching learning effective in higher institutions of learning in India and identifying the innovations that ICT has brought into teaching-learning process, particularly in higher institutions of learning in India. The findings of this study revealed that teaching community had a strong desire to integrate ICT into teaching-learning and evaluation processes. The innovations that ICT has brought in teaching learning process include:

E-learning, e-communication quick access to information, reduced burden of keeping hardcopy, networking with resourceful persons, etc. However, the presence of all these factors increased the chance of excellent integration of ICT in teaching-learning and evaluation process. Globalization and innovations in technology have led to an increased use of ICTs in all sectors including education. Uses of ICTs in education are widespread and are continually growing worldwide. It is generally believed that ICTs can empower teachers and learners, making significant contributions in teaching, learning and evaluation process.

Keywords: ICT, Teaching-Learning-evaluations, Effective, Higher Institutions of learning

What is ICT?:

ICT is an electronic means of capturing, processing, storing, communicating information. ICTs are generally not considered central to the teaching, learning and evaluation process. However, there appears to be a mismatch between methods used to measure effects and the type of learning promoted. The use of ICT in the classroom teaching-learning and evaluation is very important. It provides opportunities for teachers and students to operate, store, manipulate, and retrieve information, encourage independent and active learning, and self-responsibility for learning such as distance learning, motivate teachers and students to continue using learning outside college hours, plan and prepare lessons and design materials such as course content delivery and facilitate sharing of resources, expertise and advice. This versatile instrument has the capability not only of engaging students in instructional activities to increase their learning, but of helping them to solve complex problems to enhance their cognitive skills. The broad definition of ICTs includes computers, the internet, telephone, television, radio and audio-visual equipment. ICT is any device and application used to access, manage, integrate, evaluate, create and communicate information and knowledge. Digital technology is included in this definition as services and applications used for communication and information processing functions associated with these devices.

ICT can be also be defined as “anything which allows us to get information, to communicate with each other, or to have an effect on the environment using electronic or digital equipment”. In early education, the term ICT could include computer
hardware and software, digital cameras and video cameras, the Internet, telecommunication tools, programmable toys, and many other devices and resources

The literature suggests at least three reasons why ICT matters in education. First, ICT already has an effect on the people and environments that surround young children’s learning. Second, these technologies offer new opportunities to strengthen many aspects of education practice. Third, there is support and interest across the whole education sector for the development and integration of ICT into education policy, curriculum, and practice. However, there is a clear consensus in the literature that the introduction and use of ICT education should be grounded in a clear understanding of the purposes, practices, and social context.

The Importance of Using ICT in Teaching-Learning and Evaluation Process

Several studies argue that the use of new technologies in the classroom is essential for providing opportunities for students to learn to operate in an information age. It is evident, that traditional educational environments do not seem to be suitable for preparing learners to function or be productive in the workplaces of today’s society. She claimed that organizations that do not incorporate the use of new technologies in institutions cannot seriously claim to prepare their students for life in the twenty-first century. This argument is supported by Grimes who pointed out that “by teaching ICT skills in higher educational institutions the students are prepared to face future developments based on proper understanding”. Uses of technology can help students and teachers to develop the competencies needed for the twenty-first century”. ICT originally is applied to serve as a means of improving efficiency in the educational process. Furthermore, it has been shown that the use of ICT in education can help improve memory retention, increase motivation and generally deepens understanding. ICT can also be used to promote collaborative learning, including role playing, group problem solving activities and articulated projects. ICT allow the establishment of rich networks of interconnections and relations between individuals. ICT technology has the power to change the ways students learn and professors teach and evaluate. This technology can “revolutionize” the learning process. In other words, ICT extend “teachers and students capabilities, and their well determined use can transform roles and rules in the classroom.

Many people recognize ICTs as catalysts for change; change in working conditions, handling and exchanging information, teaching methods, learning approaches, scientific research, and in accessing information. Teachers could use ICT to facilitate learning, critical thinking and peer discussions. It recognized that technology-based teaching may not be essential in all classes but generally it is most facilitative as a result of providing relevant examples and demonstrations; changing the orientation of the classroom; preparing students for employment; increasing flexibility of delivery; increasing access; and satisfying public demands for efficiency. “The whole purpose of using technology in teaching is to give better value to students”. This better value should also impact the learners/students performance. ICT holds much promise for use in curriculum delivery. Thus, technology can effectively improve teaching and learning abilities, hence increasing learners performances. ICT has the means to aid in the preparation of learners by developing cognitive skills, critical thinking skills, information access, evaluation and synthesizing skills. In addition, ICT provides fast and accurate feedback to learners. It is also believed that the use of ICTs in education could promote “deep” learning and allow educators to respond better to different needs of different learners The use of ICT in the classroom teaching-learning and evaluation is very important The use of ICT in the classroom teaching-learning and evaluation is very important. ICT-supported learning environments could be beneficial to a constructivist
teaching approach. The use of ICT in the classroom teaching-learning and evaluation is very important. The main purpose of the Strategy for Information and Communication Technology Implementation in Education is to provide the prospects and trends of integrating information and communication technology (ICT) into the general educational activities. There are some unavoidable facts in the modern education:

1. ICT has been developing very rapidly nowadays. Therefore, in order to balance it, the whole educational system should be reformed and ICT should be integrated into educational activities.

2. The influence of ICT, especially internet cannot be ignored in our student’s lives. So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones. In this case the widely use of internet access has been an unavoidable policy that should be anticipated by college authorities.

3. The presence of multimedia games and online games by internet has been another serious problem that should be wisely handled by the educational institutions. The students cannot be exterminated from this case. They can have and do with it wherever and whenever they want. Meanwhile, most parents do not have enough times to accompany and control their children. So, the students have large opportunities to do with multimedia games or online games or browsing the negative and porn sites. Having been addicted, the students will have too little time to study, and even do not want to attend classes.

4. The implementation of ICT in education has not been a priority trend of educational reform and the state paid little attention to it. Therefore, there should be an active participation, initiative and good will of the schools and the government institutions to enhance ICT implementation at school.

5. The teachers should be the main motivator and initiator of the ICT implementation at schools. The teachers should be aware of the social change in their teaching activities. They should be the agent of change from the classical method into the modern one. They must also be the part of the global change in learning and teaching modification.

Aim and objectives of ICT implementation in education:

1) To implement the principle of life-long learning / education.

2) To increase a variety of educational services and medium / method.

3) To promote equal opportunities to obtain education and information.

4) To develop a system of collecting and disseminating educational information.

5) To promote technology literacy of all citizens, especially for students.

6) To develop distance education with national contents.

7) To promote the culture of learning at educational institutes (development of learning skills, expansion of optional education, open source of education, etc.)

Can the use of ICTs help improve the quality of education?

Improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education.

ICTs are also transformational tools which when used appropriately, can promote the shift to a learner-centered environment. ICTs such as videos, television and multimedia computer software that combine text, sound, and colorful, moving images
can be used to provide challenging and authentic content that will engage the student in the learning process.

The teachers strongly felt that the visual aural combination if integrated judiciously with the textbook and syllabus, can work wonders in getting across abstract concepts and logics to the children in a short span of time. The potential of each technology varies according to how it is used. Haddad and Draxler identify at least five levels of technology use in education:

(i) Presentation (ii) Demonstration (iii) Drill & Practice (iv) Interaction (v) Collaboration.

**Conclusion:**

The rapid growth in ICT has brought remarkable changes in the twenty-first century, as well as affected its adoption and integration by teachers in teaching-learning process. The effective integration of technology into classroom practices poses a challenge to teachers.

Therefore this paper is an attempt to present the important issues that must be considered by educational institutions regarding ICT as a resource for teaching, learning and evaluation process. Most of the teachers admitted to never or rarely using it, while very few used the internet to gather information periodically or regularly.

Teachers must have adequate access to functioning computers or other technologies and sufficient technical support. Redesigning curriculum and assessment tools, and providing more autonomy to colleges for optimal use of ICTs in teaching, learning and evaluation process. Very few strong examples of integration of ICT into classroom teaching learning is visible, though some institutes do use the audio visual aids and integrate teaching of some lessons. Largely however, even where ICT is used in the classes, it is usually as an information source and not a part of core learning process. The findings of this study indicate that teachers and students have strong desire for the integration of ICT into education but they encountered many barriers to it. For successful integration of ICT into teaching-learning process, it can be concluded that the factors that positively influenced teachers and administrators use of ICT in education include teachers attitudes, ICT competence, computer self-efficacy, teaching experience, education level, professional development, accessibility, technical support, leadership support, pressure to use technology, government policy on ICT literacy, and technological characteristics. However, the presence of all factors increases the probability of excellent integration of ICT in teaching-learning process.

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USE OF ICT IN TEACHING – LEARNING PROCESS

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ABSTRACT
There has been a global technological impact and scientific development largely. This development has widespread impact on every aspect of human life. Naturally, so called the education system is also affected by the technological progress. The technological devices and programs however are mostly framed keeping in view requirements of the teacher and adopted as an aid in classroom teaching. ICT has initiated new possibilities into the classroom. It has sowed a seed to create awareness among the people about its usage in a spell-bound manner in terms of acquisition of knowledge. However, the influence of ICT has offered new avenues in showing the remarkable development in the process of teaching and learning in Indian classroom situations.

Introduction:
Today we are living in the era of information technology which is also called as the age of information technology. This has influenced almost all walks of human existence including present teaching – learning and other activities. Educational technology comprises all kinds of modern media, methods and materials that are used for development of experiences. Its aim is to make teaching – learning very effective, efficient and interesting. In the past all teaching mostly depended on communication between the teacher and the student which was in the form of printed materials and textbooks. But today the students prefer to learn more from pictures, television, recorded words, programmed lessons, conferences etc. Therefore the role of the teacher, as well as function and importance of course have been challenged. ICT is considered to be most valuable tool to enhance teaching and learning experience of both teachers and learners. ICT is a tool which helps teachers and learners to access to different types of media.

The Information and Communication Technologies is an Umbrella that includes communication device or application like radio, cinema, television, mobiles, computers etc. It is described as the technology to support the effort of conveying information and communication particularly in the area of education. The use of ICT can be made through computer, internet, e-mail, interactive multimedia, LCD projector, interactive whiteboard, video conferencing etc. ICT gives unlimited scope for the teachers and learners to communicate with the people worldwide, it gives exposure to variety of languages, opens up an opportunity of using online learning applications and inculcates independent learning capacity to the student and make their work more easy and professional.

Audio-visual aids in teaching-learning process:
This aid may be described as aids that facilitate the understanding better in a teaching-learning situation. Teacher takes help of some instructional aids to teach more efficiently and successfully. Audio – Visual aids are effective tools in the hands of teacher to impart good education. These aids cover up audio, video and audio-visual aids. Visual aids pertain to the sense of sight, audio aids to the sense of hearing and the audio-visual aids to both the sense of sight and of hearing. Among them, the sense of sight is more important because most of the knowledge is acquired by it.

These aids are CD, DVD, tape recorder, e-book, graphics, pictures, charts which are used to motivate and create interest among students. The main purpose of using these Audio – Visual aids is to enable the teachers to make his teaching effective
and interesting. Technology integrated into the highest education system ICT helps teachers learn how to use the computer as a tool to teach various subjects.

Distance learning via Internet make access to open education to students everywhere. This helps for making course material available online, and using Internet as the communication tool. Multi-media classroom which enable the teacher to make it totally different from normal classroom. In this the role of the teachers and students changes. The teacher plays the role of coordinator. The computer software will teach students the knowledge that teachers are supposed to teach using software to develop writing skills by using a word processor. A basic word processor can support those who cannot have control on a pencil. Computer games can be used to develop spelling skills.

Conclusion:

We can see that the extensive use of ICT in teaching and learning process provides new opportunities for students in the era of globalization. It will enhance the richness and quality of education both in and off camps. The use of ICT in education not only improves classroom teaching learning process but also provides the facility of e-learning. The most important benefit of ICT is to bridge the knowledge gap in order to improve the quality of higher education. It provides opportunities to communicate more effectively and to develop literacy skills. There is only the need of wider use and innovative application of the ICT by learners and teachers.

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TECHNO TOOLS MADE TEACHING LEARNING ENGROSSING AND ENTERTAINING

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ABSTRACT
Information and Communication Technology has brought tremendous revolution in every sphere of life. Education that is considered the most essential field on which the progress of humanity depends on has also embraced ICT to enhance the process of teaching learning. The use of ICT in teaching facilitates the teachers to explain the intricacies in a lucid way. It also gives an opportunity to the learners to fathom the complicated subject with ease and fun. The present paper deals with some of the methods that are blended judiciously to make the process of teaching and learning Engrossing and Entertaining. The researcher has propounded some of the techno tools which are ICT enabled to make teaching learning Engrossing and Entertaining.

Keywords: ICT, Teaching-Learning, Learners, Engaging, Entertaining, Fun, Desire and Curiosity Teachers and Language Learning Software.

Introduction:
With the advent of Information and communication Technology, the world has literally become a global village. The surge of information is available on the tip of the fingers. It has wiped geographical and physical boundaries owing to virtual concept. ICT has started playing a dominant role in the field of education. The teachers have begun using various techno tools which come under the purview of ICT to make teaching learning engaging and engrossing from the perspective of teachers and learners. ICT has proved wonder tools in the process of teaching learning to make it flexible and conducive. Teaching learning is made fun full exercise while using techno tools such as Power Point Presentation, Screening of the movie or documentary based on syllabi, Language Learning Software, Videos, Recorded Lectures, Compact Disc (CD), Pen Drive and Blog etc.

Power Point Presentatation:
It is one of the most effective tools of ICT that enables the teacher to immediately attract the attention of the students. It catches visual senses of the students. It makes the students attentive in the classroom. Once the students are motivated to listen. The task of the teacher becomes easier. PPT arouses desire and curiosity among the learners to listen the lecture of the teacher with rapt attention. The important points of the topics are highlighted and they are stressed on the screen succinctly and on the basis of these compact points the teacher can deliver the lectures covering the whole topic. This helps both the teacher and the students to converge on the focal points. PPT also give space for discussion in the interval of the slides. Lecture with the help of PPT is economical and a lengthy topic can be illustrated convincingly and conveniently in a short span of time. Pictures in PPT assist to elucidate complicated and subtle points with relatively ease than the traditional lecture method. Moreover lecture with PPT is quite engaging and entertaining for the students.

“Students prefer PowerPoint lectures. They rated lectures with PowerPoint slides more highly than those without slides (Drouin, et al. 2013), also giving higher ratings to their course and self-efficacy (Suskind 2005) and to their instructor (Nouri 2005) when their lectures used PowerPoint.”
Screening of the Movie: Now-a-days the pathetic trend has been set among the students to attend minimal classes. Therefore it is high time for the teachers’ fraternity to make analysis of their pedagogy of teaching. They have to make certain changes in their pedagogy as they should understand that they are dealing with the students who are techno savvy. The students of today’s generation are more interested in watching something rather than reading. However we as teachers realize the importance of reading so we have to cultivate among them the habit of reading. So first of all the teachers have to devise the way to attract the students to the classroom and the best way to do so is to show them the movie based on the syllabi. For example if the students have been prescribed the lesson “The Selfish Giant written by Oscar Wilde” in Compulsory English so the teacher can show them the short animated movie. It will create interest among the students to listen to the dialogue and will grasp the subject matter with the help of pictures to a great extent. A short documentary can also be screened for the students depending upon the subject. This sort of ICT enabled teaching will certainly create interest among the students. It will give them sensory satisfaction and gradually the teachers can inculcate the habit of reading in the students. After the screening of the movie, the question can be asked to the students in order to know their level of understanding. But the teacher has to design judiciously how many lectures should be devoted to screening of the movie based on syllabi and how may to traditional classes as the traditional method cannot be totally discarded. Both the traditional and ICT enabled teaching methodologies should be combined intelligently to produce output in teaching learning.

Language Learning Software: As far as learning the English Language as a second language is considered for the students at Under Graduate Level, Language Learning Software is quite useful. It gives varied exercises to the Learners that are ordinarily not possible to provide them in traditional classroom. While learning any language four primary exercises are extensively essential -Listening, Speaking, Reading and Writing. The Language Learning Software gives ample practice to the learners in the form of innumerable exercises based on various situations for example- Introducing Oneself. This particular exercise renders the learners to listen and practice the sentences which are normally used in day to day life to introduce oneself. LLS assists the learners to speak the foreign language with correct pronunciation. They can also record their own voice and check their pronunciation and sentences formation. The students can do the practice independently sitting in the language lab according to their convenience. The teacher can also recorded his lecture on any topic and assignments can also be given to the students to solve. The teacher can check the assignment of the students during the class in the Language Lab and can provide feedback to the students if have any. The students really enjoy learning the English Language with the help of Language Learning Software. It also gives the exercise of reading to the students for example the teacher can give them the assignment of reading a paragraph to the students. Each student reads the given paragraph aloud, his voice is recorded and then the teacher can check his reading exercise and can point out the faults committed by him so that he can make improvement in his reading. Apart from listening, reading and speaking, writing practice can also be done by the students, the Language Learning Software provides various layout of writing such as formal and informal letters, reports mail, advertisement and curriculum vitae etc. The learners can learn drafting skills with the help of such exercises. The teacher can also check their assignments sitting on his master personal computer. LLS encourage independent learning. It is generally found in the traditional classroom the students feel tedious after the lapse of 50 to 60 minutes but in the language lab their hours of learning improves as they enjoy this kind of learning. The activities in the language lab are full of fun and enjoyment.
They come in the language lab empty handed and leave the language lab with heads full of learning with fun and enjoyment.”

Videos:
The students feel dull and drab studying form the textbook the printed words dearth in pictures. But ICT has provided a very effective tool at the hand of the teacher. Desire and curiosity of the students can be awakened by showing them short videos on the theme of the lesson, the teaches has made a plan to teach. This changes the mood of the students and they are mentally prepared to learn something . In a lecture of 50 to 60 minutes short videos can be shown to the students for 10 to 15 minutes in the beginning, middle and at the end of the lecture, in the beginning to arouse their keenness, in the middle to explain the concept and at the end to recapitulate the whole lesson. This type of ICT enabled classroom while delivering a lecture has become quite lively and engrossing. The span of students’ attentiveness and interest is comparatively larger than the traditional classroom.

Video allows us to introduce any aspect of real life into the language learning environment, contextualizing the learning process (Sherman, 2003:1)

Recorded Lectures:
In today’s generation of students a new kind of phenomenon is quite prevalent that they are always eager to have something additional. Therefore the teacher can fulfill their desire by providing them the supplementary knowledge apart from the regular and routine classes. Whatever topic has been taught in the classroom in addition to this the recorded lecture of renowned and eminent personalities on the same topic can also be played in the classroom in order to broaden the horizon of the students. This ICT enabled tool allows the students to listen the recorded lecture innumerable times and as per their convenience once they are given the address of the site on which these lectures are available. The students can play the lecture on their android mobiles as they have the access of Wi-Fi in the college campus as well on the computers in the library and language lab. They can also play the recorded lectures at their homes and their workplaces as this is the age of internet which is available freely in college campus as well as at workplaces and at cheap rates from the mobile stores. This exercise initiates independent learning among the students and takes learning out of the traditional classroom.

Compact Disc, Pen Drive and Blog:
As all are quite aware now-a-days that study material are readily available in compact disc. The teacher can also prepare his own study material for the students and can store it in the pen drive. The teacher can take various drills of the students in the ICT enabled classrooms with the help of CDs. Once the teacher has taught any topic of grammar in the traditional classroom using chalk and talk method. Then he can employ the techno tools in order to make the teaching learning engaging and entertaining by playing a CD on the projector. It is quite fascinating and attractive for the students as it catches their attention immediately-colorful screen, pictures, voice and texts. A large number of exercises are given in the CDs for the students to solve and even they can check their answers with explanation. The teacher can play the same topic on the CD which has been previously taught in the classroom it will reinforce their previous knowledge. The students really enjoy this kind of class because they are not supposed to write anything but only they have to give the answers orally one by one according to their turn and the teacher monitors and guides them when they feel any confusion. Once or twice in a week they students can be taught in the smart classroom with the help of CDs. The teacher can prepare his own his study material and store it in the pen drive and teach them in the smart classroom. Here the teacher has to type his material and has to make his text attractive in order to attract the attention of the students. Typing the text and highlighting the important points are
Indeed time consuming but the teacher can post the same study material in his blog. It has twofold advantages the same study material can be used in the classroom for teaching and can also be post in the blog of the teacher. The students can see the blog of the teacher and can take the study material from their and it is available for them anywhere at any time provided they have internet connectivity which is readily available at college campus and workplaces quite easily. The Blog provides the opportunity to the students to develop independent learning and the students can share the blog of his teacher with his friends studying in different colleges and at distant places as it has already been said that the whole world has become a globe village due to ICT. Knowledge can be shared and disseminated.

**Conclusion:**

The above mentioned techno tools which are ICT enabled are really wonder gadgets if they are combined judiciously along with the traditional method of teaching. They will certainly enhance the process of teaching and learning. The ICT enabled tools provide conducive and congenial ambience of learning. But the teacher has to be always on his toes to upgrade and update his knowledge as far as teaching is concerned. He is not merely a teacher who has to get mastery over his subject apart from that he has to look for various ways and means to make teaching ICT enabled. So it will not only make his teaching engrossing but also entertaining and the students will totally enjoy his class which is different from the traditional classroom it will be smart classroom where the students will become smart.

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USE OF ICT IN COMMERCE EDUCATION

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ABSTRACT

Modern technology has effected our lives. Information communication technology has open avenues of learning for the students. It has removed traditional way of teaching and open a new ways of learning teacher find comfortable with modern devices like computer, power point presentation in teaching learning processes. ICT has benefited not only teacher but also teacher in updating knowledge. Students are using chatup, blogs to circulate information, knowledge and other educational things. The present paper intends to explore the use of ICT in commerce education and its benefits in teaching learning process.

Keywords: ICT; Commerce Education; Teaching introduction, Learning process.

We live in the age of science technology use of technology has effected our life. It has made our life easy and comfortable. Use of ICT in education has replaced the traditional method of teaching teacher find themselves comfortable in using ICT in teaching learning process rather than traditional method of teaching. Students use various means of technology to receive education.

21st Century is marked with emergence of knowledge based society were in ICT plays an important role. Use of ICT in education can be broadly categorized in the following ways.

1) ICT as a subject (i.e. computer studies)
2) ICT as a tool to support traditional subject (Power point presentation)
3) ICT is the medium of knowledge exchange.

Use of ICT in commerce education has facilitated and improved the quality of education. It has proved beneficial not only for the teacher but also for the learner (students)

Benefits of ICT in Commerce Education:

1) Easy to access course materials: Course material can be uploaded on a course website and the students can study at a time and location they prefer.
2) Student motivation: computer based instruction can given instant feedback to students and explain correct answers. This can give students motivation to continue learning.
3) Wide participation: Learning material can be used for long distance learning and are accessible to wider audience.
4) Improved students writing: It is convenient for students to edit their written works on process which can in turn improve the quality of their writing.
5) Subjects made Easier to learn: Many different types of educational software are designed and developed to help students to learn commerce subjects.
6) Differentiated Instruction: Educational technology provides the means to focus on active student participation and present differentiated questioning strategies. It broadens individualized instruction and promotes the development to personalized learning plans.

ICT Technologies in the class room:

Various types of technology devices are used in class room to make teaching learning process make effective. These devices include, computer, internet connection, wireless microphone, clickers, smart phone, digital cameras, LCD projectors etc. with the help of these devices, teacher can demonstrate new lesson present new materials; like...
new programme and show new website teacher who can download the study materials from various side. Due to ICT students can gain knowledge from every part of the world. They can acquire knowledge related their subject at their home. Teacher can design their own web pages which help the student to prepare their assignment; similarly. Blogs prepare by the teacher make the student able to dialogue with their teacher about their study computer, internet connection, microphone, LCD projectors, T.V. are used to impart knowledge.

**ICT in commerce education:**

1) Close co-ordination, facilitation overall guidance and direction to the activities of the media centres set up by UGC in various universities.

2) Dis-semination of educational programmes through both the broadcast and non broadcast modes.

3) Production of educational programmes (especially video and audio) and related support material and setting up of appropriate facilities for this.

4) Research related to optimizing the effectiveness of programmes.

5) Providing a forum for the active involvement of academic and other scholars in the creation of appropriate educational programmes.

6) Studying promoting and experimenting with new technique/technology that will increase the reach and / or effectiveness of educational communication.

Information technology can play an important role in the commerce education teaching and learning process of the student. The term describes the use of computer based technology and the internet to make information and communication services available to wide a range of users. ICT are hardware and software that enable society to create, collect, consolidate and communicate information in multimedia formats and various purposes. The term is used broadly to address a range of technologies, including telephones and emerging technology devices. Central to these is the internet, which provides the mechanism for transporting data in a number of formats including text, images, sound and video.

**Conclusion:**

Use of ICT has changed traditional method of teaching. Teacher find themselves in using ICT in their teaching learning process. It has opened new ways of learning for the students. Teachers can impart based knowledge to students due to use of ICT students are using technological devices mobile phone, internet, C.D. D.V.D. gain knowledge.

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ROLE OF ICT IN LEARNING THROUGH LIBRARIES

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ABSTRACT
Libraries have always been out looked as the essential part of the education in the nation building. ICT has its impact on almost all the disciplines especially in the field of library and information services. New technology provides several materials, media and modes of storing and communicating the information. This paper highlights the changing scenario of the role of ICT in the learning process through libraries and the use of internet as well as benefits of internet in academic libraries.

In the modern age Libraries have become multimedia due to adoption of technological advances and changing nature of their services. If we look into the past we notice a drastic change in the role of libraries imparting education. The growth of ICT has greatly influenced the methods and formats of information. The libraries have now begun to transfer from manual operations to electronic system. They are also beginning to become even more service centered than before and bring higher levels of learning support and research support to the users.

Today the concept of education is undergoing a tremendous change. This is because of continuous advancement in the field of Science and Technology. Another related reason is the expanding task of providing education to more people. It has become evident that conventional system of education is unable to cope up with the complexity and magnitude of the problem. Those who cannot get higher education by formal channel they have option to get informal education through continuing education programme. Continuing education is related with the lifelong learning process. And this could not be restricted up to any College, University or any educational institute, as it is beyond the boundaries of that. Here libraries based on ICT can help the voluntary learners. Public, Academic as well as special libraries could help people for their continuing education. In the recent years computer has changed the whole process of information handling.

Internet serves as a backbone and connects the various sources of information irrespective of their locations. Internet is a live channel of communication between computers. It is configurations of smaller networks and other connected machines spanning the entire globe. Now the internet information super highway is accessible anywhere with time, interest and curiosity. Information on internet and opportunities to use it are growing at a rapid rate. The internet and other information technology have brought drastic changes in the library functions. In the last sixty years of library, automation libraries have travelled a long road from punched card processing system to present digital libraries.

Libraries play a vital role in imparting education to all. They have passed through several developments to reach its present stage of dynamic centres of knowledge. Changing needs of society and the technology have forced the librarians and the information specialists to develop and adopt new technologies to build their resources and services to cater the need of users.

Information Communication Technology (ICT) may be defined as a combination of computer and telecommunication techniques which makes possible new systems and products to help people at work in education and at home. It is the application of a wide variety of electronic technologies to the information handling activities. In the domain of library information service, it
means the use of various technologies such as computer, telecommunications, word processing, micrographics, reprographics, video recordings and other electronic devices for the storage, retrieval, reproduction and dissemination of information in a library environment.

Libraries which were considered once only as the storehouses of knowledge have now got a new outlook in the modern information communication technology era. It can be used in library and information science to support technical functions associated with technical processing and circulation work.

In future people will be differentiated on the basis of information. Those who lack resources of information will lag behind. In global village instant messaging, social networking and chatting will be important. Developing countries have to accept the policies of the developed countries to survive in the competition of globalization. Libraries often consume a lot of time in the adoption of new technology, because the speed with which technology changes is very confusing. New innovations in computers, networking and software resulted in information to be created and distributed with low cost and without the need of complex programming skills that were needed. As result more and more information is becoming available from what might have otherwise being inaccessible sources. Due to ICT the world is becoming global village which is changing into the national information infrastructure. This creates an entirely new form of information dissemination.

The worldwide librarians made their catalogues available online which have Online Public Access Catalogues (OPAC) generally available free of cost these are useful for finding books not available locally to identify and select books for local acquisition, bibliographic data verification and to search holding of periodical and monographs. These can be accessed through telnet, gopher and the World Wide Web. Many OPAC’s have full text databases; libraries can use these databases to

queries from patron. With the emergence of ICT the areas of library expanded worldwide. The available information present in the library can be feed to homepage and made available to users anywhere.

ICT has provided new media, new modes of storing and communicating information. ICT brought many services to library to speed up their activities. It helps to remove barriers of communication, distance and time. The advances in technology will continue to improve the effectiveness of libraries. It helps to transfer data through communication network like internet anywhere. It provides enormous search speed and facility. It helps to strengthen communication and collaboration among research, government and educational institutions.

Education system is entering into information age and fast developments of Information and Communication Technologies change the way we think the way we live and the way we work in an academic environment. The changes lead to use of computers as integrate and inevitable part of universities. This situation necessitated networking of these computers within the departments to ensure exchange of data and information as departments eventually required connecting each other through compose networks with the advance of networking technology all the smaller network called the internet. It is no need to mention here the interaction of internet have totally revolutionized the academic scenario and the academicians who earlier were fringing it very difficult to obtain information about their topics of interest now are encountered as ironical situation of selecting the right information from the deluge of information.

In India the introduction of National Information Center (NICNET) in 1977 can rightly be termed as the first major attempt towards networking at the national level afterwards. Various networks in different spheres like railways, finance etc. emerged and has shown a significant bearing on the quality of public service in the country. So far as academics is concerned. Education and Research Network
(ERNET) India has made a significant contribution towards networking between educational institutions in the country. Particularly by bringing internet and establishing nationwide network to connect academic institutions across the country. ERNET India has mixture backbone of terrestrial and satellite based wide Area Networks and it has 14 pops (points of presence) at the education and research institution spread across the country.

Now access of information and knowledge in electronic form is constantly available, easily updated and convenient to use. The library and information landscape has transformed with the onset of the digital era and today’s academic institutions’ libraries have changed their roles to serve as ‘Knowledge Centers’ with priority on value added electronic information services.

Faculties and researchers at university worldwide gather and interpret data, advocate new ideas and extend new knowledge. This work is sometimes shared with other scholars and researchers as working papers, technical reports, and other forms of prepublication work. Although this scholarship may eventually show up in a peer-reviewed journal or book, some may not. This preprint culture is strongest in the technical and science disciplines. This literature is often difficult to find and even more difficult for librarians to collect systematically, manage and preserve. Different type of research output which is intellectually good for community is an asset for parent organization as well as scholarly community. It should be digitized and preserved in electronic format. Thus it plays a significant role in acquiring storing maintaining and disseminating knowledge to the society.

The academic library should maintain a large collection of electronic databases, e-journals, e-books and other e-resources in support of teaching and research needs of the staff and students of the academic institution. The main benefit of the e-resources to its users is to open new vistas for teaching and research. Although to acquire and organize the electronic resources is costly as well as challenging but it will be a crucial element of the future’s academic libraries. The electronic resources may be accessed in a variety of ways but the internet/world wide web has been preferred to get e-resources’ easy access. These resources should be well organized and must be available on campus and the remotely resources available via the online catalogue and the library website through www for the users of the academic library.

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ROLE OF ICT IN STUDENT'S PROGRESSION: WITH SPECIAL REFERENCE TO WASHIM DISTRICT

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ABSTRACT

Internet is one of the strongest tools to impart education. ICT has a direct role to play in the education sector. The government of India has announced 2010-2020 as the decade of innovation with special focus on ICT enabled education and acquiring ICT skills for students. “Information & Communication Technology” (ICT); the three different words put together to promote information via communication with the help of technology. Education with computer literacy is very essential for development right now because in order to implement ICT, people should know its purpose and why it is being implemented. The present research paper throws light on how important is the use of ICT tools for student’s progression in Washim district.

Keywords: ICT, tools, education, rural development.

Introduction:

Education is one of the strongest medium to develop the nation. ICT is one of the rapid developing technological fields in the global society. India has achieved tremendous development in the field of education. Among the developing countries India reached a significant position in the development of ICT. ICT is the fastest medium for communication from the perspective of information technology, India is most widely known for its impact on global markets in the software and services sector. The global ICT industry is fast changing as a result of emerging technologies, economic, social and business trends. It always needs professionals who are technically trained to deal with ICT tools, systems and information sources.

Currently, NAAC has also embarked in revising its Assessment and Accreditation framework which is more ICT enabled and is expected to come into effect from July, 2017.

Hypothesis:

Worldwide research has shown that, ICT can lead to improve students’ learning and better teaching methods. The new government policy has some advantages and disadvantages. As far as Washim district is concerned, most of the colleges are located in the rural area. So, the benefits and barriers or advantages and disadvantages of this policy are hypothesized in this paper while dealing with colleges and students in rural area.

Methodology: A questionnaire method is used to find out the role of ICT in college going student’s progression. This systematic, theoretical method is applied for the particular analysis of a problem. Data has been collected from college teachers from Washim district. It helps to collect reliable data with its standardized results. The main aim of this study is to find out the real scope of ICT education for rural area students.

Objectives: The main function or the objective of this method is to collect data from the respondents, who are generally scattered colleges in the rural area. This paper gives ideas of the exact position of ICT tools and its use in the mostly rural populated area of Washim district. It aims to find out if ICT tools should be implemented to all colleges then it surely can attracts student’s attention. And ICT tools helps to make subject easy to understand. In short, ICT tools are helpful for student’s progression.

What is ICT?

ICT is technology that supports activities involving information”.

“The scientific, technological and engineering
disciplines and the management techniques used in information handling... and associated social, economic and cultural matter”. (British Computer Society)

“Information Technology is an organization’s collection of information resources, their users, and the management that oversees them; includes the IT infrastructure and all other information systems in the organization”. (Turban et al)

“ICT is short for Information and Communication Technology; it is the study or business of developing and using technology to process information and aid communications”. (webopedia.com)

**Interpretation of Data**: Worldwide research has shown that ICT can lead to improve student’s learning and better teaching methods. The data of Washim district collected by questionnaire method is interpreted in the following paragraph.

It is shown that most of the colleges have internet facility for teachers and students. Many of the teachers have computers at home and they use it on most days. The role of teacher is vital. The important aspect is involvement and interest of teachers. But, it is found that most of the teachers haven’t received ICT training. Yet, they can handle some ICT tools. They use it for personal use, college administration, finding information on the internet and developing teaching resources. Percentage of using ICT tools for teaching purposes cannot found in a vast range. Its use while completing curriculum is helpful but there are problems of resources.

In the rural area like this, English is a burden over students. Therefore, for some students and teachers, it is difficult to handle ICT tools. But everywhere, there is a satisfactory result over its impact on students. And most of the teachers are agreed with its importance over student’s progression.

**Results**: In result, I found certain advantages and disadvantages of ICT. They are as follows.

**Advantages**:
1) ICT tools are very effective and attract student’s attention.
2) Students can easily understand the topic more effectively.
3) ICT tools are helpful for enhancing and understanding the concerned subject.
4) Teachers are able to create interactive classes and make the lessons more enjoyable, which could improve student’s attendance and concentration.
5) Teachers can easily explain complex instructions and ensure student’s comprehension.
6) Images can easily be used.
7) Students feel friendly with using softwares and hardwares.
8) It helps for record keeping, research work, institutional uses, presentations, examination results, communication, teaching-learning activities, ppt etc.

**Disadvantages**:
1) Setting up the devices can be very troublesome.
2) Too expensive to afford.
3) Hard for teachers to use with a lack of experience using ICT tools.
4) Institutions are located in rural area.
5) No proper infrastructure.
6) Teachers have to give extra time and sometimes without any extra payment.
7) Educational softwares are mostly in English language.
8) There is a lack of computers and related resources.
9) There is much more like; language problem, electricity, financial problems, lack of trained
teachers, lack of knowledge and skills, teachers is burdened with multiple tasks, etc.

Suggestions:

Today, ICT has made it possible to cover a large distance in very small time. It has broken all bonds of cost, distance and time. As far as rural area is concerned, there should be complete setup in every department with broadband facility. Standard teaching material should be developed. Every classroom should be equipped with projectors and LCD sources. There should have specialized short term training courses for teachers. Students are friendlier with mobile apps, so, such apps should be used to serve the students in enriching, enlightening the students and thus equipping them with the necessary knowledge for building successful careers. Students should be made aware of the affective use of these powerful devices. There should have more ICT related grants from UGC and Universities. Government should provide electricity according to the institutions timings.

Conclusion:

The national policy of ICT for education needs more attention in rural area. It is a great opportunity to rural area students to improve their educational, employment and knowledge on world technological developments. They have the real chance to get employment related education through computer technologies. Online learning activities facilitate more effective education and offer significant benefits over traditional methods. There is a lot talent available in rural area, the only thing they need is facilities. India is developing as a knowledge economy and it cannot function without the support of ICT.

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THE ROLE OF I.C.T IN LEARNING AND TEACHING

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ABSTRACT

Information Communication Technologies are the power that has changed many aspects of the lives. The impact of the ICT on each sector of the life across the past two-three decades has been enormous. The way these fields act today is different as compare to their pasts. Across the past twenty years the use of ICT has basically changed all forms of endeavour within business governance and off-course education!

As world is moving rapidly towards digital information the role of ICTs in education becoming more and more important and this importance will continue to grow and develop in 21 century. This paper highlights various impacts of ICT on contemporary higher education and also discusses potential future developments. The paper argues the role of ICT in transforming teacher-centered learning to competency based learning. It also explores some challenges in higher education like cognitive tutors, need for developing a model, collaborative authoring etc.

Introduction

To accurately understand the importance of ICT in Education there is need to actually understand the meaning of ICT. ICTs stand for information and communication technologies and are defined, for the purposes of this primer, as a —diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. ICT permeates the business environment, it underpins the success of modern corporations, and it provides governments with an efficient infrastructure. At the same time, ICT adds value to the processes of learning, and in the organization and management of learning institutions. The Internet is a driving force for much development and innovation in both developed and developing countries. Countries must be able to benefit from technological developments. To be able to do so, a cadre of professionals has to be educated with sound ICT backgrounds, independent of specific computer platforms or software environments. Technological developments lead to changes in work and changes in the organization of work, and required competencies are therefore changing. Gaining in importance are the following competencies:

- critical thinking, generalist (broad) competencies,
- ICT competencies enabling expert work,

What is ICT?

ICT is an acronym that stands for “Information Communication Technologies”. Information and communication technologies are an umbrella term that includes all technologies for the manipulation and communication of information. ICT considers all the uses of digital technology that already exists to help individuals, business and organization. It is difficult to define ICT because it is difficult to keep up the changes they happen so fast.

ICT is concern with the storage, retrieval, manipulation, transmission or receipt of digital data. The definition taken from the guidance in the QCA schemes of work for ICT is

“ICTs are the computing and communication facilities and features that variously support teaching, learning and a range of activities in education.”

The followings are the aim and objectives of ICT implementation in education:

1) To implement the principle of life-long learning / education.
2) To increase a variety of educational services and medium / method.

3) To promote equal opportunities to obtain education and information.

4) To develop a system of collecting and disseminating educational information.

5) To promote technology literacy of all citizens, especially for students.

6) To develop distance education with national contents.

7) To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)

8) To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.).

Role of ICT in Higher Education:

1. To increase variety of educational services & medium

2. To promote equal opportunities to obtain education & information.

3. To develop a system of collecting & disseminating educational information.

Change In The Way of Learning:

We discussed ICTs are cause to make a move from a teacher centered learning to competency based learning. Universities are also responsible to make supporting changes in the way students are learning.

Traditional way of learning is based on Tran missive modes. Use of ICT in education also affects the way students learning. The following points are particular forms of learning.

a. Students Centered Learning:

With the help of technologies it is possible to promote transformation of education from teacher centered inst. To students centered inst. e.g. 1) Increased use of web as a source. 2) Internet users can select the experts from whom they will learn. 3) Process will become problem – based learning. 4) The proliferation of capability, competency and outcomes oriented curricula.

ICTs in education acts as a change agent. It supports independent learning. Students become immersed in the learning process by using ICT.

b. Supporting Knowledge Construction:

The emergence of ICTs as a learning technology unknowingly insists to think on alternative theories for learning.

The conventional teaching process has focused on teachers planning and leading students through a series of instructural sequences to achieve desired outcome. This way of teaching follows the planned transmission of knowledge though some interaction with the content as a means to consolidate the knowledge acquision. It depends on the process of personal understanding. In this domain learning is viewed as the construction of meaning rather than memorization of facts. Use of ICTs provide many opportunities through their provision and support for resource based, student centered learning. It acts to support various aspects of knowledge construction and as more and more stud. Employ ICTs in their learning process, the more pronounced impact of this will become.

* The Impact of ICT on place ‘When’ & ‘Where’ to learn:

In the past, there was no or little choice for students in terms of method & manner in which programs have been delivered. Students typically being forced to accept what has been delivered. ICT applications provide many options & choices in the same case.

a. Any place learning:

The use of ICT has extended the scope of offering programs at a distance. The off-campus delivery was
an option for students who were unable to attend the campuses. Today, many students are able to make this choice through technology – facilitated learning settings, e.g.

1. In many instances traditional classroom learning has given way to learning in work-based settings with students able to access courses and programs from their workplace. The advantages of education and training at the point of need relate not only to convenience but include cost savings associated with travel and time away from work, and also situation and application of the learning activities within relevant and meaningful contexts.

2. The communications capabilities of modern technologies provide opportunities for many learners to enroll in courses offered by external institutions rather than those situated locally. These opportunities provide such advantages as extended course offerings and eclectic class cohorts comprised of students of differing backgrounds, cultures and perspectives.

3. The freedoms of choice provided by programs that can be accessed at any place are also supporting the delivery of programs with units and courses from a variety of institutions. There are now countless ways for students completing undergraduate degrees for example, to study units for a single degree, through a number of different institutions, an activity that provides considerable diversity and choice for students in the programs they complete.

b. any time learning:

In case of geographical flexibility, technology, facilitated educational programs also remove the temporal constraints. It is the good opportunity for study. To undertake education anywhere, anytime & any place.

1. Through online technologies learning has become an activity that is no longer set within programmed schedules and slots. Learners are free to participate in learning activities when time permits and these freedoms have greatly increased the opportunities for many students to participate in formal programs.

2. The wide variety of technologies that support learning are able to provide asynchronous supports for learning so that the need for real-time participation can be avoided while the advantages of communication and collaboration with other learners is retained.

3. As well as learning at anytime, teachers are also finding the capabilities of teaching at any time to be opportunistic and able to be used to advantage. Mobile technologies and seamless communications technologies support 24x7 teaching and learning. Choosing how much time will be used within the 24x7 envelope and what periods of time are challenges that will face the educators of the future.

CONCLUSION:

The role of ICTs in the education is recurring and unavoidable. Rapid changes in the technologies are indicating that the role of ICT in future will grow tremendously in the education.

1. By observing current activities and practices in the education, we can say the development of ICTs within education has strongly affected on
   a. What is learned?
   b. How it is learned?
   c. When & where learning takes place
   d. Who is learning and who is teaching.

2. ICT also focuses modification of the role of teachers. In addition to classroom teaching, they will have other skills and responsibilities. Teachers will act as virtual guides for students who use electronic media.

3. Ultimately, the use of ICT will enhance the
learning experiences of students. Also it helps them to think independently and communicate creatively. It also helps students for building successful careers and lives, in an increasingly technological world.

Therefore this paper is an attempt to present the important issues that must be addressed by both pre-service teacher’s education and in-service teacher professional development programs if schools and other educational institutions are to fully exploit the potential of computers and the Internet as educational tools. In terms of using internet and other ICT as a resource for lesson preparation, most of the teachers interviewed, admitted to never or rarely using it, while very few used the internet to gather information sporadically or regularly. The teachers particularly felt that they had both access and training inadequacy and hence were unable to utilize internet and other facilities. More teachers were comfortable however, with using computers as an individual than as a teacher. A positive find is that all those teachers who are not well versed with the computer and other technology, expressed keen interest in undergoing training for the same. They felt that if trained, they would be in a position to make use of resources available in the school.

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IMPORTANCE OF ICT IN TEACHING, LEARNING AND EVALUATION

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ABSTRACT

ICT stands for Information and Communication Technologies. ICT which is now broadly used in the educational world. Teacher, Student, administrator and every person related to education are using ICT on a tremendous scale. The teacher uses ICT for making teaching learning process painless and motivating. A proficient teacher has numerous skills and techniques for providing successful teaching. So development and increase of skills and competencies of teacher required knowledge of ICT. In the current era, education demands more cognizance of a teacher about ICT and skills to use ICT in the teaching – learning process. Continuous and Comprehensive Evaluation (CCE) helps students as well as teachers to bring into play more technology for making teaching-learning more gorgeous for the betterment of our upcoming generation. Teachers must know the usage of ICT in their subject areas to help the learners for learning more efficiently. So, the knowledge of ICT is very much essential for the teachers. This paper analyzed about the essentialness of ICT in teaching, learning and evaluation.

Keywords: Teaching, Learning, Evaluation, ICT, Student, Teacher.

The process of teaching-learning has become more student centric and its aim is to produce skilled workforce. The traditional approaches and methods of teaching-learning have witnessed a reformatory transformation and its place is occupied by ICT tools such as online smart-boards, projectors, laptops, android systems, PCs, online lectures, tablets, cellular phones, e-readers, web resources and many other software and hardware devices. The use of ICT tools and resources is highly increased in recent years, even the central focus is to promote such learning by reaching at every nook and corner of the country. To implement this type of teaching-learning programme, highly qualified and well qualified man power is required.

Today’s age is the age of information and technology (IT). Every aspects of life are interrelated to science and technology. The massive flow of information is emerging in all fields throughout the world. Now information and technology is extensively using in educational field for making teaching-learning process flourishing and attractive for students and teacher both. Teaching any topic with the help of ICT is very helpful to the teacher as well as students. A teacher can use as many resources as he/she has available at hand. This creates curiosity among students and causes to change their habits of learning. Students can get a complete understanding of any topic if they are taught the same with the help of ICT. It increases the level of confidence of students and their learning can be tested at the end of class by asking some questions, distributing handouts for the homework or they can be said to prepare a seminar or short presentation on the topic.

Today, education has transformed into thorough process covering all parts of life- social, political, cultural, national, etc. This is the era of information and communication technology (ICT) which made transmission and spread of information most trustworthy and easiest. The Indian education system is attempting to impart the overall development of individual and society and enabling the teaching-learning community to compete the global market with sustainable growth and development. Teaching-learning and evaluation is the base and center of our education system. The monitoring agency like National Assessment and Accreditation Committee, more popularly known as NAAC often emphasizes and signifies the process of teaching-learning and evaluation.

According to UNESCO (2002) “ICT is a scientific,
technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters”. Teachers are at the core of any living society. Technologies play an important role in training programme of teachers. Students accesses knowledge and information through TV, digital media, cable network, internet and social media i. e. Facebook, Twitter, Whatsapp, Linkedinn, Wechat etc. ICT is very significant for teacher in this Century. Without proper knowledge of ICT teacher cannot execute in his/her classroom and it could not be said to be a complete one.

ICT helps teachers in preparation for teaching. In order to introduce ICT to teacher different methods and strategies are applied. ICT prepares teacher for the use of their skills in the real classroom situation and also make students for their future occupation and social life. Typically, ICT is used independently from the subject matter. ICT is a medium for teaching and learning. It is a tool for teaching and learning itself, the medium through which teachers can teach and learners can learn. If the teacher is highly equipped with technology, the student will also be equipped with technology. It removes the traditional method of teaching and prepare teacher to apply modern method of teaching. ICT plays an important role in student evaluation. Nowadays, we can see the universities in India have also been adopted the system of online valuation. Even, we have to provide our personal information to the offices online with the help of email. So, we can say ICT is store house of educational institution because all educational information can safely store through ICT. ICT helps Teacher to communicate properly with their students. So ICT bridges the gap between teacher and students. ICT helps Teacher to pass information to students within a very little time. ICT helps Teacher to design educational environment. ICT helps Teacher to identify creative child in educational institute.

ICT helps Teacher to motivate students and to grow their interest in learning. It also helps Teacher for their personal support (knowledge, attitude, skills). Teachers learn most from their own networks (learning from others) with the help of ICT.

Conclusion:
Teaching occupies an honorable position in the society. ICT helps the teacher to update the new knowledge, skills to use the new digital tools and resources. Teachers will become effective by using and acquiring the knowledge of ICT. ICT is one of the major factors for producing the brisk changes in our society. It can change the nature of education and roles of students and teacher in teaching learning process. Teachers in India now started using technology in the classroom. Laptops, LCD projectors, Desktops, EDUCOM, Smart classes, Memory sticks are becoming the common media for teacher. So we should use information and communication Technology in in the current era because only teachers can create a bright future for students.

References:

ROLE OF ICT IN TEACHING-LEARNING WITH SPECIAL REFERENCE TO
SMT V. N. MAHILAMAHAVIDYALAYA, PUSAD: A CASE STUDY

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Introduction:
At present, in terms of number of institutions and students, India has the third largest higher education system in the world. It will not be wrong in saying that there is mushroom growth of colleges and universities in India. But when there is the issue of ‘Excellence and Efficiency’, we Indians are nowhere in the global map. At the same time, it is always a matter of pride for us that we have a glorious tradition of quality in higher education. In the fourth century we had a world renowned university at Nalanda where students from all over the world came there to seek knowledge. This university not only generated graduates but also brought forth responsible human beings helpful to the society. Therefore we can say it with great pride that quality concept has deep roots in our education system.

Present Scenario in Higher Education:
Since independence, India has shown tremendous growth in higher education. Today globalization of economy has led to the globalization of higher education. As the foreign universities open their centres and carry out the aggressive market, there is a great risk of losing our brilliant students who can afford to buy the education of foreign universities. Knowing this threat and demand of better quality graduates, many commissions and committees which were set up to discuss this issue, recommended the improvement of quality in higher education. Knowing the importance of quality in higher education, NAAC has been established to develop appropriate machinery for quality assessment. Hence by maintaining quality and adopting innovative teaching and learning methods, the colleges can score well.

Role of ICT in Higher Education:
In an age of computer technology, ICT - Information and Communication Technology is becoming the crucial part of education system. This ICT enabled teaching and learning covers wide area. It includes communication devices or applications like T.V., mobile phones, World Wide Web, computer systems, satellite and so on. ICT in higher education can be used for developing course material, delivering and sharing contents and ideas, communication between the learners and the teacher. Traditional, an age old teaching method of chalk and talk can be replaced by ICT like video conferencing, power point presentations, animations, video clips, AV aids, and LCD projectors. At one click, the learners can obtain and share the world knowledge and enhance the horizon of their knowledge. This method modifies the learning ability of students and also helps the teachers to elaborate new concepts very effectively; So ICT changes the view of learning. ICT supports the learning environment to the students where the teachers become facilitators, coachers and mentors.

Along with the ‘role of ICT in teaching and learning’, the research paper also highlights and presents the case study of the college regarding the role of ICT in the teaching and learning process.

Ours is Women’s college, established in 1989 with the motto ‘Education for Women’ in remote and rural areas. The college runs the faculties of Arts, commerce and Home-Science at graduation level and M.A. in Sanskrit, Home
Economics and History. Near about 60% students comes from rural and remote areas to seek education. In the short span of 27 years, the college has shown quantitative as well as qualitative progress, and the college has been reaccredited with ‘B’ level.

**Role of ICT in “Teaching and Learning” at College Level:**

**A Case Study:**

Apart from the major traditional teaching method with the use of board, chalk and talk, the college has introduced ICT enabled teaching learning process in the faculties of Arts, commerce and Home Science. In the faculty of Arts, AV aids, video clips, have been used as teaching methods. In the syllabus of B.A. English literature, the drama of Bernard Shaw ‘Pygmalian’ and in the syllabus of B.A. III year English literature Shakespearean Roman Play ‘Julius Caesar’, novel of George Orwell ‘Animal Farm’ have been prescribed for detailed study. Apart From the textbook reading in the class, the dramatization of these plays have been presented with the AV aids and video clips. The students enjoy these presentations very effectively. Even the teachers of other subjects like Music, Home Economics use this technology for effective teaching and learning. In the faculty of Home science, ‘Seminar’ presentation is a part of the syllabus. So the students search the topics, get the reference on ‘Net’ and prepare power point presentations for their seminar especially in the subjects like ‘Human Development’. Even the teachers and students of commerce faculty use ICT and organize ‘power point presentation’ competitions on the current issues.

**Conclusion:**

Knowing the very significant role of ICT in higher education, our college has also adopted ICT in teaching and learning process. ICT methods prove very effective on both sides of learners and teachers. It ensures better ‘teachers-student interaction’ during the seminars or power point presentations, and also helps to develop the personality of students. It also enables the students to gain the world knowledge and accept the challenges of this globalized world. This is the remarkable of feature of ICT enabled teaching learning that the rural students are attached to the world knowledge. These ICT enabled methods give the positive results and outcome in academics and also in practical life.

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**BIOINFORMATICS IN PLANT SCIENCES: AN ICT TOOL**

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**ABSTRACT**

Bioinformatics is the study of biological data using information tools. Bioinformatics is a combination of computer, mathematics algorithm and statistics with concept in life science to solve biological problem. The main task of bioinformatics is to manage and analyses the biological data. Bioinformatics has a number of applications in animal as well as in plant biology. Hence, the present paper design to focus on information Communication and Technology role in plant sciences research considering bioinformatics.

**Key:** Bioinformatics, ICT tool.

**Introduction:**

Bioinformatics allows us to come to terms with the vast amount of data being generated by the genome sequencing projects. Powerful tools are needed to organize the data and to extend our ability to analyze these complex biological systems. Understandably, the development of bioinformatics has been tightly linked to international collaboration in genome sequencing projects and to the efforts of the pharmaceutical industry in its drive for drug discovery and development. Although in its infancy, bioinformatics is already well established. For example, in studies on genome regulation and structure, bioinformatics covers many topics including: databases on regulatory sequences; the regulation of gene expression; analysis and recognition of genomic sequences; gene structure prediction; modeling of transcriptional and translational control; and large scale genome analysis. From this list, we need to assess the suitability of these applications to plant science and to assess the impact of bioinformatics on crop improvement.

**Observation:**

The integration of bioinformatics will influence plant science and lead to crop improvements in the following areas:

- The identification of important genes through genomics, expression analysis and functional genomics. In conjunction with the design and construction of transgenic plants this will allow new target genes to be identified that will improve quantitative and qualitative traits in commercially important crops.
- The design of agrochemicals based on an analysis of the components of signal perception and transduction pathways to select targets, and with cheminformatics, to identify potential compounds that can be used as herbicides, pesticides, or insecticides.
- The utilization of plant genetic resources to preserve genetic diversity in agricultural species. The need for taxonomic data goes far beyond the field of classical taxonomy, and a catalogue of all species, with phenotypic and genotypic attributes is required. The core taxonomic effort gives stability to the work of regulatory, management and conservation bodies.
- Efficient utilization of biological repositories of clones, cell lines, organisms and seeds. Typically, existing repositories are not linked to each other databases. The many commercial databases and repositories are also part of the bioinformatics infrastructure but operate largely outside of the present day cooperative activities. An initiative in plant genomics has emerged. This initiative emphasizes the point that the goals of the Plant Genome Initiative will only be met through appropriate investment in bioinformatics. Along these lines, the National Center for Genome Resources (NCGR) in New Mexico has established a partnership with New Mexico State University to develop a National Biotechnology Information Facility (NBIF),
with a budget of $8.5 million over five years. The NBIF is developing a plantspecific metabolic pathways database, and is strengthening or expanding into such fields as agricultural genomics, biological interface technology, computational biology and software development. NBIF will also provide bioinformatics support to leading agricultural research institutions. Plant scientists have an opportunity to use these resources to the full, to ensure that bench work, both in the present and in the future, can be combined with bioinformatics to fully reap the rewards of the genomics revolution.

**Bioinformatics Tool**

1. Biological databases Biological databases are archives of consistent data that are stored in a uniform and efficient manner. These databases contain data from a broad spectrum of molecular biology areas. A simple database might be a single file containing many records, each of which includes the same set of information (Xiong, 2009). Databases are composed of computer hardware and software for data management.

2. Software and tools Software tools for bioinformatics range from simple command-line tools, to more complex graphical programs and standalone web-services available from various bioinformatics companies or public institutions. BLAST (Basic Local Alignment Sequence Tool) is one of a number of generally available programs for doing sequence alignment. It remains the fastest means by which to identify specific sequences in large datasets and enables the rapid annotation of novel sequences. Although BLAST is the standard tool for identifying sequence similarities in large datasets, there are several options for assembling sequence datasets, the choice of which depends on hardware availability, dataset size, data format, structure and the genetic structure of the organism (Edwards and Batley, 2004).

**Conclusion:**

The contribution of bioinformatics to the development of plant functional genomics is already very apparent, as is its potential in other areas of fundamental plant cell biology. It’s role in development of related areas such as crop protection, detection of allergenicity of genetically modified crops and systematic indispensable. With the increasingly large amounts of biological data, integration with information technology has become essential. Originally started as a specialty for storage of data and as a tool kit for analyzing data, bioinformatics now encompasses many emerging areas like, evolutionary studies, protein structure-function prediction, gene expression studies etc. It may not be long before bioinformatics becomes a hypothesis driven molecular science bridging the gap between the genome and the organism, with data providing a platform for validation and new product development. The major challenge for the plant science community over the next few years is the need to extend genomics from models to crops. In particular, a priority is the integration of genomic and agronomic data, including the disease management aspects, are important to in increasing the productivity of the crop per unit area. Few concerted efforts have been made to harness the large historic repositories of information relating to crop phenotypic traits available from variety trailing and the literature, to provide a functional link with the underlying genomics. Despite the pitfalls, there is no doubt that bioinformatics is a field that holds great potential for revolutionizing biological research in the coming decades.

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IMPLEMENTATION OF ICT IN TEACHING LEARNING AND EVALUATION

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Introduction

Educational scenario of world is changing every day. Formal education has now totally changed by various technology and introduction of ICT. India is a country in the stage of development. New educational policy was introduced in 1986 meanly stress on ICT & its uses in actual teaching learning methods. Though ICT is not directly beneficial or an alternative for teacher. But it helps to enhance the quality of education we can rush the limits of ICT in education. This paper looks at what contribution ICT can make in teaching learning and evaluation. Learning can be made easier and pleasant through ICT. Fields where simulation is used can make any training safer and understandable. ICT enhances the orbits of knowledge of faculties as well as beneficiaries. Resources are ample for learning. Every teacher equipped with ICT can be more resourceful.

There are several factors which infuse use of ICT in teaching learning Researchers have identified these factors. ICT makes teaching learning effective which indulges self efficiency, computer motivation, computer attitudes and resource sharing. Implementation of ICT in higher education strongly depends on teachers support and attitude. Their positive attitudes help to adopt ICT in teaching learning process.

Integration of technology mainly depends on teachers. In present scenario every teacher of higher education at institution must be computer literate and experienced teachers equipped with ICT can become immensely useful for propagation of knowledge.

ICT computer is designed to handle wide range of computer application for various purpose. Most of senior faculties sometime are reluctant about use of ICT. They still believe in books but there should be comprehensive outlook regarding knowledge sharing and propagation.

ICT makes teaching exercise pleasant. Using ICT classroom creates interest in both students and teacher. It makes teaching a pleasant experience.

“Books and printed material are second important technology used in educational intuition. The fact that great book are a source of great inspiration to many needs no emphasis. Both in the institutions of formal education and distance education, the printed material is very powerful instructional medium and likely remain as the core medium of higher education for some time to come inspite of emergence & electronic media printed materials have certain advantages over other technologies. They are relatively cheap to produce and the skill required to use them is pressed by a majority of adult students. Further they provide flexibility to the students and they are portable and can be used again & again. Though it is true but one cannot rely on printed material.”(Sing R.P)

Avenues of knowledge have now become broad. Everything has totally changed now encyclopedias are less touched printed material with emergence of Google. Now information seeking with less possible time has much importance. In last few decades new subjects have to be added to curricula. One of the most essential aspects of ICT in teaching learning is multitasking. Multitasking puts high demands on teachers. Our teachers must be expert in multitasking. Changed methods of teaching and ICT based curriculum expect much more than basic teaching ability. Knowledge management expects teacher to handle various search engine, data base, graphics, simulation every concept can be visualize...
properly with the use of ICT. Videos presentation, mock test, sharing of resources can make learning a complete experience having every new development in particular topic.

As a part of new development in education ICT can be used in skill development more efficiently. Educational scenario must be changed according to the need of the hour. Those who really on secured job by taking formal education are now looking forward toward vocational & skill based education. We need skilled candidate who will be beneficial for industry and to develop them as entrepreneur. Minimum theory and maximum practical can develop student into confident aspiring future businessmen.

“The growing lag in technological adaptation between developed countries, the international transferability of skills acquired in developing countries educational system is approximating a limit. Statistical evidence on international migration of skilled personal from developing to developed countries since mid 1970s would bear tertiary to such trend. As a result the developing courtiers can no longer hope, let alone plan to support their figure education structure simply by migration management.”(Shah S.Y)

**Conclusion**

ICT based education allows better interaction between students and teachers. If applied with systematic planning ICT can be powerful means of imparting the quality education. We can have miraculous result if we accept and adopt ICT with total commitment and devotion. Changes and innovations are inevitable because if we want to match the pace with global education we must adopt ICT in our higher education system.

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ICT:-NOVEL HELP FOR BIOLOGIST TO MAKE STUDY EASIER.

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ABSTRACT
Quality and quantity of biological research in the life sciences is improving at rapid rate. It is generating vast amounts of data on exceedingly complex regulatory systems. To manage and processes this complex Data information technology and computer science plays a role in today’s biological research.

Keywords : Computer, information technology, Biology, DNA barcoding, database.

Introduction
Quality and quantity of biological research in the life sciences is improving at rapid rate. It is generating vast amounts of data on exceedingly complex regulatory systems. Increasingly, more computational sciences and engineering methodologies and techniques are involved in life sciences research. Current research in life science would be almost impossible without the tools of information technology. New hardware and software are simplifying the tasks of collecting, archiving, and analyzing the complex data generated through experiments and permit investigators to make reliable comparisons among information stored in widely different formats. This paper highlights some of the uses of information and computer technology in life science.

Barcode of life
Traditionally, morphology was a key factor in describing and naming species within the field of taxonomy. This morphological approach can be very tedious and a matter of subjectivity. To solve these problems ICT comes to the rescue of taxonomist. Through the applications of molecular biology technique, new concepts of species are evolving. Conserved genes are used to find out the specific position of organism in taxonomy. Hebert et al, (2003) focused this discussion by proposing that DNA barcoding system for animal life could be based upon sequence diversity in cytochrome c oxidase subunit I (COI) (Hebert et al 2003).

International consortium is set up for helping in species identification as The Consortium for the Barcode of Life (CBOL). It is devoted to developing DNA barcoding as a global standard for the identification of biological species.

The National Center for Biotechnology Information (NCBI)
The National Center for Biotechnology Information helps science and health by providing access to biomedical and genomic information. It is large repository of literature, health, genes, proteins etc. NCBI also contains tools such as blast for the comparison of nucleotide or amino acid sequences so as to determine homology between said sequences. Being repository, it also acts as large database for nucleotide and amino acid sequences.

Phylogenetic relationship
Evolutionary history of any organisms or biomolecule plays key role in understanding its various aspects such as its role in ecology or for biomolecule its role in vivo. Information and computer technology is also helping life science in determination of this phylogenetic relationship. For example, Phylogeny.fr is a free, simple to use web service dedicated to reconstructing and analysing phylogenetic relationships between molecular sequences. Data sets such as Daphne (Durka and Michalski 2012) are available in public domain to determining phylogenetic relationship between plants or animals.
Status of plants or animals

During current sixth mass extinction, it is paramount importance to conserve biodiversity. Plant invasions are considered one of the largest causes of biodiversity loss after habitat destruction alongside other changes in the global environment (Vitousek et al. 1997). Additionally, climate change has enabled non-indigenous species to expand into new regions where they previously could not survive (Walther et al. 2009). Information and computer technology is finding its application in dynamics of biodiversity. Various online data bases such as BiolFlor (http://www2.ufz.de/biolflor/index.jsp) and the Delivering Alien Invasive Species Inventories for Europe project (http://www.europe-aliens.org/) are available in public domain which has complete information of vascular plant regarding their status, distribution and origin.

Conclusion

In today’s world due to vast number, researcher activities huge data is being generated in the field of life science, and information and computer technology is becoming indispensible tool in biological research.

References


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REVIEW OF IMPACT OF ICT IN SOCIO-ECONOMIC SECTORS

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ABSTRACT
This paper explores the discussions on impacts of ICT for development. A number of impact areas are identified and their relationships explored in the context of their place in the social, economic and environmental. However, research has tended to focus on positive rather than negative impacts.

1. Introduction
ICT is a generic term referring to technologies which are being used for collecting, storing, editing and passing on information in various forms. ICT as an ‘assisting tool’. ICT is used as a tool, for example while making assignments, collecting data and documentation, communicating and conducting research. Typically, ICT is used independently from the subject matter. ICT as a medium for teaching and learning. This refers to ICT as a tool for teaching and learning itself, the medium through which teachers can teach and learners can learn. It appears in many different forms, such as drill and practice exercises, in simulations and educational networks. ICT as a tool for organization and management in schools.

The Information Communication Technology (ICT) is considered the driving force behind the long unprecedented economic growth period of the last decade. It provided the infrastructure for economic development, helped create the knowledge society, contributed to innovation and created value for the economy. ICT includes a number of impact areas, covering the economic, social and environmental realms. The areas covered are the impact of ICT on economic performance, employment, innovation, privacy and security, education, health, citizen participation, individuals and communities, and the environment. The usual objective of an ICT impact analysis is to examine the relationship between ICT and productivity, economic growth or employment. Productivity measures relate a measure of output (gross output or value added) to one or more inputs. Economic growth is usually defined in terms of change in gross domestic product. Employment refers to jobs generated through the direct and indirect impacts of ICT. ICT is changing quickly, shortening its life cycle and speeding up its obsolescence. Innovation has become the battle cry for many countries looking for job creation and better living conditions. Research is needed to use existing knowledge and to create new knowledge. It is the means for maintaining intellectual leadership. Knowledge management is the solution for sustaining a competitive edge in a knowledge economy. Higher education plays a major role in all these processes by preparing and providing the required human capacity through education, creating and disseminating knowledge to society, and directly contributing to economic development. Even though ICT being a key enabler into almost all sectors of our society, ICT research and innovation programs are today still to a large extent not integrated as part of cross sector programs and there is a need for increased interaction between developer and user of technology.

ICT & Economic Growth
This section discusses the impact of ICT on economic growth and productivity at the macro, sectoral and firm level. Effects on poverty alleviation are also considered, although the concept of poverty extends beyond the economic dimension. Following most studies on the economic impact of ICT, the paper distinguishes economic impacts arising from an ICT sector and from ICT diffusion throughout the economy. Increase in the size and productivity of the ICT sector, and associated effects such as growth in industries that provide inputs to
ICT production; The contribution of ICT services industries to aggregate labor productivity growth was typically less than for ICT manufacturing in the same periods.

**ICT & Research**

ICT provides the infrastructure (computers, broadband, wireless, etc), data collection and storage, processing, computing power, visualization, simulations. It helps convert data into useful information thus business knowledge, presumably profitable knowledge. It helps reap collective wisdom through community collaborations such as Open Sources and community software, wikis, and blogs to enhance quantity, quality, and thoroughness. However, the collaboration needs to be structured and have well-defined orientation to be effective. It helps accelerate research and innovation with Open Sources and Open Standards.

**ICT & Employment**

ICT has roles in the creation of employment and self-employment opportunities. In economies increasingly dependent on ICT, individuals will benefit by having requisite ICT skills, thereby enhancing their opportunities for employment. Arguably, ICT can also lead to loss of employment as tasks are automated. In respect of the ICT sector in low income countries, telecommunications services might offer the greatest opportunities for employment creation. Only a small number of developing countries have a well-developed ICT sector. For those that do, ICT manufacturing can be significant in employment terms, sometimes involving the poor.

**ICT & Innovation**

Innovation is a broad concept, defined by the implementation of a new or significantly improved product i.e. good or service, or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.” Innovation can occur in all sectors of the economy, including government and higher education, and includes all forms of research and experimental development as defined by the There are several relationships between innovation and ICT. We saw above that a key determinant of business and macro-level productivity is innovation, especially organizational change. More broadly, there is clearly a strong impact of innovation, especially R&D, on the development of ICT goods and services. ICT can be expected to have a strong impact on R&D activities in all sectors, as a general purpose technology, although there seem to be few studies in this area.

**ICT with Privacy and Security**

There are a number of adverse impacts of ICT on the privacy and security of individuals and organizations. They include commercial losses from denial of service attacks, data loss through theft or corruption, and disclosure of confidential data.

**ICT & Education**

ICT may deliver significant educational benefits by providing tools for the teaching and learning process and by providing the skills needed in a society that is increasingly reliant on ICT. ICTs motivate both teachers and student’s. There appears to be some consensus that both teachers and students feel ICT use greatly contributes to student motivation for and engagement in learning. Access to ICTs outside of school affects learner confidence and behavior. Students that use ICTs at home, and for personal use, also use them in school more frequently and with more confidence than students who have no home access. The location of ICTs has an impact on both effectiveness and engagement.

**ICT & Health**

The World Health Organization (WHO) has a broad scope for e-Health, means the use of information and communications technologies (ICT) for health.” and stating that “e-health works to improve health by enhancing patient services and health systems.” According to ITU, e-health ICT applications include electronic health records, telemedicine, m-health, decision support systems, e-learning and e-journals. The use of ICT as enabling complex and networked medical equipment and mentions that from an individual’s point of view, the Internet can
be a useful source of information about health. There is no doubt that ICT can also have negative effects on health, for instance, occupational overuse injuries associated with computer use. Recycling of e-waste is a particular problem for some developing countries; with adverse health impacts.

**ICT in citizen participation and communities**

The e-participation can change the dynamics between government and citizens. There are both negative and positive social impacts of ICT use for individuals and communities. On the negative side, there is increasing concern about the impact on children of Internet use, for example, exposure to undesirable content and overuse of Internet applications such as online games; use of the Internet to disseminate images of pornography and violence against women; Internet-based crime; copyright infringement; and security and privacy concerns. Positive impacts are potentially numerous and include the ease and immediacy of communicating, finding information and accessing services. For minority groups and those who are socially disadvantaged.

**ICT in Energy & environment**

ICT can also play a vital role in energy conservation. In environment issues, the climate change has been the buzz word in recent days. Measurement of the relationship between ICT and the environment is a relatively new topic. High-performance Computing has been the driving force behind oil exploration and reservoir simulations. A report of the US Department of Energy on History of Innovation in Oil and Gas Industry affirmed that advanced technology such as high speed computer, remote sensing and imaging, geologic interpretation and visualization technology have helped oil and gas exploration and production smarter, farther, deeper and cleaner. There are number of positive and negative links between ICT and the environment. The scope of ‘environment’ was limited to aspects where ICT is likely to be a strong positive or negative factor, that is, climate change, energy use and waste. Some of the impacts of ICT on environmental outcomes can be demonstrated using scientific knowledge and other available information.

**ICT in Knowledge Management**

As mentioned above knowledge management is the process of managing the knowledge cycle. ICT provides a wide spectrum of tools and means to facilitate value creation. The Intellectual Capital Management system is an effective means to preserve and disseminate the experiences and memory of an enterprise. There are a number of collaborative software tools available on the market that can help mobilize collective wisdom and knowledge to improve business performance. For knowledge acquisition we have seen the popularity of the internet, Wikipedia, online databases, and Intellectual Capital Management system with sophisticated database system along with advanced techniques in text mining and data mining.

**Summary and issues for consideration**

It is observed that by changing nature of ICT, the complexity of ICT impacts, the more general difficulties of illustrating a cause-and-effect relationship between dependent and independent variables. At a business level, there is significant empirical evidence that complementary factors, such as skills and innovation, are important in determining the degree of the impact of ICT access and use. Reflecting the complexity of measuring ICT impacts, there is a variety of methodological approaches, which are not mutually exclusive. Particular approaches appear to be generally suited to measurement of a particular type of impact. In terms of poverty alleviation, there is case study and some macro-level evidence that ICT may contribute.

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THE ROLE OF ICT IN TEACHING, LEARNING & EVALUATION

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ABSTRACT

Knowledge and information increasingly determine new patterns of national development and wealth creation. The use of computers and the WWW is essential for the further progress of education. Education for new emerging societies requires ICTs to facilitate large-scale learning needs for social and economic development. For the first time in history, information and scientific knowledge are not simply means of improving society only, but main products of the economy. ICTs and information society are concerned with the creation, acquisition, sharing, dissemination, delivery, support and recognition of knowledge. ICTs are the means for providing an access to and engaging in the continuous learning that becomes necessary for successful participation in the society development of all social groups of population.

INTRODUCTION

The Scientific and technical progress and the global spread of technologies developed in the most advanced countries of the world constitute one of the main arguments in favors of the leading role of education in the 21st century. The level of technological development is indicative nowadays not only of the economic power and living standards of a particular country, but also of the place and role of this country in the global community, and the scope and prospects of its economic and political integration with the rest of the world. At the same time, the level of development and utilization of modern technologies in different countries is determined not only by their material resources, but, to a large extent, by the degree of society’s ability to produce, absorb and apply new knowledge. These achievements, in turn, are tightly linked with the level of education. These processes are largely driven by information and communication technologies, where scientific knowledge and information increasingly determine new patterns of growth and creation of wealth and present possibilities to reduce poverty more effectively.

Unavoidable facts in the modern education

There are some unavoidable facts in the modern education, which are as follows

First, the ICT has been developing very rapidly nowadays. Therefore, in order to balance it, the whole educational system should be reformed and ICT should be integrated into educational activities.

Second, the influence of ICT, especially internet (open source tool) cannot be ignored in our student’s lives. So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones. In this case the widely use of internet access has been an unavoidable policy that should be anticipated by schools authorities.

Third, the presence of multimedia games and online games by internet has been another serious problem that should be wisely handled by the educational institutions. The students cannot be exterminated from this case. They can have and do with it wherever and whenever they want. Schools, as a matter of fact, do not have enough power and time to prevent or stop it after school times. Meanwhile, most parents do not have enough times to accompany and control their children. So, the students have large opportunities to do with multimedia games or online games or browsing the negative and porn sites. Having been addicted, the students will have too little time to study, and even do not want to attend classes.
Fourth, the implementation of ICT in education has not been a priority trend of educational reform and the state paid little attention to it. Therefore, there should be an active participation, initiative and good will of the schools and the government institutions to enhance ICT implementation at school.

Fifth, the teachers should be the main motivator and initiator of the ICT implementation at schools. The teachers should be aware of the social change in their teaching activities. They should be the agent of change from the classical method into the modern one. They must also be the part of the global change in learning and teaching modification.

Aim and Objectives of ICT implementation in education:

1. To implement the principle of life-long learning / education.
2. To increase a variety of educational services and medium / method.
3. To promote equal opportunities to obtain education and information.
4. To develop a system of collecting and disseminating educational information.
5. To promote technology literacy of all citizens, especially for students.
6. To develop distance education with national contents.
7. To promote the culture of learning at school.
8. To support schools in sharing experience and information with others.

Is technology changing the role of teachers?

When talking about 21st century learning, there’s one critical component that ties the concept together: Technology. It is technology in its many forms that is driving innovation, changing the way that students think and, as a result, changing the way that teachers teach. Digital literacy, in particular, has become one of the main priorities of 21st century education. It’s a central theme of the Common Core State Standards, and a skill that many argue will be vital for students attending college and/or pursuing successful careers in the 21st century. Technology has become the norm in our nation’s schools – you would be hard pressed to find districts without access to computer labs or the Internet.

Communicators

While teachers have always needed to communicate with students, the way in which they do so has evolved over the last decade. Rather than standing in front of a classroom and talking about important concepts, they are now encouraging dialogue – allowing students to question what they are learning and to think critically. This new approach to communication stimulates more direct interaction with students.

Collaborators

In addition to being good communicators, 21st century teachers must also be willing to collaborate with students in ways they haven’t before. The blended learning model of instruction,
in particular, gives teachers the opportunity to work with students in small groups, giving them more one-on-one attention and encouraging them to actively engage in the learning process.

Adaptive

Like the adaptive learning programs that many school districts now use, teachers, too, must learn to adapt. 21st century education is not one-size-fits-all. In fact, having the ability to tweak curricula, change lesson plans or open up discussions depending upon the needs and interests of students can help teachers become partners in the learning process, rather than wholly separate entities.

Facilitators

One major way that teaching has changed in the 21st century is that educators have become facilitators of learning. In other words, they help students discover knowledge on their own, rather than simply imparting it. This places students in an active role and keeps them engaged and interested in a world that is rapidly changing.

Teacher usage of ICT in education

While it is important to measure the training that teachers receive to engage with ICT, training programmes do not ensure that ICTs are used in the classroom to their potential. The evidence for teacher resistance to training for and/or using ICTs can carry over to implementation in the classroom for a number of reasons including a lack of training, and a lack of institutional support mechanisms. The UNESCO-UIS Guide to Measuring Information and Communication Technologies (ICT) in Education currently explores the conceptual domain of teacher usage with four indicators:

**ED36 Proportion of primary and secondary-school teachers who teach basic computer skills (or computing)** Total number of teachers who teach basic computer skills (or computing) in primary and secondary schools expressed as a percentage of all teachers.

**ED37 Proportion of primary and secondary-school teachers who currently teach subject(s) using ICT facilities** Total number of teachers who currently teach subject(s) using ICT facilities in primary and secondary schools expressed as a percentage of all teachers;

**ED39 Ratio of learners-to-teachers of basic computer skills (or computing)** Number of learners enrolled in grades where basic computer skills (or computing) are currently taught divided by the number of teachers who teach basic computer skills (or computing)

**ED40 Ratio of learners-to-teachers using ICT to teach** Number of learners enrolled in grades with ICT-assisted instruction divided by the number of teachers currently teaching subject(s) using ICT facilities.

However new indicators of teachers’ usage of ICT in education should reflect a multitude of teaching and learning methods in an effort to relate usage patterns to impacts including learning achievement and other student outcomes. While the preceding list of indicators has been shown to be available based on data in administrative systems, new indicators demonstrating usage patterns will have to also rely on additional data sources including teacher level surveys in schools.

Expanding usage indicators using a framework of teacher competencies

One way to expand on the measurement of teachers’ usage of ICT that is consistent with international policy standards for teacher training is to consider the depth and scope of the knowledge ladder, which is a set of complementary, alternative models or perspectives that together provides policymakers with an education reform trajectory in support development contained in the UNESCO ICT competency framework for teachers. Thus when looking at the usage of ICT it is important to capture the type of activities carried out by teachers with students including:
1. Lectures
2. Reading comprehension
3. Customized support to specific students
4. Search for information in books, in magazines and/or on the Internet
5. Organizing group and collaborative work between students
6. Production of materials by students
7. Debates and presentations made by students to the whole class & etc.

**Conclusion & Suggestion**

The use of Information and Communication Technology (ICT) in Dutch education is lagging behind expectation and desire. Hence, the advisory committee on Multimedia in Teacher Training, established by the Dutch Minister of Education, has drawn up recommendations on the design of the learning process in the future and the role of ICT to support this process, with a focus on teacher training. The teacher training institutes are providing the teachers of the future and the committee assumes that teachers are the key figures in arranging learning processes. The institutes, therefore, have to anticipate new developments and prepare prospective teachers for their future role. The nature and extent to which ICT is being used in education is considered to be a result of synergy between ‘top-down’ and ‘bottom up’ processes. In the latter especially, a contribution of the teacher training institutes can be expected.

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THE ROLE OF ICT IN TEACHING, LEARNING AND EVALUATION

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ABSTRACT
ICT does not automatically add quality. There is however, growing evidence that ICT application to the core business of education can accelerate and improve learning on a number of fronts. It can also provide the means of gathering, connecting and analysing data about teaching and learning in ways that enable us to more accurately diagnose student need and evaluate programs. To apply ICT in these ways requires changed approaches by educators. This paper looks at the contribution that ICT can make to quality in teaching, learning and evaluation through improvements in cognition, pedagogies, convergence, culture, and data.

Introduction
ICT does not automatically add quality to teaching and learning. It is possible to use information and communication technologies for trivial purposes, to waste students’ time with information and communication technology or even worse, to use information and communications technology for destructive or immoral purposes. We can certainly use ICT to further entrench inequalities and to favour particular groups. There is evidence in the USA, for example, that African American and Hispanic students are given more repetitive drill and practice tasks on computers and fewer sophisticated simulation applications than their white peers [Weglinsky 1998; Kreuger 2000]. There is however, growing evidence that ICT application to the core business of education can accelerate and improve learning on a number of fronts, from basic skills (Mann 1999; BECTA 2000); problem solving (Oliver and Omari 1999; Williams 1999), information management (Peabody 1996), work habits (Adnanes 1998), motivation (US Congress 1995; Allen 2000; Combs 2000; Diggs, 1997; Sherry, 2001), establishing life-long learning habits (Schollie 2001) and concepts development (Yelland 1998).

In addition, information and communication technologies are being applied to the management of learning and to the business models of educational delivery. One recent report that evidences this trend is the USA based, Year Four CEO Forum School Technology and Readiness Report [CEO Forum 2001]. This report links assessment and accountability with access, analysis and most importantly, alignment. These concepts will be discussed later in the paper.

Cognition
New media allow us to represent in rich and diverse ways. This is not simply a matter of learning styles although diverse learning styles can be supported by ICT. New media enable us to traverse the boundaries of art, science, language and senses. They allow us to represent and simulate experience. ICT allows us to accelerate or decelerate processes for purposes of understanding. Just as an experiment allows us to reproduce, represent or test a pattern of activity in the physical world, multimedia allows us to represent and experiment in a ‘virtual’ world – transferring control and concept to the learner in new ways. We can improve safety, for example, using technology (the difference between a flight simulator and learning in the air) so that the concepts are transferred, confidence is built through simulated experience and skills are developed, long before the risk has to be taken.
ICTs support us in bringing together aesthetic as well as scientific considerations, allowing us to overlay knowledge and meaning with skill and competence. We can, for example, enable students to design in ways that demonstrate perspectives difficult to create in classroom spaces, that reveal new ways of seeing; we can bring serious research more easily into creative writing or we can incorporate story treatments into science using multi-media to enrich and stimulate better learning outcomes (Williams 1999).

We can, in short, use ICTs to qualitatively improve cognition by conceptualizing more creatively, improving teachers’ knowledge and by tailoring learning resources to meet the particular needs of a child at every stage of his or her education.

Pedagogies
It has been widely recognized that harnessing the power of modern technologies for learning purposes requires that appropriate learning strategies be developed that harmonize effectiveness in learning with the technology role. This recognition underpins the UfI/National Grid for Learning relationship, and a general interest in fostering innovation in learning strategies (Kearns & Papadopoulos 2000:77).

ICTs provide many opportunities to more easily use a variety of pedagogies. As a tool, ICTs can support didactic or facilitative approaches, collaboration and interaction across time and distance, enquiry or interrogation, open or closed research, lock step or mind-map. Online technologies support and make easier constructivist approaches, just as they make behaviorist approaches easier. The capacity of ICT to deliver information or to communicate with a mass of students in quite individual ways opens up the possibility of tailoring pedagogy to the needs of a student in time and place without the limitations imposed by peer groups. This provides the opportunity for software that utilizes, for example, multiple intelligence theory.

Convergence
We are experiencing convergence on many fronts (Wise 1999, 248), fuelled by information and communications technologies. Technologies themselves are converging. Medical technologies are converging with educational technologies (for example, the application of brain scanning to educational purposes, of chemical impact on the brain to behavior modification) online technologies are converging with offline technologies (through, for example, the use of XML), digital technologies are interacting with media, with publishing industries, with entertainment, distribution and production industries. Such convergence has profound implications for the organization, management and conception of education and educational delivery.

Inevitably, convergence is also occurring within the curriculum, across traditional subject areas, most of which were classified (and thereby conceptualized) in the eighteenth and nineteenth centuries. In the last thirty years new subjects have been added to curricula – subjects such as media studies, ecology, computing studies, creative writing, environmental studies. As useful as these subjects might be, the continual addition of areas of study to timetables and the already crowded curriculum will not serve as a useful model for the future. In the end, if we are to achieve quality outcomes for the students of the future, we must use ICTs to assist us to manage the convergence.

Responses to convergence
Multi-skilling is one response. Knowledge management, using the organizing capacity of digital technology is another. Alignment is another. Multi-skilling seeks to layer skills over knowledge areas, constructing a matrix that brings together, at the point of an educational outcome, both subject knowledge and discipline, with other skills or competencies (such as problem-solving, information technology skill, high level literacy skill or team skills). Multi-skilling places high demands on teachers, who must themselves be multi-skilled in order to manage the multi-skilling demands of a
curriculum. Information and communication technologies play a significant part in multi-skilling because they provide enabling tools to speed processes and link knowledge.

Knowledge management brings search engines, thesauri, ‘see also’ and ‘see’ algorithms to link databases, texts, graphics, formulae and logic trees that by-pass the ‘silos’ of traditional subject thinking – assisting students in making connections across many areas of study and creating new domains of knowledge specifically for groups of students. Digital curriculum content can be built to capture some of this convergence. This is illustrated in the appended matrix for productions by the Sydney-based Open Training Education Network – Distance Education (OTEN-DE) of a prototype Physics Unit (Dobbs 2001).

Convergence is a significant opportunity and challenge for educators. We must meet the challenge and find ICT applications to assist us in managing convergence more effectively than we have in the past because the world itself is convergent as well as divergent; we need to educate for both.

Alignment

Alignment is an emerging concept in education facilitated by information and communication technology. Schools can only be effective in enhancing teaching, learning and helping students achieve well-defined educational objectives when the standards, objectives, teaching, curriculum, resources, technology use and assessment are all aligned. The content and methods of assessment must be aligned to measure standards and objectives. Technology provides valuable tools to align the system to promote student learning by providing a means to monitor alignment and communicate these initiatives to the public (CEO Forum 2001:13).

This records the conscious application of a business model to education. Certainly, in the past we have sought consistency in education. We have allocated resources according to priorities and we have sought to have Math teachers ensure, for example, spelling within their subject area rather than expecting a mother-tongue language teacher to ensure mathematics words are spelled properly. The emerging notion of alignment, however, does more than this. It does more because technology now provides the tools to enable us to more precisely align, and to measure the extent and quality of that alignment.

In a recent visit to the USA, the author observed the Oklahoma VISION project, initiated by the State of Oklahoma in partnership with Intel, Dell, Microsoft and a number of content providers. At the moment teachers in Oklahoma are restricted in what they teach by the available and approved textbooks. This project seeks to return responsibility and accountability to teachers for how learning is achieved. It also brings content producers into the accountability framework.

Culture

Finally, it is important to view our use of and assumptions about ICTs through a lens of culture. The Delores Report made a couple of predictions about online content and information technology use.

It seems that the differences will be chiefly between societies that will be capable of producing the content and those that will merely receive the information without taking a real part in the exchanges (Delores 1996:65).

There is no doubt but that individuals’ ability to access and process information is set to become the determining factor in their integration not only into the working environment but also into their social and cultural environment (Delores 1996:172).

This paper began by stating that ICTs do not have to be used to educationally liberating, or even moral, ends. It is fitting it conclude with a further reminder of the obvious. ICTs do not have to privilege one culture over another. Educators almost universally use the book as a tool, adapting it to the needs of particular cultures. We need also to use ICTs...
universally in education, without adopting the economic and cultural assumptions that have driven its rapid globalization.

**References**


Introduction:

Information and Communication Technology infrastructure is an important resource of a modern library or information centre. ICT is the electronic means of capturing, processing, storing and communicating information. The advancement of science and technology has made a tremendous improvement and changed almost all walks of life. Especially, the magnetic word Information technology has been chanted in all corners of the global arena and been incorporate in organizational, managerial, developmental and marketing sectors. The services rendered with the help of ICT are faster and more effective. Moreover, it creates faith and confidence about the products and services of an organization among its customers.

The cost-benefits analysis is one of the effective tools in the hand of management for the proper functioning, growth and development of any organization. There are basically two types of organization i.e. some are for the earning of revenues and others are for the welfare of the society. Education fall in the second category. The cost-benefit analysis of such institution can be measured in terms of the services they render to the users. In India, the cost of providing various library services to it users and managing their resources is a very important aspects, but a very few libraries have the detail picture of their cost-benefits analysis.

Webster(1981) cited a number of sources of cost increase, due to which economic and financial pressures on most libraries have grown enormously in the last few years. He also identifies some methods of cost-benefit analysis in a library. The cost benefit analysis can now be calculated by determining the total usage of resources by all the users during a specific period of time and then evaluating it by some standard methods of cost benefit analysis.

Definitions:

In an academic environment, the term ICT or Information Communication Technology is more commonly used. It is generally used both as singular and plural nouns. There are various definitions for ICT and a few that are relevant to this study are described here.

In the UNESCO training module for ICT, Information Communications Technologies(ICT) are described as the technologies that enable society to create, collect, consolidate, communicate, manage and process information in multimedia and various digital formats for different purposes, i.e., computing and telecommunications technologies like the personal computer, CD-ROM, cable TV, cellular phones and the Internet (David,2001).

ICT and Libraries:

Libraries which were considered only as the storehouses of knowledge, have got a new outlook in the modern Information Communication Technology era. The activities which were carried out manually in libraries with so much of pain and strain are being carried out smoothly with the help of ICT with greater effectiveness. Library organization, administration and other technical processing have become easier and more quantum of work can be done in relaxed mood. ICT, which is the basis for the MBO, generates more results at a given time.

Need and Importance:

The concept of cost-benefit analysis is now increasing day by day and applied to all the areas of the library. Beside, welfare activity libraries also
use the resources of the organization/ institution and also see the associated cost and benefits to the organization/ institutions. The concept of cost-benefits analysis has now starts taking practical shape in these days. The planning commission has already decided about the feasibility studies for the various welfare and social projects of different institution/organization.

Narayna(1991) explained the concept of cost-accounting, different types of cost etc., He explained the model of cost-effectiveness and cost-benefits analysis. He found certain limitation while applying cost-effectiveness and cost benefit analysis to libraries.

The cost benefit ratio are helpful for evaluated the total cost benefits of ICT, which include all economic and non-economic, internal and external benefits. According to it, an ICT giving a higher output per unit of capital employed is to be preferred over project giving a lower output. However, a broad decision on ICT acceptability on welfare grounds by looking to the different welfare aspects associated with it. The cost-benefit analysis helps determining the cost of ICT in a library by taking into account various costs i.e. NETWORK COSTS, Website development cost, user cost and miscellaneous projects costs and compare it with the benefits arises from these activities for a particular period of time. The lack of national ICT strategy and inadequate ICT skills leads to the slow rate of polices of ICT sector, which create the need of its cost analysis.

Impact of ICT:

In the tradition type of services the students have had no choice but to accept what & how learning has been imparted in the classroom. The institutions have also been traditional. ICT options have changed the perspective. Now we have many options & choices to access the knowledge. Due to ICT we can get in information anytime & anyplace.

ICT has the potency of expanding pool of teacher & reducing the cost of education. The ministry of human resource development has already launched the national mission on education thought ICT at a large scale.

Tools of ICT:
- Computer
- Internet
- Digital camera
- Webcam
- Smart Card
- Scanner
- E-Book
- Printer
- Electronic Journals
- E-Mail

ICT And Cost Benefit Analysis:

The cost of ICT has been changed so much in the last decade. The custom duties for software imports were reduce 112 percent 1991 to merely 10 percent in the times. The development of the ICT in the recent years due to declaration of IT-sector is one of five National priorities. The training of the relevant staff, who are using ICT enables services for optimum utilizations of resources through innovative collaboration, which results evaluate of cost-benefit analysis of the library.

The assessment of staff and manpower related with ICT is another thing to take into consideration for the cost-benefit analysis of different types of libraries and institution by taking into account their job-description, job-specifications, job analysis, etc.

The cost-benefit analysis also necessary in these days due to greater participations of library users and key stakeholders, i.e. individual, government, Private sector, manpower, NGO's with ICT industry.
Conclusion:

In India, there is no standard pattern or procedure of cost-benefit analysis is being followed by libraries. By using ICT with a view to work out unit cost of various objects, services and functions. The cost benefit analysis of ICT in India not being done at all. Continuous increase in the cost have practically brought the growth and development of ICT to a standstill Cost benefit analysis can be implemented both in traditional and knowledge organizations, which includes the innovations in ICT which are always looked upon with great expectation.

References:
THE ROLE OF ICT IN QUALITY EDUCATION

The Role Of ICT In Best Practices

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ABSTRACT

In this paper I tried to present a glimpse and nature of ICT, its importance & its mandatory need for education, which is indispensable. Education since bygone ages is a very essential part of the human reformation. It is only through education we are living in the age of virtual reality. It is only power of education that can change the mind of person. Education has changed the face of the world, but if we observed minutely then we find out education, itself has gone through many more changes. Each and every country, culture and continents has different mode of education. In our nation if we peep into the Vedic Age then we find out “Guru Kul System” of education, if take a tour of Arabian culture then we traced down “Khankai System” and in Western world we can find advance system of education. All these system tried to make their teaching and learning process more attractive and lively by available resources. They attempted to character building by various ways. But today we are breathing a very “HiTech” world. Many ages known by technology of their time therefore present age is called age of the computer, android and robot. Today all segments of human life is controlled by the advance tools and technologies. So our educational system has gone through a drastic change. We are applying modern means of the technology in the education system to quench the thirst of knowledge to this techno savvy new generation.

Introduction

ICT is a generic term referring to technologies which are being used for collecting, storing, editing and passing on information in various forms (SER, 1997). A personal computer is the best known example of the use of ICT in education, but the term multimedia is also frequently used. Multimedia can be interpreted as a combination of data carriers, for example video, CD-ROM, floppy disc and Internet and software in which the possibility for an interactive approach is offered (Smeets, 1996). ICT, stands for the Information and Communication Technology. To accurately understand the importance of ICT in Education there is need to actually understand the meaning of ICT. ICTs stand for information and communication technologies and are defined, for the purposes of this primer, as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. ICT permeates the business environment, it underpins the success of modern corporations, and it provides governments with an efficient infrastructure. At the same time, ICT adds value to the processes of learning, and in the organization and management of learning institutions. The Internet is a driving force for much development and innovation in both developed and developing countries. Countries must be able to benefit from technological developments. To be able to do so, a cadre of professionals has to be educated with sound ICT backgrounds, independent of specific computer platforms or software environments.

Usage and integration of ICT

Usage and integration of ICT in the education system ICT, if appropriately used can assist in addressing the key educational challenges, e.g. eLearning and m-learning technologies and alternative delivery systems for access; rich and interactive digital content to improve quality;
assistive technologies to contribute to equity; and
the inclusion of ICT skills in the curriculum and
the use of ICT to support 21st century learning can
increase relevance. Outside of the education and
training institutions, ICT is being put to processing
examinations in the general management of the
education system using Educational Management
Information Systems.

The effective integration and utilization of ICT
depends on the capacity of the system to perform
and execute activities of planning, implementation
and evaluation. Institutional capacity depends on
adequate and skilled human resources, strategic
leadership, financial resources, infrastructure, and
programme management and on a conducive
external environment. A comprehensive capacity
audit of the education sector would need to be done
to determine the capacity gaps and needs, but a
cursory assessment revealed that although
government commitment is high as evidenced by
the policies and strategies, organizational structures
and culture, lack of skills in critical areas, lack of
strategic vision and planning, insufficient financial
resources and inadequate infrastructure hamper the
ability of the sector to integrate and use ICT
effectively.

Information and Communication Technology (ICT)
is a principal driver of economic development and
social change worldwide. Nevertheless, technology
alone can only be an enabler, not driver of
development. Further, use of Information and
Communication Technology (ICT) in developing
countries is seen as an effective way to improve the
population’s life and well-being. In particular, ICT
applications on the education system might change
the future of the underdeveloped world fundamentally through the connections to ‘the flat
world’ (Friedman2005). However, there are some
challenges which the developing world faces in its
efforts to adopt ICT in the education sector. These
challenges are limitations related to cost, internet
access, trained staff and adequate policy. This paper
discusses the use of ICTs in education in developing
countries with a focus on India. The paper highlights
the use of ICTs in education, the benefits and roles
of ICTs in education, Integration of ICT into
classrooms is not enough to impact student learning.
That said, specific applications of ICTcan positively
impact student knowledge, skills and attitudes, as
well as teaching practices, school innovation, and
community services”

Roles of ICTs in Education

ICT is increasingly becoming a more and more
powerful tool for education and economic
development. Unwin (2009) contends that “ICT can
be a catalyst by providing tools whichteachers use
to improve teaching and by giving learners access
to electronic media that make concepts clearer and
more accessible”. Thus, ICT is used for capacity
development and citizen empowerment. Ultimately,
ICT can enhance educational opportunities and
outcomes for students, including students with
intellectual disabilities (Anderson, 2009). As much
as I agree with the literature it has always becomes
a challenge to most learners as they are not able to
access the computers as some schools could not
afford them while others are locked up in computer
labs in schools.

The main purpose of the Strategy for Information
and Communication Technology Implementation in
Education is to provide the prospects and trends of
integrating information and communication
technology (ICT) into the general educational
activities. There are some unavoidable facts in the
modern education; first, the ICT has been
developing very rapidly nowadays. Therefore, in
order to balance it, the whole educational system
should be reformed and ICT should be integrated
into educational activities. Second, the influence
of ICT, especially internet (open source tool) cannot
be ignored in our student’s lives. So, the learning
activities should be reoriented and reformulated,
from the manual source centered to the open source
ones. In this case the widely use of internet access
has been an unavoidable policy that should be
anticipated by schools authorities. Third, the presence of multimedia games and online games by internet has been another serious problem that should be wisely handled by the educational institutions. The students cannot be exterminated from this case.

They can have and do with it wherever and whenever they want. Schools, as a matter of fact, do not have enough power and time to prevent or stop it after school times. Meanwhile, most parents do not have enough times to accompany and control their children. So, the students have large opportunities to do with multimedia games or online games or browsing the negative and porn sites. Having been addicted, the students will have too little time to study, and even do not want to attend classes. In such situation, education institutions play an important role to eradicate these problems. One of which is by facilitating the students to do edutainment or educational games. Schools can let their students be familiar with educational games adjusted by their teachers. Besides, they can also support and facilitate their students to have their own blogs in the internet. A lot of Weblog providers are free to the users, such as WordPress.

In their blogs, the students can create and write something, like an article, poem, news, short stories, features, or they can also express their opinion by an online forum provided in the internet. They are able to share experiences throughout their blogs to others from all over the world. I think it will be an interesting activity for them, and it will lessen their time to visit the negative or porn sites existed. By doing so, I think our young generation will get more and more information and knowledge by browsing in the internet. They can also create innovation in web design that it may be out of the formal curriculum content, but it will be useful for their future. Fourth, the implementation of ICT in education has not been a priority trend of educational reform and the state paid little attention to it. Therefore, there should be an active participation, initiative and good will of the schools and the government institutions to enhance ICT implementation at school. Fifth, the teachers should be the main motivator and initiator of the ICT implementation at schools. The teachers should be aware of the social change in their teaching activities. They should be the agent of change from the classical method into the modern one. They must also be the part of the global change in learning and teaching modification.

The followings are the aim and objectives of ICT implementation in education: 1) To implement the principle of life-long learning / education. 2) To increase a variety of educational services and medium / method. 3) To promote equal opportunities to obtain education and information. 4) To develop a system of collecting and disseminating educational information. 5) To promote technology literacy of all citizens, especially for students. 6) To develop distance education with national contents. 7) To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.) 8) To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)

Conclusion.

In this way we can understand the importance of ICTs in the education, nowadays it become the guiding force behind the modern education. And it is also the need of the present era to cop up with new challenges. It has a very vital and sustainable impact on the teaching and learning process, ICT has rejuvenated and revolutionised the modern education.

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USE OF ICT FOR THE INFORMATION SERVICES AND SMART ACADEMIC LIBRARIANSHIP

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ABSTRACT
ICT are the most influencing factors of today’s information society. The main function of ICT is availability of right information to the user at the right time for appeasing his thrust of knowledge. Fast developing ICT are creating new opportunities and challenges for traditional librarianship, it changes the library into digital and virtual with universal approach. ICT has become the first need for the smart librarianship. Change is the only constant and should be accepted by the librarians to provide excellence services, round the clock to endless users by breaking the boundaries of libraries.

Keywords: ICT, ICT Tools, automation, networking, information services, librarianship, Academic Libraries, communications technology (ICT) refers to all the technology used to handle telecommunications, broadcast media, intelligent building management systems, audiovisual processing and transmission systems, and network-based control and monitoring functions. Although ICT is often considered an extended synonym for information technology (IT), its scope is broader. ICT has more recently been used to describe the convergence of several technologies and the use of common transmission lines carrying very diverse data and communication types and formats.

3. Application of ICT in Academic Libraries -
ICT has changed the traditional methods of library activities and services providing new dimensions for teaching, learning and research in higher educational institutions. With the help of ICT tools, it is possible to store, retrieve, disseminate and organize information by creating websites and databases. Information is now published both electronically and by print making it accessible to users according to their demands. It is important to assess.

Now a days there are several information communication technologies for various housekeeping, management and administrative functions of the library, different electronic and
digital media, computer aided electronic equipments, networks and internet has provided significant role in retrieval and dissemination of information and playing a vital role for upgrading of libraries main of them are:

- **Library Automation**: Automation is the concept of reducing the human involvement in all the library services so that, user can get the desired information with the minimum efforts. Main areas of the automation can be classified into two organization of all library i.e. databases and all housekeeping operations of the library.

- **Library Networking**: Networking means a group of Libraries and Information Centers are interconnected for common pattern for information exchange and communication to improve the efficiency.

- **Library Management**: Management includes the activities like Classification, Cataloging, Indexing, Database creation, Database Indexing, which will positively be geared up by the use of these fast ICT developments.

4. ICT Used in Libraries
   - Computers
   - Internet
   - Library Housekeeping software
   - Consortia
   - CCTV
   - RFID
   - Institutional Repository
   - Web design
   - e-resources

5. Purpose of using ICT product
   - E-Mail & Document exchange
   - Electronic Journals & Electronic Books
   - Collect Data through Internet
   - Online Data Bases
   - For Career Development
   - Presentation & Documents
   - Manuscripts Proposal & Papers
   - To Update Knowledge
   - Search Web OPAC
   - Discussion Forums
   - Blogging
   - Casual Internet Surfing

6. Use of ICT in housekeeping operations of Academic Libraries

Broadly use of Digital technology in house-keeping operations encompasses the areas of Acquisition, Cataloguing, Circulation, Serials control and Online searching of library database (OPAC).


- **Cataloguing** - Database for Catalogue, Maintain Authority File, OPAC, Export/Import Cataloguing Data, Printing of Catalogue Cards, Stock Verification

- **Circulation** - Database of Users, Member Registration, Documents Circulation and User Bar coding.

- **Fine Management** - Statistics.

- **Serial Control** - Database of Serials, Serial Selection, Ordering and Renewal, Bar-coding of loose Issues, Bindery Management, Accessioning of Bound Vol’s, Reporting and Online Journals.

- **OPAC** – Online searching of library database

- **Annual Stock verification**

- **Budget Management**

- **Others** - Word Processing/Printing, Classification, In-house Scanning/Digitization of Documents, Use of RFID/Similar Technology, Close Circuit TV Cameras, Budgeting Purchase or Tender Procedure and Digitized System Administration
7. ICT-Based User Services

Some library users are adopting electronic habits, making increasing use of the new ICT including computers, the Internet, the Web, Intranet, Extranet and other technologies. As a result, library users are placing new demands on their libraries. They require access to the latest information, updated information resources and access to ICT facilities that they could use in their work.

Use of ICT in libraries enhances users satisfaction. It provides numerous benefits to library users. Some of the benefits are:

- Provide speedy and easy access to information
- Provides remote access to users
- Provides round the clock access to users
- Provides access to unlimited information from different sources
- Provides information flexibility to be used by any individual according to his/her requirements
- Provides increased flexibility
- Facilitates the reformatting and combining of data from different sources
- Libraries are also providing various ICT-based services to their user, including the following:
  - Provision of Web access to OPACs
  - Electronic document delivery
  - Networked information resources
  - Delivery of information to user desktops
  - Online instructions
  - Online readers advisory services

8. Impact of ICT on Libraries and Librarians

Computer has brought in a new impact to the library and information usage. In libraries, information technology has assisted library professionals to provide value added quality information service and give more remote access to the inter-nationally available information resources. Today has highly sophisticated information technology to facilitate the storage of huge amounts of data or information in a very compact space. Information technologies promise fast retrieval of stored information and revolutionize our concept of the functions of a traditional library and a modern information center. Recently technological developments have dramatically changed the mode of library operations and services.

Modern ICT is affecting various aspects of libraries and the information profession. Advancements in ICT and the wide spread use of ICT is resulting in digital information sources and digital media replacing and becoming the dominant form of information storage and retrieval. ICT also survives and makes true rules of Library Science ‘every reader his/her book/information’, ‘Save the time of the reader’, ‘Library is a growing organism’. ICT with its tremendous information sources, rapid transmission speed and easy access ensures the satisfaction of the user with complex demand, break down the distance barrier and shortened the time required and ensure the right information to the right reader at the right time. It also increases and solves the library’s demand of collection development. It is really an excellent tool for the Library information centers.

9. Challenges before LIS Professionals

ICT has created complex challenges for LIS professional they have to redesign their positions to meet evolving needs. Professionals have to manage the change by adopting latest ICT, thereby improving performance. They need to improve the skills and knowledge of the new technologies to provide quality library services.

10. Major problems in implementation of digital technology

- Inadequate Finance
- Lack of Planning
- Inadequate Management Support
- Lack of Digital Technology Trained Staff
- Lack of Consultancy Service for Digital technology
Lack of Well Accepted Standard of Library Management System
Lack of Less Expensive Standard Software
Inadequate Hardware
Lack of Training Facility
Low interest for Retro-Conversion & Bar coding
Lack of Awareness/ Hesitation in Users towards Digital technology
Low Priority to Digital technology
Lack of control over Library Staff
Lack of Motivation among Library staff
Frequently change in Digital technology
Lack of searching skill
Lack of knowledge in computer handling
Lack of knowledge in browsing e-journals
Limited computer literacy among library users
Inadequate publicity for the Digital technology based resources and services
Rigid Digital technology use policies implemented by the library
Discouraging attitude of Library professionals towards their users
Limitations of internet access speed
Limitations of online full- text Journal article
Lack of power supply
Untraceable documents
System is not User Friendly
Insufficient of E-journals
Insufficient knowledge of consortium
Information is not updated
Insufficient of Digital technology base trained staff.

11. Suggestions to overcome the problem

The government should take steps for providing library facilities with well-equipped modern technology.
The administration should invest more on the acquisition of computers and other new electronic resources and computerized tools.
The concerned authorities should not grant affiliations and permissions to the academic institutes until and unless they can keep the requisite library norms.
Information technology may be facilitated for making network among the libraries.
A committee consisting of Library authority, staffs and user community may be constituted to initiate joint efforts introducing computerized service in the library.
Availability of information technology facilities (like internet) should be considered and encouraged.
The management should take in the culture of manpower development programme on Digital technology regularly for workforce.
E-resources training/awareness programme may be organized from time to time by the concerned authority.
The emphasis should be given to the accessibility and subscription of electronic information resources, locally relevant digitized information resources, as well as free web based information items by libraries.
The management committee should take steps to take help/assistance from the UGC for the successful implementation of modern technology.
The library management should ensure that the amount charged for the use of digital resources in the library is cheaper than others cyber cafe so as to encourage library users in using the digital technology resources within the library premises.
Libraries must be encouraged to renovate themselves in the modern trends.
Adequate funds may be provided to libraries for their development and functioning and it should be utilized properly.
More computer terminals or work station
should be created to enable users have access to the internet.

- Different library associations such as ILA, IASLIC etc have to come forward and should organize seminars, workshops etc. to create awareness among librarians about current development in technology.

- The libraries must have to develop a collection development policy for digital resources.

- There should be developing specific criteria for adding and canceling e-resources.

12. CONCLUSION
The application of ICT tools are increasing in Academic Libraries especially in Arts, Commerce & Science colleges due to the development of technologies. An increased number of users, a greater demand for library materials, an increase in amount of material being published, new electronic formats and sources, Insufficient digital technology base trained staff, Insufficient E-journals, and e-database are some of the reasons for the growing need for implementation of Digital technology in Academic libraries of India. Thus, the mandate of the academic library in India is intact, only its role has expanded and format has changed.

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THE ROLE OF ICT IN TEACHER EDUCATION

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ABSTRACT
This paper is a description of an in-service teacher training experience that used ICT to develop a project that involved teachers (nursery and primary) and also children, parents and other members of the educational community. Its aim was to build an Internet site that would give information about school life. It’s an open web space where teachers, parents and students can express and share their ideals and activities. This project is still in progress and is being developed in three interconnected phases: conception, development and evaluation. The most important issue to relate is that the technical or instrumental learning is dependent on the ideas and purposes of teachers, students and parents.

We believe that when we talk about ICT in schools and also in teacher education we shouldn’t only be concerned with the ‘means’, that is to say, how to introduce computers or how to use a word processor and Internet resources, but also with the ‘ends’. Only when we question the ends do we begin to pay attention to what we do, that is, to construct a story that is worth telling “... to tell that we are merely tools makers (and tools users) is to miss the entire narrative aim? We are world’s makers and world’s weavers” (Postman, 2002: 108).

Introduction
Not very long ago, about fifteen years or so ago, just talking about the use of computers and information and communication technology (ICT) in education would make many teachers feel uncomfortable. Many feared these machines would replace them, and others believed they would mechanise human thought and relationships. Today, the situation is somewhat different and, some teachers are more enthusiastic than others. The current problem isn’t the introduction of ICT in schools but how and for what purpose. We all know that a great number of teacher training schools, and also some primary and secondary schools, still don’t use information and communication technology. There is no need to mention some causes because we all can think of some.

The main problem is not to find answers to the ‘hows’ but to find reasons to justify the use of ICT. Reasons that provide a good purpose for our efforts to learn as well as to use them in our daily personal and professional lives. As we all have surely noticed, new technology, as any other technology, bring new problems while little contributing to solving the old problems. Why? As they have appeared in answer to new economical and social needs, they demand new infrastructures, along with new ways of thinking and organising school as well as learning and training. Research has shown that ICT as an adds-on to existing practices is not an effective strategy (De Corte, 1991, 1993; Jonassen, 1996; Mendelsohn, 1991, 1991a; Papert, 1980, 1993; amongst others). New technology must be placed in stimulating learning environments. There is also the need for experts, and this lead to new possibilities of representing, dealing and communicating different kinds of information. “As Salomon (1993) points out, tools are not just implements, but also serve culturally defined purposes and require a skilled operator in order to function usefully” (Jonassen, 1996: 9).

Context and initial situation
This project took place in Manique Nursery and Primary School, in the Alcabideche council of the Cascais, municipality in the Lisbon area.

Manique is a village that has maintained some of its rural features: almost everyone knows each other and most houses still have a yard and garden. In the
surrounding area, there are some apartment buildings, and more recently, welfare housing to. The resident children attend this school.

The school population is mainly of a medium to low social-economical background. Some children with learning disabilities and behaviour disorders have been integrated both in nursery and primary school and are periodically followed-up by specially trained teachers.

There is a single nursery classroom with a nursery teacher and eight classrooms in the primary school spread out in three buildings. The main building is shared by the nursery class and it is also where the cafeteria and kitchen are, along with the multimedia and teachers meeting room.

Both nursery and primary schools are state schools and, although they share the same facilities, they are independent.

Public institutions are under the aegis of the Ministry of Education but the extra curricular activities, supervision, equipment and building maintenance are the responsibility of the municipal council. In this school, the Cascais town council has provided most information technology equipment and the computer with an Internet connection was given by the Ministry of Science and Technology. We happened to find out that when we were undertaking this project, all the primary and secondary schools of this council had computers and Internet connections. As a further incentive, this ministry provides guidance and other forms of support to those who want to develop projects related with new technology. In the school and nursery where this project took place the four existing computers (one with Internet connection) are in an extra room were they were occasionally used by some teachers and never by the students.

However, long before the project began we noticed (after spending some time with them) that the teachers showed a great deal of interest in using the existing equipment, although some lacked the knowledge and others the know-how. The enrolment of all the teachers in an ICT training course - DidaTIC - drew our attention to the importance given to ICT, although they were hesitant about using it.

This meant that although the students were the main target computer users, we had to intervene at the teachers’ level in order to encourage them to use ICT.

With this in mind, we found a common way of developing a project that would promote in-training and that would activate teacher’s interest around a common purpose: creating an Internet homepage.

As teachers, we recognise that professional communication among stakeholders is a main source of practical knowledge building among teachers (Sacristán, 1991). Continuous teacher in-training plays an important role, because teachers are mediators of the student learning process, and along with their practices, are responsible for the students’ learning process and their attitude towards knowledge.

Knowing this, we designed and proposed a project framework using two tables (logframe matrix and activity schedule) to provide everyone with a useful summary of the project. The success of this project relied mostly on the solid relational ties among stakeholders, in a constant process of reinvention, constructed by all, while the leadership was taken on temporarily by someone to ensure the achievement of common goals, in a power with instead of a power over relationship.

**Project development and monitoring**

**With teachers**

Firstly, and before we started the project, it was important to set up the conditions that would ensure its success, that is to say, create an environment of confidence and collaboration, of sharing both human and material resources, involvement and knowledge.

Furthermore we had to bring together expertise for
future possible breakdowns. Therefore, through the Didatic Project, which everyone attended, we established support links with teachers from other schools and with those who were in charge of the Didatic Project. One of them made himself available to collaborate with us.

We were fortunate to benefit from the assistance of other people who though far away, were with us through the Internet and helped us to build the pages and to process the images.

We felt the need to find a way to help the team achieve the means to understand the goals of the project, that is to say, a conceptual framework to articulate and understand the process.

We took our model from the recommendations of ITAD (Information Training and Agricultural Development) for project design and created the Logframe. According to the EC (European Commission), the Logframe allows for a precise summary of the project goals, the indicators for its measurement and the main risks or problems that can prevent the attainment of the said goals.

In this model (Project Cycle Management - Logical Framework Approach), an instrument of project design and measurement, the Logframe is a frame with four columns and four rows (in its simplest form). Vertically, it identifies the aims of the project, clarifies the causal relations and specifies possibilities and uncertainties outside the scope of the project. Horizontally, it measures the effects and resources specifying the units and the means to verify them (table 1, in the end of the paper).

**Final remarks**

This experience shows that it is possible with computers and Internet to develop a wide range of training activities for teachers. Moreover, this example reveals (as well as other we took part in and another’s which are under development elsewhere) common features.

In the first place they highlight the importance of interaction as a means of training and knowledge (interaction between teachers and students, between students, between them and computers and between teachers and students on the one hand, as well as external partners).

Secondly, the main role of information search, critical analyses and the production of new information made available on the Web.

Thirdly, it the breaks down the barriers between the school environment and the outside, not only because sites are open to community on the whole but also because they enable diversified changes.

Fourthly, teacher training can take place at anytime because it’s not constrained to individual or group class work.

Lastly, the training activity is organised around projects that are built and shared by everyone without being limited to any technical aspect.

We think this is not merely a question of personal style but of a concept of education that tries to reconcile the possibilities offered by ICT with a student-oriented pedagogy, encompassing exploratory activities, as well as in information data search and processing in projects. We know that ICT is used differently, for instance, to convey the same old curriculum with the very same pedagogic models, but using the Internet resources (like most e-learning courses that are now available).

The problem can’t be focused on ICT but on their pedagogic framework (a pedagogy that enhances student-oriented, learning and critical capacities).

But along with the use of technology in school comes the need to provide youngsters and teachers with a true technological education. And as Postman puts it this will only be when they have been taught the history of the different technologies (pictorial ornamentation, alphabet, the typographic press, books, newspapers and magazines ... of computers) and of their creators, their economical, social and psychological effects and even how they have rebuilt the world and still do. They should also be taught how to read, interpret and differentiate the
different kinds of symbols of the information delivered. For instance, how do images and words differ from each other? A painting from a photo? The spoken word from a written text? Television from books?

For all this, with the technical and pedagogical learning of ICT we would need to create a technological subject to analyse how technologies invented by men “create new worlds for the best and for the worst” (Postman, 2002:219)

References


ICT AS AN AID IN TEACHING ENGLISH LITERATURE

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ABSTRACT
Information and Communication Technology (ICT) in higher education can revolutionize the education sector in India, thereby making its impact felt in other areas like governance, economy and administration. The National Mission on Education through Information and Communication Technology (NME-ICT), launched in 2009 by the Central government, seeks to provide connectivity across the country. It is a project under which various schemes have been undertaken. One such scheme has been undertaken by University Grants Commission (UGC) to develop e-content for around 77 subjects at the postgraduate level, which would be put up on the web portal of the Ministry of Human Resource Development – “Sakshat”. Similarly E-library is made available to learners across the nation for teaching and learning. Today in the fast pacing world where everything is digitized, the education sector should not lag behind, because it is education which ensures the future of the citizens and the progress of the country. Use of ICT in higher education in the field of engineering, medical science, accountancy, management, business administration, computer science, information technology can be easily thought of. But what about the use of ICT tools in the so called ‘traditional’ subjects of history, literature, political science, economics and other areas of humanities? In this paper, I would focus on how use of ICT in the teaching of English literature can make it interesting for students, teachers, research scholars and how the dynamics of the subject can come alive, for study of literature is, in fact, is studying a number of subjects in multidisciplinary and interdisciplinary modes and ICT can provide a fitting platform of convergence for that.

[Keywords: ICT, Teaching, English literature]

Introduction
ICT helps teachers to prepare, produce and retrieve their material easily and swiftly, the availability of different rich text, different topics, quizzes help in teacher’s time. Despite the opportunities and facilities offered by the modern technology in assisting better teaching but they do not replace it. So far skilful teacher is the only person who is shouldering the responsibility of delivering the teaching goals. The ICT is crucial to supplement the conventional or traditional mode of education. The word ‘supplement’ here is important, because technology cannot replace the teacher as such. The use of ICT can supplement or add to the traditional mode. In the present context of technology and information boom, traditional mode of teaching seems monotonous and in most of the colleges and universities across the country, English literature is taught in the traditional mode where the teacher speaks for an hour or so and leaves the class. The students too get tired of the monotonous everyday routine. Moreover the importance of English literature as a subject of study needs to be revitalized. More and more students enter into fields like engineering, management, accountancy, medicine where they feel their future is secure, in terms of material needs. But English literature or English language is a subject from which one cannot run away. It is a compulsory subject in most of the courses at the senior secondary and degree levels. English literature is seen to be a ‘traditional’ subject and students who wish to become teachers generally take up this so-called ‘traditional’ field. The use of ICT in teaching English literature and language can revolutionize the way the subject is seen, taught and thought of. The role of the teacher...
is of immense importance in the teaching of literature but ICT can enhance the teaching by doing away with boredom and making the students interested in what is being taught. It can motivate and keep the students engaged because ICT tools work at different levels – the students can have an opportunity to see, read, visualize, hear, ponder, discuss, interact and learn. This can be achieved through various means involving ICT.

The Scope of ICT

English literature comprises a number of sub-fields – for example, poetry, fiction, drama, criticism, literary theory, to name some of them. Each requires a different kind of study and different modes of teaching. The use of ICT can help the educator to use different modes of teaching, which will subsequently help students to keep the text or the issues involved in it, in their minds, perhaps, throughout their lives. But this depends not merely on the use of ICT but also the student and the educator. Thus in the teaching of English literature as a subject of higher studies, a combination of the old, involving the teacher and the new mode of teaching, involving ICT tools can go a long way. Moreover ICT would help in research in various fields of English literature. ICT tools would help students comprehend the text and would improve their proficiency. ICT tools can also help in making students attentive and interested.

English literature can be made appealing by the use of audio-visual devices, web resources, playing of movies or staged plays, online glossaries, dictionaries, thesaurus, etc. The use of Clicker – the Student Response System introduced under NME-ICT can enhance interaction in an English literature class. Scenes from movies can be shown and discussed. Use of slides having video, audio, images and texts – a combination can be helpful. Recitation of poetry can be played using ICT tools, use of multiple choice questions on different topics, quizzes, presentations are some of the ways in which ICT can be made effective in a literature class. Teachers would be relaxed as they would not have to memorize and can use slides to take the discussions forward. Using blackboard would no longer be necessary; also taking of attendance of the students present which takes up 5 – 10 minutes because Clicker can do the same. Effective integration of ICT tools into the educational system is a challenging task and the success of NME-ICT depends on this, apart from other things. Ensuring quality, equity and access at the same time is a daunting task which needs to be fulfilled.

How to rejuvenate a literature class

Poetry: Through slide shows the teacher can put up the poetry on screen. The writer’s image can be shown. An audio can be played where the poetry is recited, made more interesting if the poet himself/herself recites. Students perhaps may be interested in listening to the author’s voice. Apart from these, poets like Blake and Rossetti whose poems have a corresponding painting, their poems can be shown accompanied by the corresponding painting or illustration. Moreover poems involving myths too can be visualized through images presented in slides by the teacher. Musical poems can be played in the classroom. Of course, the role of the teacher is the most important in making ICT effective. Hence both man and technology has to go hand in hand. Important journal articles and books can be referred to the students through the slides itself so that the teacher need not use the blackboard or spell out the names of the writers or their works. Teacher can use e-notes to give to the students it will help students as well as teacher. Students can obtain rich notes with detail information. The same notes can be used by teacher for explanation. Literature before sixteenth century and complex literary works can be made easy by using ICT. Use of various material encourages discussion and helps in creating a critical insight. This critical insight can be enhanced further if the students are given assignments whereby use of ICT tools cannot be done away with. Hence it is they who would use these tools and search for information from various sources. Moreover if poems are shown on screen, it becomes easy for

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the teacher to point out relevant details and also contrast one poem with another, making literature lively and an involving exercise.

Suppose a poem like “Ode on a Gracian Urn” can be taught. As suggested an audio can be played where it is recited. This ‘hearing’ of the poem will help making an impact on the minds of the students because it will stay on for some time and they would enjoy responding to it. To explain the music of the tabor, Painting on the gracian urn and theme of immortality can be shown on LCD projector and music can be played to effectively let students go through a rich experience. A picture of the poet can also be shown, or different pictures in varied settings, if available, so that it can be related to his/her biography and while the pictures are played, the biographical details can be discussed by the teacher. Similarly in order to give a feel of the Romantic age, other visuals can be displayed. The combined effect of the ‘visual’ and ‘hearing’ would make students experience what is being taught. The themes, images and movement of the poem can be discussed through different slides which are innovative and effective. It will depend on the teacher how he/she prepares the slides or presentations.

**Fiction:** Techniques similar to those in poetry can be applied here. In addition, movies based on novels can be shown in full or some important scenes can be presented and discussed. The themes, characterization, historical context, narration can be discussed through slide shows and presentations. Youtube can be integrated—of course with caution—to introduce certain memorable scenes from movies based on novels. Through this students can be introduced to the works of great directors.

Drama: In addition the techniques mentioned already, staged plays can be shown through ICT tools and the minute intricacies of a play can be discussed. As a result the use of light, sound, stage setting and props all will come live before the students and thus would have a lasting impact on them. This would accomplish the dual function of literature to edify and give pleasure. For instance, BBC has a great collection of Shakespeare’s plays which can be integrated in the library.

**Criticism:** This could be made interesting by the use of examples from literary texts and through practical exercises. The use of ICT would enable to make criticism an enriching and in depth exercise. Critics on a subject can be referred to and students may be encouraged to go through their works.

**Literary Theory:** This is an area which most students dread. Their fear can be done away with by the use of ICT. The theorists can be shown on screen, their interviews or recorded lectures can be played. The ideas can be applied to literary texts and hence their relevance be made clear. Examples, pictures and other such devices can be used to make students alert and attend to it with interest.

**Others:** Indian Writing in English, African, American literature and other such areas can be taught through ICT. History of English literature can be shown in tabular forms. Video conferencing can be facilitated so that interaction can take place among students, research scholars and teachers not just within India but across the world. This would make them aware of the literary scenario elsewhere, keep them up-to-date, bring in different points of views and interpretations and enhance their knowledge. Research scholars would be helped if through cloud computing or through other technology, resources are made available at one place. The concept of e-content undertaken under NME-ICT would be helpful. But scholarly journal articles should be made accessible at a larger scale. ICT combined with the traditional methods of teaching can make teaching and learning literature a vivid experience.

Moreover, teaching literature should not be limited to use of slides or projectors alone. The development of e-content would help students refer to relevant information on a topic. A portal can be
developed exclusively for literature. This portal can have the e-content which can be updated by academicians and research scholars with authentic information. In addition, free e-books can be uploaded so that students can have access to these as well. Links to important journals can be provided or perhaps articles on a single writer can all be listed in one place.

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THE ROLE OF ICT IN HIGHER EDUCATION

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Introduction

Information and Communication technology is a force that has change many aspects of the way we live. If one was compare such fields as Teacher, doctor, advocate, Tourism, Travel, business, Banking, Engineering and architecture, The impact of ICT across the past two or three decades has been enormous. The ways these fields operate today is vastly different from the ways they operated in the past. But when one looks at education far less change than other fields have experienced. A number of people have attempted to explore this lack of activity and influence.

There have been a number of factor impeding the wholesale uptake of ICT in education across all sectors. These have included such factors as a lack of funding to support the purchase of the technology, a lack of training among established teaching practitioners, a lack of motivation and need among teachers to adopt ICT as teaching tools. But in recent times, factors have emerged which have strengthened and encouraged moves to adopt ICTs into classrooms and learning settings. These have emerged which have included a growing need to explore efficiencies in terms of program delivery, the opportunities for flexible delivery provided by ICTs. The capacity of technology to provide support for customized educational programs to meet the needs of individual learners.

The impact of ICT on what is learned:-

Conventional teaching has emphasized content. For many years course have been written around textbooks. Teachers have taught through lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the content. Contemporary settings are now favouring curricula that promote competency and performance. Curricula are starting to emphasise capabilities and to be concerned more with how the information will be used than with what the information is.

A. Competency and performance-based curricula:-

1) access to a variety of information sources;
2) access to a variety of information forms and types;
3) student-centered learning settings based on information access and inquiry;
4) learning environments centred on problem-centred and inquiry-based activities;
5) authentic settings and examples; and
6) teachers as coaches and mentors rather than content experts.

Contemporary ICTs are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of the affordances of these technologies many years, teachers wishing to adopt such curricula have been limited by their resources and tools but with the proliferation and widespread availability of contemporary ICTs, many restrictions and impediments of the past have been removed. And new technologies will continue to drive these forms of learning further. As students and teachers gain access to higher to support these quality learning setting will continue to grow.

B. Information literacy

Another way in which emerging ICTs are impacting on the content of education curricula stems from the way in which ICTs are dominating so much of contemporary life and work. Already there has emerged an need for educational institutions to ensure that graduates are able to display appropriate levels
of information literacy, the capacity to identify and issue and then to identify, from it. The drive to promote such developments stems from general moves among institutions to ensure their graduates demonstrate not only skills and knowledge in their subject domains but also general attributes and generic skills. Traditionally generic skills have involved such capabilities as an ability to reason formally, to solve problems, to communicate effectively, to be able to negotiate outcomes, to manage time, project management, and collaboration and teamwork skill. The growing use of ICTs as a tool of everyday life have seen the pool of generic skills expanded in recent years to include information literacy and it is highly probable that future developments and technology applications will see this set of skills growing even more.

**The impact of ICT on how students learn:**

Just as technology is influencing and supporting what is being learned in schools and universities, so too is it supporting changes to the students are learning. Moves from content-centred curricula to competency-based curricula are associated with moves away from teacher-centred forms of delivery to student-centred forms. Through technology-facilitated approaches, contemporary learning settings now encourage students to take responsibility for their own learning. In the past students have become very comfortable to learning through transmissive curriculum. The growing use of ICT as an instructional medium is changing and will likely continue to change many of the strategies employed by both teachers and students in the learning prominence in universities and schools worldwide.

A. Student-centred learning:- technology has the capacity to promote and encourage the transformation of education from a very teacher directed enterprise to one which supports more student-centred models. Evidence of this today is manifested in:

1) The proliferation of capability, competency and outcomes focused curricula
2) Moves towards problem-based learning
3) Increased use of the web as an information source, Internet users are able to choose the experts from whom they will learn

The use of ICT in educational settings, by itself acts as a catalyst for change in this domain. ICTs by their very nature are tools that encourage and support independent learning. Students using ICTs for learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools, the influence of the technology on supporting how students learn will continue to increase.

**B. Supporting knowledge construction:**

The emergence of ICTs as learning technologies has coincided with growing awareness and recognition of alternative theories for learning. The theories of learning that hold the greatest way today are those based on constructivist principles. These principles posit that learning is achieved by the active construction of knowledge supported by various perspectives within meaningful contexts. In constructivist theories, social interactions are seen to play a critical role in the processes of learning and cognition.

In the past, the conventional process of teaching has revolved around teachers planning and leading students through a series of instructional sequences to achieve a desired learning outcome. Typically these forms of teaching have revolved around the planned transmission of a body of knowledge followed by some forms of interaction with the content as a means to consolidate the knowledge acquisition. Contemporary learning theory is based on the notion that learning is an active process of constructing knowledge rather than acquiring knowledge and that instruction is process by which this knowledge construction is supported rather than a process of knowledge transmission.
The strengths of constructivism lie in its emphasis on learning as a process of personal understanding and the development of meaning in ways which are active and interpretative. In this domain learning is viewed as the constructivist of meaning rather than as the memorisation of facts. Learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their provision and support for resource-based, student-centred settings and by enabling learning to be related to context and to practice. As mentioned previously, any use of ICTs in learning settings can act to support various aspects of knowledge construction and as more and more students employ ICTs in their learning processes, the more pronounced the impact of this will become.

Conclusions

This paper has sought to explore the role of ICT in Education as we progress into the 21st century. In particular the paper has argued that ICTs have impacted on educational practice in education to date in quite small ways but that the impact will grow considerably in years to come and that ICT will become a strong agent for change among many educational practitioners. Extrapolating current activities and practices, the continued use and development of ICTs within education will have a strong impact on what is learned; how it is learned; who is learning and who is teaching.

The Upshot of all this activity is that we should see marked improvements in many areas of educational endeavour. Learning should become more relevant to stakeholders needs, learning outcomes should become more deliberate and targeted, and learning opportunities should diversity in what is learned and who is learning. At the same time, quality of programs as measured by fitness for purpose should continue to grow as stakeholder groups find the offerings matched to their needs and expectations.

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ICT IN THE ENHANCEMENT OF ENGLISH LANGUAGE TEACHING AND LEARNING

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ABSTRACT:

ICT tools have changed the paradigm of English language teaching learning process. So it is essential for a teacher to be familiar with modern ICT tools and use it properly to achieve the aims of English language teaching. The present paper stresses the need of ICT in teaching and learning English language.

Key words: ICT, Social media, Lingua Franca, MOOCs, ELT, ESL etc.

Introduction:

English is one of the most important languages which have played role in the process of globalization and knowledge explosion. It is the most common means of communication throughout the globe. This is why it is termed as Link language, Global language as well as Lingua Franca. In Indian context it is treated as ESL (English as a Second Language). Use of English language has become vital for better learning and earning. Therefore, it is necessary to teach English and develop English language skills among the students from school level. The government, NGOs and educational institutions are working at various levels and taking measures to ensure better ELT (English Language Teaching) and developing English language skills among the students. To teach English and develop English language skills various approaches and methods are in use in our country. But most of them are traditional, less interesting, ineffective as well as less motivating. So, it is necessary to use modern approaches and tools of ICT (Information and Communication Technology) to develop better understanding and acquisition of basic skills i.e. LSRW (Listening, Speaking, Reading and Writing) of English language among the students at school level. ICT has a lot of things to offer to both teachers and students for the enhancement of their vocabulary and improvement of English language skills. Now a day’s ICT tools and approaches are being used widely due to their convenience, omnipresence, effectiveness and being economic. Some of these approaches, facilities and tools are CAI (Computer Assisted Learning), CALA (Computer Assisted Language Assessment), CALI (Computer Assisted Language Instruction), CALL (Computer Assisted Language Learning), MALL (Mobile Assisted Language Learning), TELL (Technology Enhanced Language Learning), Blogs, Wiki, e-mail facility, Digital libraries, multimedia, mobile learning, free and open source software and social media, MOOCs, Virtual classrooms, documentaries, Digital storytelling, Mobile Applications, i-Pads, Digital Notebooks, Tablets, Smart Phones, Recorded audio-video materials, Online spoken tutorials, Digital pronunciation dictionaries etc. Modern studies and researches show positive results of integration of ICT in the field of ELT and development of English language skills. These facilities have paved the way of individualized learning and provided freedom of learning anytime, anywhere according to needs and convenience of the learners. So, we should take proper step to integrate ICT in the field of ELT to make the learners well versed in English language skills.

The modern age is termed as the era of knowledge explosion. This explosion has become possible due to the progress of science and technology. Each and every aspect of human life
has changed due to the effects of science and technology. The use of science and technology in the field of communication has revolutionized the whole world. Use of modern technological tools has led to the rise of ICT (Information and Communication Technology.) Now ICT is being used in a number of fields like, health, entertainment, games and sports, transportation, education, industries, fashion designing, textiles, agriculture etc. With a single click, we can get exchange a lot of information of the world due to the use of ICT. The field of education is not untouched by the ICT. Now we cannot imagine education without the use of Information and communication Technology. It has made exchange of thoughts, ideas, experiences and feelings easier. With the help of ICT a lot of persons can get education and training simultaneously at low cost. Now ICT is being used in all the aspects of education. Use of computers, Internet, television, radio, projectors and mobile phones, e-mail facility, online audio and video conferencing as well as new applications has made the Teaching Learning Process and Training attractive and convenient. It is also helpful in saving time, energy and money. So, we can say that ICT is playing the most important and pivotal role in Teaching Learning Process and Training. Hence it is also playing an important role in the learning of language, especially English Language Learning.

Some of the important ICT tools and applications used in the field of English Language Teaching are following:-

(i) **Computers**: This is the most important tool of information and communication technology and backbone of modern human life. All the modern communication process are impossible without the use of computers. It is helpful in storing, preparing, collecting and preparing of data for communication. It is helpful in the development of listening and speaking skills. It is helpful in English language speaking and listening skills.

(ii) **Over head projector**: It is an important tool of displaying information and processes to a large number of people simultaneously. It can be used in teaching and training of personnel. Prepared forms of information are easy to display with the help of over head projector.

(iii) **Lingua phone**: This tool is very important in language training of the students. A number of students can practice speaking and hearing drills with the help of lingua phone. It is especially useful in the training of English language listening and speaking skills.

(iv) **Radio**: It is very useful in education and training of the students of rural areas. Many distance and open education programmes are being conducted with the help of radio. It is also useful in audio conferencing. Programmes relayed on radio are helpful in the development of language skills, especially dialogues and dramas.

(v) **Television**: It is useful in education as well as entertainment of the people. It is found that It is helpful in developing listening skills, useful in learning situational language as well as It is highly motivating also. It is very helpful in understanding the language of mass media. A large number of students may be benefitted with the programmes of television simultaneously. Many distance and open universities are running their educational programmes on television, such as Indira Gandhi National Open University, Maulana Azad National Urdu University etc. It is an important tool of audio video conferencing. Live telecast of training and discussions are done through this.

(vi) **Internet**: It is the most important facility of communication. All the modern communication takes place through this. It has made the communication facility very
There are lots of facilities available for communication on internet. Some of them are following:-

(vii) (a) Social media: Social media has become an important tool of communication. It provides a platform for sharing thoughts and ideas. Blogs are made on it. Students can add themselves with the English language learning groups and take advantage of sharing information. Lots of social sites are available on it like, Face book, Twitter, Instagram etc. It is very helpful in learning situational language.

(viii) (b) Online facilities for English language learning: A lot of online facilities are available on internet for the development language skills. Some of them are e-guidance, e-tutoring, e-teaching, e-journals, e-magazines, e-books, e-library, online training, virtual classes etc.

(ix) (c) Online language related courses: These courses are available on internet. Some of them are free and some of them are payable. Students can enroll themselves in these courses and get education and training easily on their own place. Some of the agencies which are providing on line courses are following MOOC, Future Learn, NPTEL, and IIT’s, Concordia University etc. Students can watch online and offline videos of language learning for the enhancement of their language skills.

(x) (d) Feature Films in Teaching English: Films can be used in the teaching of English language. Films may be documentaries, educational and entertainment based. These can arouse high level of motivation. It results in a most satisfying learning experience.

(xi) Uses of ICT for an ELT teacher: we cannot think of better educational environment without a better teacher. In earlier times the teacher was the focal point of education, but now the role of teachers has changed a lot. He is considered as a guide and friend of students who helps in learning, does not provide knowledge. To teach better a teacher need to be update with the changes. For this ICT helps a lot. ICT can be useful for a teacher in the following ways.

(xii) It is helpful in the professional development of the teachers. A teacher can learn various language skills with the help of information and communication technologies. He can do various certification programmes in English language teaching run by the famous educational institutions.

(xiii) A teacher can increase his domain of Knowledge English language with the help of e-journals, e-magazines and e-library that can be achieved only through the use of ICT. He can also participate in discussions and conferences with the experts of his English language teaching to improve his knowledge and skills ELT through audio and video conferencing.

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(iii) ICT helps a teacher to learn innovative methods
of teaching. He can work with the students on various project and assignments. It also helps him in providing teaching contents, home works etc.

(iv) He may participate in various in-service training programmes and workshops which are essential for his professional development with the help of information and communication technologies.

(v) ICT helps a teacher to guide his students about the English language learning materials available on internet, e-books, e-journals, e-magazines and social sites like linked-in which are helpful in better learning of English language skills.

(vi) ICT also helps him framing curriculum of English language learning. He can study curriculums ELT of different countries to study their pros and cons, challenges as well as sociological and psychological issues related to English language learners. All these things helps him in framing a curriculum that leads to achieve the aims and objectives of English language teaching.

Conclusion: ICT has no doubt brought about tremendous change in education, but we are yet to achieve the desired level of ICT adoption in higher education in the country. If taken maximum advantage of ICT in teaching and learning English language it can be of great use. It can help in developing language skills to a great extend.

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ROLE OF ICT IN LEARNING THROUGH LIBRARIES

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ABSTRACT
Libraries have always been out looked as the essential part of the education in the nation building. ICT has its impact on almost all the disciplines especially in the field of library and information services. New technology provides several materials, media and modes of storing and communicating the information. This paper highlights the changing scenario of the role of ICT in the learning process through libraries and the use of internet as well as benefits of internet in academic libraries.

In the modern age Libraries have become multimedia due to adoption of technological advances and changing nature of their services. If we look into the past we notice a drastic change in the role of libraries imparting education. The growth of ICT has greatly influenced the methods and formats of information. The libraries have now begun to transfer from manual operations to electronic system. They are also beginning to become even more service centered than before and bring higher levels of learning support and research support to the users.

Today the concept of education is undergoing a tremendous change. This is because of continuous advancement in the field of Science and Technology. Another related reason is the expanding task of providing education to more people. It has become evident that conventional system of education is unable to cope up with the complexity and magnitude of the problem. Those who cannot get higher education by formal channel they have option to get informal education through continuing education programme. Continuing education is related with the lifelong learning process. And this could not be restricted up to any College, University or any educational institute, as it is beyond the boundaries of that. Here libraries based on ICT can help the voluntary learners. Public, Academic as well as special libraries could help people for their continuing education. In the recent years computer has changed the whole process of information handling.

Internet serves as a backbone and connects the various sources of information irrespective of their locations. Internet is a live channel of communication between computers. It is configurations of smaller networks and other connected machines spanning the entire globe. Now the internet information super highway is accessible anywhere with time, interest and curiosity. Information on internet and opportunities to use it are growing at a rapid rate. The internet and other information technology have brought drastic changes in the library functions. In the last sixty years of library, automation libraries have travelled a long road from punched card processing system to present digital libraries.

Libraries play a vital role in imparting education to all. They have passed through several developments to reach its present stage of dynamic centres of knowledge. Changing needs of society and the technology have forced the librarians and the information specialists to develop and adopt new technologies to build their resources and services to cater the need of users.

Information Communication Technology (ICT) may be defined as a combination of computer and telecommunication techniques which makes possible new systems and products to help people at work in education and at home. It is the application of a wide variety of electronic technologies to the information handling activities. In the domain of library information service, it
means the use of various technologies such as computer, telecommunications, word processing, micrographics, reprographics, video recordings and other electronic devices for the storage, retrieval, reproduction and dissemination of information in a library environment.

Libraries which were considered once only as the storehouses of knowledge have now got a new outlook in the modern information communication technology era. It can be used in library and information science to support technical functions associated with technical processing and circulation work.

In future people will be differentiated on the basis of information. Those who lack resources of information will lag behind. In global village instant messaging, social networking and chatting will be important. Developing countries have to accept the policies of the developed countries to survive in the competition of globalization. Libraries often consume a lot of time in the adoption of new technology, because the speed with which technology changes is very confusing. New innovations in computers, networking and software resulted in information to be created and distributed with low cost and without the need of complex programming skills that were needed. As result more and more information is becoming available from what might have otherwise being inaccessible sources. Due to ICT the world is becoming global village which is changing into the national information infrastructure. This creates an entirely new form of information dissemination.

The worldwide librarians made their catalogues available online which have Online Public Access Catalogues (OPAC) generally available free of cost these are useful for finding books not available locally to identify and select books for local acquisition, bibliographic data verification and to search holding of periodicals and monographs. These can be accessed through telnet, gopher and the World Wide Web. Many OPAC’s have full text databases; libraries can use these databases to queries from patron. With the emergence of ICT the areas of library expanded worldwide. The available information present in the library can be feed to homepage and made available to users anywhere.

ICT has provided new media, new modes of storing and communicating information. ICT brought many services to library to speed up their activities. It helps to remove barriers of communication, distance and time. The advances in technology will continue to improve the effectiveness of libraries. It helps to transfer data through communication network like internet anywhere. It provides enormous search speed and facility. It helps to strengthen communication and collaboration among research, government and educational institutions.

Education system is entering into information age and fast developments of Information and Communication Technologies change the way we think the way we live and the way we work in an academic environment. The changes lead to use of computers as integrate and inevitable part of universities. This situation necessitated networking of these computers within the departments to ensure exchange of data and information as departments eventually required connecting each other through compose networks with the advance of networking technology all the smaller network called the internet. It is no need to mention here the interaction of internet have totally revolutionized the academic scenario and the academicians who earlier were fringing it very difficult to obtain information about their topics of interest now are encountered as ironical situation of selecting the right information from the deluge of information.

In India the introduction of National Information Center (NICNET) in 1977 can rightly be termed as the first major attempt towards networking at the national level afterwards. Various networks in different spheres like railways, finance etc. emerged and has shown a significant bearing on the quality
of public service in the country. So far as academics is concerned. Education and Research Network (ERNET) India has made a significant contribution towards networking between educational institutions in the country. Particularly by bringing internet and establishing nationwide network to connect academic institutions across the country. ERNET India has mixture backbone of terrestrial and satellite based wide Area Networks and it has 14 pops (points of presence) at the education and research institution spread across the country.

Now access of information and knowledge in electronic form is constantly available, easily updated and convenient to use. The library and information landscape has transformed with the onset of the digital era and today’s academic institutions’ libraries have changed their roles to serve as ‘Knowledge Centers’ with priority on value added electronic information services.

Faculties and researchers at university worldwide gather and interpret data, advocate new ideas and extend new knowledge. This work is sometimes shared with other scholars and researchers as working papers, technical reports, and other forms of prepublication work. Although this scholarship may eventually show up in a peer-reviewed journal or book, some may not. This preprint culture is strongest in the technical and science disciplines. This literature is often difficult to find and even more difficult for librarians to collect systematically, manage and preserve. Different type of research output which is intellectually good for community is an asset for parent organization as well as scholarly community. It should be digitized and preserved in electronic format. Thus it plays a significant role in acquiring storing maintaining and disseminating knowledge to the society.

The academic library should maintain a large collection of electronic databases, e-journals, e-books and other e-resources in support of teaching and research needs of the staff and students of the academic institution. The main benefit of the e-resources to its users is to open new vistas for teaching and research. Although to acquire and organize the electronic resources is costly as well as challenging but it will be a crucial element of the future’s academic libraries. The electronic resources may be accessed in a variety of ways but the internet/world wide web has been preferred to get e-resources’ easy access. These resources should be well organized and must be available on campus and the remotely resources available via the online catalogue and the library website through www for the users of the academic library.

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THE ROLE OF ICT [INFORMATION & COMMUNICATION TECHNOLOGY] IN LIBRARIES.

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ABSTRACT
Internet Technology plays a vital role in libraries. It can be a virtual library where the world’s information resources are gathered for the use of the clientele. The authorities of surveyed libraries are asked to indicate their internet access. Information and Communication Technology [ICT] is a comprehensive concept and parallel concept with information Technology [IT] that denotes not only a single unit of technology but an assemble of technology. The emergence of it is one of the wonderful gifts of modern science and technology which has brought tremendous changes in library and information work has revolutionized the traditional concept of libraries form a store house of books to an intellectual information center. Information and Communication Technology [ICT] has transformed library services globally. Most current information are recorded in electronic format, It has also contributed immensely to the performance of Librarians in the discharge to their duties such as in cataloging, Reference services, circulation management, serials control etc. It has contributed to the library in the following specific way – Library management software, OPAC, Office operations, Networking, Electronic document, deliverer online user education or tutorials, E- reference services, Library Cooperation and resource sharing. Using ICT in libraries are also playing a very important role in facilitating access to global information and knowledge resources.

Keywords- ICT, IT, Internet , Library.

INTRODUCTION
Information and Communication Technology [ICT] is a comprehensive concept and parallel concept with Information technology [IT], that denotes not only a single unit of technology but an assemble of technologies like telecommunication equipments data processing equipments, semi conductors, consumer electronics, etc. The concept has brought a phenomenal change in the information collection preservation and dissemination scene of the world. For the profession of librarianship, this turn of the events is a blessing in disguise.

The emergence of IT is one of the wonderful gifts of modern science and technology which has brought tremendous changes in library and information science. Application of IT to library and information work has revolutionizes the traditional concept of libraries from a ‘store house of books to an intellectual information center’ Connoting the concept of electronic library. It has opened up a new chapter in library communication and facilitated global access to information crossing the geographical limitations. Using ICT, libraries are also playing a very important role in facilitating access to global information and knowledge resources.

ICT: CONCEPT AND MEANING
ICT incorporates a range of technologies used to support communication and information. ICT includes both networks and application. Networks include fixed, wireless and satellite telecommunications, broadcasting networks. Well-known applications are the Internet, database management systems and multimedia tools. By implication, a holistic understanding of ICT necessarily includes consideration of telecommunication policies, information policies and human resource development policies.
Information and Communication Technology [ICT] is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. Marcelle argues that the ICT sector is a heterogeneous collection of industry and service activities including information technology equipment and service, telecommunication equipments and services, media and broadcast, Internet service providers, libraries, commercial information providers, network based information services and related professional specialized services.

Hemelink provides a useful and clear definition of ICT indicating, ICT are those technologies that enable the handling of information and facilitate different forms of communications. Those include capturing technologies [e.g. camcorders], storage technologies [e.g. CD-ROMs] processing technologies [e.g. application software], communication technologies [e.g. Local area Network] and display technologies [e.g. Computer monitors].

So we can define ICT as the use and applications of computers, telecommunications and microelectronics in the acquisition, storage, retrieval transfer and dissemination of information.

**ICT BASED USER SERVICE**

Some library users are adopting electronic habits, making increasing use of the new ICT including Computers, the Internet, the Web, Intranet, Extranet and other technologies. As a result library users are placing new demands on their libraries. They require access to the latest information, updated information resources and access to ICT facilities that they could use in their work.

Use of ICT in libraries enhances users satisfaction. It provides numerous benefits to library users. Some of the benefits are:

1. Provides speedy and easy access to information.
2. Provides remote access to users.
3. Provides round the clock access to users.
4. Provides access to unlimited information from different sources.
5. Provides information flexibility to be used by any individual according to his/her requirements.
6. Provide increased flexibility.
7. Facilitates the reformatting and combining of data from different sources.

Libraries are also providing various ICT-based services to their users, including the following:

- Provisions of Web access to OPACs
- Electronic document delivery
- Networked information resources
- Delivery of information to users desktops
- Online instructions
- Online readers advisory services

**CONCLUSION**

Information and Communication Technology ICT has affected almost every sector of our life. It has brought revolutionary changes in the whole world of information. So this revolutionary change is also true in the case of libraries and information center. It has easily done their work because of ICT. Use of ICT in libraries can satisfy the maximum demand of the present technology conscious users.

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ROLE OF INFORMATION COMMUNICATION TECHNOLOGY IN HIGHER EDUCATION

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ABSTRACT
This article discusses the Roles of ICT in education. Moreover, many people recognize ICTs as catalysts for change; change in working conditions, handling and exchanging information, teaching methods, learning approaches, scientific research, and in accessing information. Nowadays the role of Information and communication technology (ICT) especially internet in education plays an important role in education. Education sector can be the most effective sector to anticipate and eliminate the negative impact of ICT. Internet on the other side can be the most effective way to increase the students knowledge. Being aware of the significant role of ICT (internet) in our life, especially in the educational activities, emphasis be given on ICT in supporting the teaching and learning process in the classroom, it will improve the effective and meaningful educational process. This paper highlights various impacts of ICT on contemporary higher education and also discusses potential future developments. The paper argues the role of ICT in transforming teacher-centered learning to competency based learning. It also explores some challenges in higher education like cognitive tutors, need for developing a model, collaborative authoring etc.

KEY WORDS: Implementation of ICT, online learning

INTRODUCTION
The education has vital role in building the society. Education determines standard of society. The quality education helps to empowering the nation in all aspects by providing new thoughts, ICTs are making dynamic changes in society. They are influencing all aspects of life. The influences are felt more and more at colleges. Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is forcing schools aptly respond to this ICTs greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, The quality education is basic need of the society. There are number of effective teaching & learning methodologies in practice. Technology is the most effective way to increase the student’s knowledge. Here comes the role of ICT in the education sector. Being an academician I cannot imagine education without ICT. Nowadays ICT (specially an internet) plays imminent role in the process of integrating technology into the educational activities.

What is ICT
ICT is an acronym that stands for “Information Communication Technologies”. Information and communication technologies are an umbrella term that includes all technologies for the manipulation and communication of information. ICT considers all the uses of digital technology that already exists to help individuals, business and organization. It is difficult to define ICT because it is difficult to keep up the changes they happen so fast. ICT is concern with the storage, retrieval, manipulation, transmission or receipt of digital data. The definition taken from the guidance in the QCA schemes of work for ICT is “ICTs are the computing and communication facilities and features that variously support teaching, learning and a range of activities in education.”

IMPORTANCE OF ICT
- access to variety of learning resources
- immediacy to information
- anytime learning
- anywhere learning
- collaborative learning
multimedia approach to education
· authentic and up to date information
· access to online libraries
· teaching of different subjects made interesting
· educational data storage
· distance education
· access to the source of information
· multiple communication channels—e-mail, chat, forum, blogs, etc.
· access to open courseware
· better access to children with disabilities
· reduces time on many routine tasks

Role of ICT in Higher Education:

1. To increase variety of educational services & medium
2. To promote equal opportunities to obtain education & information.
3. To develop a system of collecting & disseminating educational information.

ICT has been developing very rapidly nowadays. Therefore, in order to balance it, the whole educational system should be reformed and ICT should be integrated into educational activities. The influence of ICT, especially internet (open source tool) cannot be ignored in our student’s lives. So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones. Young generation will get more and more information and knowledge by browsing in the internet. They can also create innovation in web design that it may be out of the formal curriculum content, but it will be useful for their future. The implementation of ICT in education has not been a priority trend of educational reform and the state paid little attention to it. Therefore, there should be an active participation, initiative and good will of the government institutions to enhance ICT implementation. The teachers should be the main motivator and initiator of the ICT implementation at schools. The teachers should be aware of the social change in their teaching activities. They should be the agent of change from the classical method into the modern one. They must also be the part of the global change in learning and teaching modification.

Objectives of ICT implementation in education:

1) To implement the principle of life-long learning / education
2) To increase a variety of educational services and medium / method.
3) To promote equal opportunities to obtain education and information.
4) To develop a system of collecting and disseminating educational information.
5) To promote technology literacy of all citizens, especially for students.
6) To develop distance education with national contents.
7) To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)
8) To promote the culture of learning at school (development of learning skills, expansion of optional education, open source of education, etc.)
9) To promote technology literacy

Most Effective form of ICT in Education:

The use of videos came across as the most effective ICT component in our teacher interviews. It was stressed by those using and wanting to use videos in educations that creativity in presentation is just as important as the use of innovative media. Educational videos now encompass multimedia CDs, interactive games, flash and 3-D animation, slide-shows (like PowerPoint), video books, digital story-telling and many other forms that imaginatively combine visuals with text and audio that can be delivered on a range of platforms. Following current discussion forums on ICT in education, it is seen that videos can be used in a range of learning environments, such as to enhance learning in classrooms, train illiterate women on
basic life skills, teach children from nomadic tribal communities, and encourage children to make their own video films on. Commenting on the ability of video to simplify complex subjects and engage children, teachers pointed out topics with strong visual contexts – like scientific evolutionary theories, planetary movements and geographical importance.

Significance of IT in education

In the era of technology, IT aids plenty of resources to enhance the teaching skills and learning ability. With the help of IT now it is easy to provide audio visual education. The learning resources are being widens and widen. Now with this vivid and vast technique as part of the IT curriculum, learners are encouraged to regard computers as tools to be used in all aspects of their studies. In particular, they need to make use of the new multimedia technologies to communicate ideas, describe projects, and order information in their work.

IT has provided immediacy to education. Now in the year of computers and web networks the pace of imparting knowledge is very very fast and one can be educated anywhere at any time. New IT has often been introduced into well-established patterns of working and living without radically altering them. For example, the traditional office, with secretaries working at keyboards and notes being written on paper and manually exchanged, has remained remarkably stable, even if personal computers have replaced typewriters.

Any time learning

Now in the year of computers and web networks the pace of imparting knowledge is very very fast and one can be educated anywhere at any time. One can study whenever he wills irrespective of whether it is day or night and irrespective of being in India or in US because of the boom in IT.

Collaborative learning

Now IT has made it easy to study as well as teach in groups or in clusters. With online we can be unite together to do the desired task. Efficient postal systems, the telephone (fixed and mobile), and various recording and playback systems based on computer technology all have a part to play in educational broadcasting in the new millennium. The Internet and its Web sites are now familiar to many children in developed countries and among educational elites elsewhere, but it remains of little significance to very many more, who lack the most basic means for subsistence.

Multimedia approach to education

Audio-Visual Education, planning, preparation, and use of devices and materials that involve sight, sound, or both, for educational purposes. Among the devices used are still and motion pictures, filmstrips, television, transparencies, audiotapes, records, teaching machines, computers, and videodiscs. The growth of audio-visual education has reflected developments in both technology and learning theory.

Studies in the psychology of learning suggest that the use of audio-visuals in education has several advantages. All learning is based on perception, the process by which the senses gain information from the environment. The higher processes of memory and con

CONCLUSION:

The role of ICTs in the education is recurring and unavoidable. Rapid changes in the technologies are indicating that the role of ICT in future will grow tremendously in the education. 1. By observing current activities and practices in the education, we can say the development of ICTs within education has strongly affected on a. What is learned. How it is learned. When & where learning takes place. Who is learning and who is teaching. ICT also focuses modification of the role of teachers. In addition to classroom teaching, they will have other skills and responsibilities. Teachers will act as virtual guides for students who use electronic media. Ultimately, the use of ICT will enhance the learning experiences of students. Also it helps them to think...
independently and communicate creatively. It also helps students for building successful careers and lives, in an increasingly technological world. These are the ways of achieving an education that is authentic, accessible to all without exclusion or discrimination, modern and universally affordable, will provide each individual with the keys to diversified and virtually limitless knowledge

FUTURE SCOPE:
1. To harness the modern information and communication technologies for all. The potential of these technologies must be exploited in order to broaden the reach of basic education, particularly in the direction of the excluded and underprivileged groups; and to enhance and improve classroom teaching.
2. To replace costly, rigid and culturally alienating educational structures with less expensive delivery systems that are more flexible, more diversified and universally affordable, without ever sacrificing quality.
3. To develop basic education services accessible to all, including the poorest, illiterate adults, children outside the school system – whether at work, in the street or refugees – through a strategy involving both the formal education system and all the alternatives offered by the non-formal sector. Basic education must become a field which is free of all forms of exclusion and discrimination.

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USE OF ICT FOR TEACHING, LEARNING AND EVALUATION

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Today's world is the age of Knowledge, Information and Technology. Every Knowledge, Information and Technology is written in English rather than in any other languages. So, its teaching and learning is an important matter in the Indian Classrooms. The quality Teaching & learning progress depends on not only quality faculties but on facilities availed and provided for the teaching by the educational units. Because the teachers role in the college life of the students is very crucial as he is the person whose guidance can be given either positive or negative direction to the students for their life. So in the modern education in any faculty teaching education the responsibility of teachers has increased. It demands more study of language and modern techniques of teaching. Technology has taken a tremendous leap facilitating the learners by proving easy process to the teaching and learning process. I am writing with my experience in the rural context.

It is evident that information and communication technologies (ICT) have transferred our lives and reshaped the nature of every day activities and contemporary times are called the ‘information age’ and ‘knowledge society’; In today’s day and age, education play a big role in which we are and what we achieve in our life time. In present scenario, arrival of computer and internet in the field of education has changed the procedures and patterns of learning. Today’s learning patterns knocks at the door of student or learner. Today anyone learns anywhere, any time. Latest information and content is available at low cost. New technological terms replaced old terms such as ICT-learning to Dearning (Mobile Learning is the new sensation in the field of education.

Many teachers still miss the appropriate interest or strong will to learn and a challenging attitude towards teaching with computers. Our major problem that is commonly shown by the teachers is how to be integrated with computers and ICT in to their classes and how to teach any subject with technology. The solution integrates theory and practice. In the age of globalization it is just as an important to know that everything has its advantages and disadvantage but are must find out how beneficial, advantageous these technologies can be used. Teachers can save time an information can be availed at a click of mouse. Teachers can develop themselves as well as their students in good resource. Worldwide communication an information technology has brought revolutionary change in the field of education. Colleges and universities have access to good network of internet and students are exposed to variety of technology and informational resources like libraries, database, computer, network and video to gather and synthesize information and create communicative knowledge.

The teaching and learning process is becoming more nuanced more seamless and it flows back and forth from students to teachers. Teachers are using their collective students together to find the best ways of engaging students. Actually students relied on whatever teachers teach and lead to one way process. So, if we follow the same method of teaching there won’t be any feedback that in turn will lead to failure all the planning for better learning. To make the students attentive concentrated for longer time and at the same time retain whatever is taught is a difficult task. I emphasize that teachers are not fully aware of computer technology and internet. So the teaching community should become well awarded with learned technology seriously appropriately and proficiently.

The expected change can be brought in the teaching and learning field by introducing technology in the classrooms. We can’t at this stage
compare with foreign countries and demand more advanced technology for some of our teachers and students who are apt to learn to use it. If a classroom has access to simple computer internet connection and projector teacher can have wonderful and most desirous effect on the students. Use of power point to aid in lectures can communicate a vast amount of information available in most effective way. It would be easier to make them concentrate, reciprocate and raise spirit of enquiry them. Similarly information can be generated in the classroom itself and transformed and shared with eager students across nations. Use of teaching aids in the classes will give a practical experience to students.

Conclusion

Use of ICT would be useful for the teachers and students. It can be achieved more knowledge through it. So, learn technology, learn through technology and learn about technology must be employed for teachers and students. Technology can reach anywhere and everywhere. A student sitting in a remote area can have access to great scholars speeches lectures, study materials, e-mail video conferences etc. Availability of technology and information enhances knowledge, motivates students and helps in fair assessment and reasonable homework. It helps very much the students or the learners. The future of teaching and learning will certainly be shaped by the resources that educators use to teach with the characteristics of good teaching will always be at the foundation of these resources.

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प्रस्तावना:

सच्चाचे युग हे महत्त्व तंत्रज्ञानाचे युग अर्थात तंत्रज्ञानाचा विकास झापटयाने होत आहे. महत्त्व ही संशोधनाचा आला आहे तसेच संशोधक हा महत्त्वीय मूल्य असायला पाहिजे. महत्त्व शास्त्र हे महत्त्व तंत्रज्ञानाचा जवळचे क्षेत्र असतल्याने जास्तीत जास्त प्रगत महत्त्वाचे तंत्रज्ञानाचा वापर या क्षेत्रात होत आहे. पृष्ठभागी महत्त्व शास्त्र केत्राची प्रगतीही तितकयाच प्रवंश वेगाने होत आहे. संशोधक हा महत्त्वीय मूल्य असायला पाहिजे, आज प्रगत महत्त्व तंत्रज्ञानाशी जुळून घेण्याचे मोठे आहान संशोधकपुढे उभे आहे. संगणक तंत्रज्ञा, महत्त्व, प्रसारण/दण्डनवण तंत्रज्ञा (टेलिकम्युनिकेशन) तसेच नेटवर्किंग इं. चे प्रधानमुख प्रगत ज्ञान आरम्भतात करण्याची गरज आज प्रत्येक संशोधकाला आहे. कारण संशोधनासाठी आवश्यक असलेली महत्त्व ही आज विविध स्वरूपात व विविध माध्यमांमध्ये मोठ्या प्रमाणार उपलब्ध होत आहे. आज महत्त्वीयच विरोध होत आहे. अशावेळी उपलब्ध महत्त्वीय संशोधनासाठी आवश्यक असलेली योग्य व नेमकी महत्त्व संशोधक हा इंटरनेटच्या माध्यमातून प्राप्त करू शकतो.

इंटरनेटच्या सुरुवातीचा इतिहास पाहिला तर त्याकाळी असे वापरलेले असेल की, इंटरनेटच्या उपयोग संशोधनासंबंधी गुप्त महत्त्व हाताळण्यासाठी, संशोधनासाठी किंवा शास्त्रीय महत्त्वीय प्रशिक्षण व विकास असायला निर्देशांक झापटयाने होत आहे. अशा परामाणूत संगणकाची ठ सुरु होत आहे आणि संगणक प्रशिक्षणाची शेतेत इंटरनेटच्या प्रशिक्षण शिवाय होत नाही. इंटरनेटची परिभाषा, भाषा, त्याचे तंत्रज्ञान हे तरुण मुलांचा बोलणाऱ्यांला वाहानी येताना आपण वाहने गरेले गरेले वाहाने मूळ उसक्या बनून येताना आपण गृहीत गरावत रूपाचे साधन अभ्यास करत खेळ, अंतर्मिश्रन, कार्य कार्यालयात.

इंटरनेट : इंटरनेट म्हणजे जगातील लाखो संगणकाची मिळून तयार झालेले आहेत होय. त्याची मोडकामूळ व्यक्ती करायची झाली तर ती “महत्त्वीय साध्यांचे आहे” अशी करता येईल. इंटरनेट हे भुततावरच आहे. सर्वांत महत्त्वाचे म्हणजे त्याचा कोणी मालक नाही. फक्त काही संस्था ला वित्तीय तत्त्वाचे काम पाहतात. इंटरनेटमधील सर्व संगणक हे एकमेकंती संवाद साधताना विशेषत अशा तत्त्व प्राप्तीचा उपयोग करतात त्याचा देवाणेच्या संगणकाच्या (Transmission Control protocol) इंटरनेट तत्त्वप्राप्ती (Internet...
संस्कृत स्त्रापत टी.एस.पी / आय.पी (T.C.P / I.P) अर्थात् महत्त्व प्राप्त होते है एक तात्क्रिक क्षेत्र प्रणत्त होते। त्यायोगे \( \text{ईंटरनेटवील दशक्षणकाल सहज शास्त्र होते} \)

## संस्कृत

### संस्कृतमानामध्ये इंटरनेटवील खुप महत्वाची भूमिका आहे। इंटरनेटवील जोडलेल्या संगणकांते (ClientServer) प्रकारे रचना वापरली जाते। याचार अर्थात्, एक देणारा (Client) व घेणारा (Server) असतो। संस्कृतम व तत्त्वात्मक जगातील एका कोष-ऱ्यात कीमा अंतरांना दुर अस्तरांना सर्वर हा त्याच्यांतरूक असानं-या फिल्स, वापरणाच्या Client व्हायरिधन उपलब्ध करन देतो। Client व्हायरिधन तंत्रज्ञान जर अत्यावृत्त असेल तर त्याला सर्वकाळीकरण असलेल्या अत्यावृत्त माहिती सहज उपलब्ध होऊ शकते। इंटरनेटमध्ये सहभागी होणे व त्यातील माहिती, फाइल्स भिडवण्याचा पर्याय, (Access) मिळणे यामध्ये मुख्यत्वकरून ठीक हेरताना संख्यासमूह येतात。

1. संस्कृत करणा—या संख्या
2. शैक्षणिक संख्या
3. संस्कृतातील संख्या
4. धंधेवाइक, खाजगी व व्यापारी संख्या

## संस्कृतमानामध्ये आवश्यक असलेली माहिती इंटरनेटवील खालील संवादांचे उपलब्ध होयू शकतात।

1. इलेक्ट्रॉनिक्स मेल
2. फाईडल्ची देखवण-ऱ्यावण (File Transfer)
3. माहितीचे प्रबंध त्रोट
4. इंटरनेट वापरणा—या गुप्तमध्ये प्रतिनिधीत
5. परस्पर देखवण-ऱ्यावण व सहभाग,
6. मल्टीमीडियाचा शोध
7. प्रयोग घटनेवाबत तात्काल माहिती प्रसारण
8. ऑनलाइन ई.जंरजलस व डेटा बेसेस वापरणे
9. ऑनलाइन पुस्तकांची खरीदी।

## संस्कृतमानामध्ये आवश्यक असलेली माहिती ही इंटरनेटवील वर्ल्ड वाइर्ड वेब व हॅपरटेक्सट तंत्रज्ञान द्वारे उपलब्ध होतो। w.w.w ही एक इंटरनेटवील सर्विस सिस्टेम आहे। वेब सिस्टेम ही मल्टीमीडिया आणि प्रमाण आक्षेपकी भाषा या दोहीवर भिडविले जाते असत्यांना संधा इंटरनेटवील व्हायरिधन वापराणार्या अंग बनते आहे। इंटरनेटवीलाचे संस्कृत करताना आपल्याला अनेक गोष्टीचा फायदा मिळतो। त्याचं ई-मेल, टेलेनेट, तसेच गुणनक आणि वेबसाइट पाडणा आवश्यक माहिती पाहणे हे तीन प्रमुख फायदे होतात।

### प्रोसेसिंग ऑफ वन डे स्टेट लेवल सीमिटेन तो डल ओफ ICT इन लीग्यूड इड्युकॅशन ओन 20व्ह एप्रिल, 2017
Proceeding of One Day State Level Seminar on The Role of ICT in Quality Education on 20th April, 2017

1) **Email**: 
   - **Innovation**: Email format is used to share information. 
   - **Usage**: Email is used for communication. 

2) **News Group**: 
   - **Purpose**: The group is used for communication and information sharing. 
   - **Benefits**: It is an effective way to reach a large audience. 

3) **Review of Literature**: 
   - **Importance**: It is an essential part of research. 
   - **Methods**: It involves analyzing and summarizing existing research. 

4) **APA and MLA**: 
   - **Usage**: These styles are used for academic writing. 
   - **Benefits**: They help in maintaining consistency and credibility. 

5) **References**: 
   - **Importance**: They are crucial for academic integrity. 
   - **Methods**: They include citing sources accurately. 

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व योग्य वेबसाइट इंटरनेट द्वारा प्राप्त होते हैं। मात्र त्यासाठी संशोधक हा संगणक साक्षर असतो. संगणक साक्षरता पर्याय नाही. संगणकीय करणार्यांनी प्रगत झाल हा अवगत करणे म्हणजे कार्यक्रमांवर चालण येते होय.

जगातील कुठलीही माहिती संशोधक हा घर बसता एका क्षणात इंटरनेटवरेही मिळून शकतो. इंटरनेट हे संशोधनातील एक महत्वाचे साधन आहे. माहिती व संप्रेषण तंत्रज्ञानात्मक विकासामुळे संशोधकाला त्याच्या संशोधनातील आवश्यक असलेली माहितीच्या संग्रह व त्याचे विश्लेषण करणे शक्य झाले आहे.

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2) कहडे, श्री. एम. शास्त्रीय संशोधन पथदृष्टी, पिपलापुरे अंग्ल अकादेमी, नागपूर, 2007
3) http://www.google.com
प्रस्तावना :-

आज प्राचीन कालापासूनचा आपण विचार केला तर ज्ञान, विज्ञान, तंत्रज्ञानाच्या कक्षा दिवसे दिवस अधिक विचारात जात आहे. 21 व्या शतकात ज्ञान व माहिती तर आपल्या परंतप माहिती तंत्रज्ञानामुळे सहज पोहचते आहे. आज माहिती संप्रेषण तंत्रज्ञानामुळे मानवी जीवन पार बदलून गेले आहे. माहिती संप्रेषण तंत्रज्ञानामुळे शिक्षणाच्या क्षेत्रात प्रवेश बदल होत असून अतिशय सकारात्मक सुधारणा त्यामुळे घडून गेल आहे. पूर्वीची गुरुकुल पढती, नंतरची खडू, फला पढू तर हैं तर हैं शिक्षणातील विचार देणे घेणे प्रक्रियेचे प्रवेश मोठया प्रमाणात बदल होत आहे आणि त्यामुळे रटाय अथवा रटाय आणि अथा रोपण पठतीच्या जाणी आता हवा विज्ञानाच्या माहिती तंत्रज्ञान युगात प्रत्यक्षक आणि स्वतः यांत यांत्रिक असा झालेला वाढत आहे. माहितीच्या आणि नामग्रांच्या घड़णे कण्याच्या वेग तीव्र गतीतून वाढत आहे.

माहिती संप्रेषण तंत्रज्ञान जे आज यायुगात शिक्षणाच्या क्षेत्रात विद्यार्थिसाठी अतिशय मोलाचे ठरत आहे त्याची समर्पितका पाहावाची असेल तर काही व्याख्यांचा परमस्थ घेणे चुकून ठरेल. व्याख्या - 1) “ माहिती प्रसारीत करणे, साठवणे, तयार करणे, माहितीचे आदान पदान करणे यासाठी वपरायण येणारे तंत्रज्ञान म्हणजे माहिती संप्रेषण तंत्रज्ञान होय.” 2) “माहितीच्या कार्यक्षम व्यवस्थापनासाठी लागणासा हायके साहबासारा वापर म्हणजे माहिती संप्रेषण तंत्रज्ञान होय.” यांच्या रेहिंचा, दुरदर्शन, विद्याचा निषेध, दुरदर्शनी, मोबाईल फोन, उपग्रहावर आधारित सेवा व सुविधा, संगणक व त्यासंबंधी हायके सारे सर्वांच्या समावेश होतो. विद्यार्थीच्या वित्तीय विद्यार्थी कॉम्फर्टेंस व -मेल, व्हॉट्स अप्रील तंत्रिकाचा समावेश होईल.

शिक्षणाच्या क्षेत्रात माहिती संप्रेषण तंत्रज्ञानाचे फार मोठी क्रांती झाली असून हे माहिती संप्रेषण तंत्रज्ञान विद्यार्थी विकासात येणे आणि व्याख्या सर्वांमध्ये प्रगती असते त्यासाठी माहितीभूमिका बजावत आहे.

विषय विवेचन : 

मानवी जीवनाच्या जबलजबल सर्वेचे क्षेत्रात माहिती संप्रेषण तंत्रज्ञान उपयुक्त ठरत आहे. विज्ञान आणि तंत्रज्ञानाची होणारी प्रगती हयामुळे माहितीच्या संप्रेषणाची वेग झापाटवणे वाढतात आहे. विद्यार्थी विभिन्न दिशाप्रस्तावातूनष्ट माहिती संप्रेषण तंत्रज्ञान अतिशय मोलाची मुमकिन बजावत आहे. अथवा करत असताना कुठलयाची घटकांचे संदर्भ आणि माहिती विद्यार्थी सहज उपलब्ध होत होईल आहे. माहिती
Proceeding of One Day State Level Seminar on The Role of ICT in Quality Education on 20th April, 2017

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दलवल्लणाच्या साधारणांमुळे परीक्षा पद्धति, माहितीचे विश्लेषण करण्याच्या पद्धति यात अनेक बदल घडून येत आहे. त्यासोबतच माहिती संप्रेषण तंत्रज्ञानामुळे असाधारण घोषपंडो नगरण गुण मिळवित्यावर पद्धतिला प्रोत्साहन मिळवित्यावर विद्याध्यात्मक शिक्षणतील रस वाढवल्यास मदत होत आहे.

भौतिक आणि मौलिक अड्ड्याचे ओळखून संप्रेषण प्रस्तावित करणे माहिती संप्रेषण तंत्रज्ञानामुळे शक्य होते त्यामुळे शाळा आणि बहेरील जग यांच्यामध्ये सीमारेश पुन्न ठकरे शक्य हाते आहे. एकमेकांच्या स्थाप्त करण्यावेधा एकमेकांना सहकार्य करत शिक्षणतील आणि माहिती संप्रेषण तंत्रज्ञान पोषक आहे. आयुर्विज्ञान जगाचे अभियान अंग नकलन्या तंत्रज्ञानाची ओळख नवीन पिठीला होण्यासाठी माहिती संप्रेषण तंत्रज्ञानाच्या ज्ञान निर्दिष्टत उपयुक्त ठरू शकते. माहिती संप्रेषण तंत्रज्ञानामुळे विद्याध्यात्मक शिक्षण प्रोत्साहन मिळवून असून त्याची जिज्ञासा जासील लागलेली आहे. विद्याध्यात्मक अमृत संकल्पना ह्या तंत्रज्ञानामुळे स्पष्ट होत हाते. माहिती संप्रेषण तंत्रज्ञानामुळे हे विश्व खथा अर्थाने जवळ आले आहे.

निष्कर्ष :
माहिती व संप्रेषण तंत्रज्ञानाचा (ICT) वापर करण्याने विद्याध्यात्मक वैश्विक दर्जा उल्लंघनोत आणि सकारात्मक सुधारणा झाल्याचे शिक्षण तंत्रज्ञान निर्देशनास आले आहे. विद्याध्यात्मक माहिती तंत्रज्ञानामुळे अनुभवातील रुची वाढू लागली आहे. ज्ञानाच्या कक्षी संदर्भात जाऊन माहिती संप्रेषण तंत्रज्ञानामुळे ज्ञान, माहिती अवदान प्रमाणे विद्याध्यात्मक सहजसत्ता पोहचत आहे, त्यामुळे विद्याध्यात्मक वैदिक, मानसिक विकास होणे सोपे झाले आहे. शिक्षणात विद्याध्यात्मक माहिती संप्रेषण तंत्रज्ञानाचा उपयोग केल्यामुळे विद्याध्यात्मक शिक्षण प्रक्रियांना आनंदाने, मनोरंजन, आकर्षण करून व परिणामात्मक ज्ञान आहे. विद्याध्यात्मकांना विशिष्ट परीक्षा ऑनलाइन देणे शक्य हाते आहे. व विद्यार्थी स्वयंसमर्पणकरण करू शकत आहे. विद्याध्यात्मके घरबसत्या अथवा प्रत्येक करणे व मार्गदर्शन मिळवणे शक्य हाते आहे. विद्याध्यात्मकांना ज्ञान वैदिक शिक्षण पद करतील बाजूला सरासर माहिती तंत्रज्ञानामुळे विद्याध्यात्मक गुणवत्ता बाहीं लागत आहे.

जगातील एकदम माहितीचा साहा दर चार ते याच सर्वांमध्ये ज्ञान पाहावा दुपट्टी देणे वाढतो या माहितीच्या विस्फोटाने माहितीचा जाणून जाणून चालू तर तयास रुकते. त्याला तयास रुकते माहिती संप्रेषण तंत्रज्ञान विद्याध्यात्मक शिक्षणाची महत्वाची भुमिका निभात आहे. आज या 21 व्या शतकात विद्याध्यात्मक प्रारंभी व विद्याध्यात्मक प्रारंभी साधारणांमध्ये माहिती संप्रेषण तंत्रज्ञानाची महत्वाची भुमिका अतिरिक्त महत्वाची ठरत आहे. आणि हयाची फलमुक्ती दिसावला लागली असून हेव माहिती संप्रेषण तंत्रज्ञानाच गमक आहे.

ज्ञान विद्याध्यात्मके संदर्भात कक्षा चला आपल्या व्या जाणून या। विस्तरले क्रित्रिम हे माहिती तंत्रज्ञानाचे संप्रेषण ते सर्वांगी.
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प्रस्तावना:
आधुनिक तंत्रज्ञानाचा वापर करणे ही आजच्या काळाची गरज झाली आहे. संप्रेषणाची साधने व तंत्रे वापरून उपलब्ध माहिती परिणामकारक राहू शकतो ही साधने व तंत्रे सहजस्वी प्रदेश जीवनात उपलब्ध असल्याने शिक्षण क्षेत्रातील अध्ययन, अध्ययन प्रक्रिया या माध्यमातून सकृद्ध होणे शकते. कारण आज विद्यार्थी तंत्रज्ञानाच्या वापराने पारंगत होणे आवश्यक आहे. मान्य जीवनाच्या जवळजवळ सर्व क्षेत्रातील माहिती संप्रेषण तंत्रज्ञान उपयुक्त ठरत आहे. विज्ञान आणि तंत्रज्ञानात वेगाने होणारे नवीनतम माहिती वा वेगाने बाळला आहे. त्या अनुसार अनेक माहिती संप्रेषण तंत्रज्ञान हे उपलब्ध साधनांचा उपयोग करून, सर्वसाधारणांचा त्यांना विविध गरजासाठी माहितीचा वापर करणे देत आहे. माहिती संप्रेषण तंत्रज्ञान हे आज काळाची गरज बनले आहे.

माहिती संप्रेषण तंत्रज्ञान, शिक्षण आणि विकास या ज्ञानाधिकृत समाजात आधार देण्याचे स्थल तंत्रज्ञान विचार करण्याची एकजी शिक्षण आणि माहिती संप्रेषण तंत्रज्ञान ही विकासाच्या गाढीजी साठी वाकच करू शकते, या दृष्टिकोणात पाहणे गरजेचे आहे. कुंठिही, कमी हत्याने क्षण वावे ही कल्पना प्रत्यक्ष आण्यासाठी माहिती संप्रेषण तंत्रज्ञान महत्वाची भूमिका बजावते माहिती संप्रेषण तंत्रज्ञानाच्या ज्ञानात भीमोत्तर सीमा ओळखल्या आहेत तसेच ज्ञानाची देवाणवधानणे करण्याच्या आणि ज्ञान जतन करण्याच्या जात साधन दर्शण करण्याचा संबंध आहेत. यामध्ये माहिती संप्रेषण तंत्रज्ञान उपयोजन आणि संवादात कार्य समजून घेतून विशिष्ट माहिती कसी शोधायची, प्रक्रिया कसी करायची व त्या माहितीचे मुल्यांकन कसे करावयाचे, माहितीच्या विविध रूपांतरण संगत त्याची पद्धती वाच्याची वर्धिले समावेश होतो. विद्यार्थ्यांमध्ये उच्च कौशल्य, आजीवन टिकने संप्रेषण तंत्रज्ञानाच्या समस्यांचे निर्देशन करणे विचार करण्याची ज्ञानातील तंत्रज्ञान, संवादात त्याच्यांच्या माहिती उपलब्ध करून, मुल्यांकन व एकलिकरण करणे या गोष्टीच विकास करणे.

याख्या :
"संप्रेषणासाठी माहिती निर्माण करणे, वर्गीकरण करणे, जतन करणे/साधने आणि माहितीचे व्यवस्थापन करणे इ. गोष्टीच्या लागणारे तंत्रज्ञान संवादात आणि साधने यांचे एकत्रिकरण म्हणजे माहिती संप्रेषण तंत्रज्ञान होय."
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1. Proceeding of One Day State Level Seminar on The Role of ICT in Quality Education on 20th April, 2017

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3. उदिदस्तेः
1. विद्यार्थी मिठवकेली माहिती वापरून समस्या सेवापूर्व शक्तित तसेच नवीन समस्यांना सामोरे जाऊ शकतात.
2. केवळा स्वरूपातील माहितीवर प्रक्रिया करून तिचे उपयुक्त माहितीमध्ये रूपांतर करणे.
3. स्वतंत्रच बेलेपुराण व गतीपुराण सरावावर आधारीत कोशल्ये विद्यार्थी शिक्षू शकतात.
4. माहिती समजण्यासाठी कार्य अशा नव्हा रुपात तिचे रूपांतर करणे.
5. माहितीचे ज्ञानमध्ये रूपांतर करणे आणि ज्ञानाच्या माध्यमातून वापरकर्त्याला सुजाण बनविणे.
6. व्यक्तीच्य समाज यांचे झाण, त्यांची तांत्रिक कोशल्ये आणि दुर्दैवक पायल्ट क्रियाची वस्तु मध्यमान्या मदतीने बदल घडविणे.

माहिती संप्रेषण तंत्रज्ञानाचे सहा घटक पुढीलप्रमाणे :
1. युजर, 2. संप्रेषण, 3. माहिती, 4. कृती, 5. हार्डवेअर, 6. सॉफ्टवेअर

आकृतीः माहिती संप्रेषण तंत्रज्ञानाचे स्वरूप
माहिती संप्रेषण तंत्रज्ञानामुळे माहितीचे आदान प्रदान होते. आवश्यक तेचा ही माहिती वापरता येऊ शकते. असे हे माहितीचे चक्र निरंतर सुरु राहते.

आज्ञाचा शिक्षणात आय.सी.टी. चा वापर
1. अध्यापनात आय.सी.टी. चा वापर :
 शाळेत तसेच उच्च शिक्षणात माहिती देणार्याचे शिक्षणाचा जास्तीत जास्त भर असतो त्यामुळे मुलांना ते कौशल्याचे वाटते. अतिर आय. सी.टी. या हार्डवेअर व सॉफ्टवेअर साधनामुळे अध्ययन रंजक होते. पॉवर पोईंट प्रेजेंटेशन, अनिमेशन व ध्वनी यामुळे ध्वान चांगला समजू शकतो. वेबक्रम व एल.सी.डी. मुळे अध्ययन परिणामदायक होते.

2. मुख्यक्रमात आय.सी.टी. चा वापर :
 तंत्रज्ञानातील प्रगतीमध्ये बहुपृथ्वी प्रसन, रिकाम्या जागा भरा, चुंक की बरोबर, जोड्या लावा इ. प्रसन्नांतर आधारित ऑनलाइन परिष्का घेणे शक्य झाले आहे. वर उल्लेख केलेल्या तंत्रज्ञानात आधारित संगणकाच्या मदतीने उत्तरपत्रिकांचे परिष्कार करण्यास हक्क शकते आहे. मोठ्या स्पष्टत्त्व परिष्कार्याचे ही पद्धत यशस्वीतर्या रावली गेली आहे.

3. ऑनलाइन मार्गदर्शनासाठी आय.सी.टी. चा वापर :
 विद्यार्थ्यांना अम्यासाठी शाळेत्या सहस्रीत असते. विद्यार्थ्यांना ऑनलाइन शिकवणे जाते. हे केवळ आय.सी.टी. मुळे अवघड झाले आहे. ऑनलाइन मार्गदर्शन विद्यार्थी त्यांच्या घरी बसून घेसू शकतो. इंटरनेट आणि सॉफ्टवेअर मार्फत ती त्यांच्या मार्गदर्शनकासी जोडला जातो. भारतात असलेल्या शिक्षकांना तो पाहू शकतो. आणि अन्य दृष्ट्या असलेल्या विद्यार्थ्यांना शिक्षक पाहू शकतो. विद्यार्थ्यांना प्रस्तुत नर्मकाळीन मार्गदर्शन आय.सी.टी. चा वापर.
विचारव्यास शिक्षक पॉवर पॉईंट किंवा स्मार्ट बोर्ड्व्या सहाय्याने उत्तर देऊ शकतो. ही परसपर किंवा समोपसमोर होते. त्यामुळे अनेक विद्याध्यायी शिक्षण सुकर होते.

4. प्रशिक्षण साहित्य विकसित करण्यासाठी आय. सी.टी.चा वापर:

एकूण विशेष विश्लेषण प्राविध्य असलेले अनेक शिक्षक असात त्यांच्या व्यक्तिगत दिशेला विश्लेषण शिक्षक त्यांच्याच उपयोग वर्गीत करू शकतात आणि त्यांच्याच घडून आणू शकतात. त्यामुळे काही नविन मुद्दे लक्षात येतात.

अशा उपक्रममुळे शिक्षण प्रभावी, सहभागात्मक आणि आनंददायी होण्यास मदत होते.

निकषरः

शिक्षण व्यवस्थेत येणार्यांना आपल्यांना विकसितां येणार्यांची चर्चा तसेच यांची समस्ती क्षमता महत्त्वाची संप्रेक्षण तंत्रज्ञानात आहेत. म्हणून अनेक देशाने शिक्षक संप्रेक्षण तंत्रज्ञानाला त्यांच्या विकास योजनेच्या केंद्रस्थानी तेंदून त्यांच्या प्रमाणात गुंतवणुक केली आहे. महत्त्वाची संप्रेक्षण तंत्रज्ञान ज्या विकास कार्यक्रमांच्या समावेश करते आहे, थांबण्याच्या अनेक बदल झाले आहेत. उदा. सुधारणे सेवा, पुरवठा, अन्यायक्रमालील बदल, गुणवत्ता निर्भरता किंवा ध्वसायकां ही उपाधान प्रक्रिया इ. अर्थातील शिक्षणाच्या संदर्भात विकसित बनितले तर विकसित करू शकतात, शास्त्र व्यवस्थान, आणि विद्याध्यायी केंद्रीत्व तंत्रज्ञान यांच्यास मायकू येतात. त्यावेळी विकसित देशाने महत्त्वाची संप्रेक्षण तंत्रज्ञानाच्या क्षमताचा पुरुष पुरुष आणि परिणामकारकरित्या यांश्चातीत आवश्यक ती साधने क्षमता आणि कौशलण्याच्या आवश्यक आहात. आणि परिणाम कारकीत यांश्चातीत विकसित आहात.

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प्र. कृ. कविता मु. इंगे

ग्रंथालय, घ. पंचफुलाइ काला व वाणिज्य महिला माहा. वरुड

सार

ग्रंथालयामध्ये मुक्तव्याप पद्धतीचा अवलंब केला जातो. या पद्धतीमध्ये वाचकांना हवा असलेला ग्रंथ, वाचनसाहित्य उपलब्ध होते. परंतु या पद्धतीमध्ये काही दुष्परिणाममयी समार आले. ग्रंथालयातील दुविने ग्रंथ, वाचन साहित्य, हस्तालिके यांचे गाहल होण्याचे प्रमाण वाढते. बदलत्या काळानुसार वाचकांचा ग्रंथालयाकडून अपेक्षाही वाढत गेला. ल्या तारीखात निघडलेला ग्रंथालयाचा पद्धत गेला. आज ग्रंथालय आधुनिकतेनुसार तंत्रज्ञानासाठी वापर होऊ लागला.

आधुनिक माहिती व संप्रेषण तंत्रज्ञानामध्ये ग्रंथालयाचा अंतर्गत सुरक्षेत्रीय ज्या काही नवनवीन युग भारतीय शोध लागते त्याची सी. सी. टि. बी. हे एक तंत्रज्ञान आहे. प्रस्तुत शोध निकादितेने ग्रंथालय सुरक्षितात, ग्रंथालय सुरक्षितीची गरज, सी. सी. टि. बी. संकल्पना, उद्देश व सी. सी. टि. बी. ही ग्रंथालयातील कार्यक्रमातील यावर प्रकाश टाकण्यात आलेला आहे.

प्रस्तावना :

एकविषये यश से माहिती-तंत्रज्ञानाचे युग म्हणून ओळखून जाते. संपूर्ण जग हे एक जागतिक खेडे बनतले आहे. माहिती व तंत्रज्ञानातील बदलांचा फार मोठा परिणाम ग्रंथालयावर झालेला आहे. पारंपरिक, ग्रंथालयांची जागा आता अक्षे ग्रंथालये घेत आहे वाचकांना परिणामकारक व वांछित प्रकार्य केर देयायची ग्रंथालयाचे संगणकीकरण करणे आवश्यक झालेले आहे. ग्रंथालयांचे स्वरूप हे ज्याग्रंथालयाचा वाढते आहे. ल्या प्रमाणी ग्रंथालयांच्या सुरक्षितीच्या प्रण निर्माण होतो आहे. ग्रंथालये ही आधुनिक ग्रंथालयावरोबरच असुरक्षिती बनत चाललेली आहेत.

जागतिकीकरणाचा युगात जगातील कुटलाची माहिती ही क्षणात अपल्य पुढे येवे इतका माहितीचा वेग बाढलेला आहे. माहितीची विविधता, माहितीचा मोठा प्रमाण आणि ल्या वाचकाकडून होणारा वापर यावर अवसंतून असणारे माहितीचे तंत्रज्ञान या सर्वांच्या समावेश आज ग्रंथालयात केला जातो.

ग्रंथालय सुरक्षितात:

ग्रंथालय व्यवस्थापनामध्ये ग्रंथालय सुरक्षितेला एक विशेष स्थान आहे. ग्रंथालयात सुरक्षित्य प्रदान करण्यासाठी सुरक्षित्यचो अनेक उपाय आज उपलब्ध आहेत. तसेच ते खर्चकी होणारे.
आहेत. खेढ़तर कूठलेही तंत्रज्ञान स्थिकारतांना त्यासाठी लागणा—या खार्पेरेका त्याच्या परिणामकारकतेला जात नही दिले जाते.

ग्रंथालय सुरक्षिततेची गरजः

ग्रंथालय आधुनिकीकरणाचे खंडाल बाबीमुळे ग्रंथालय सुरक्षिती गरज भासत आहे.

1. ग्रंथालय संग्रहातील होणारी वाढ.
2. मुक्तव्यावस्था ग्रंथालय पदवीचा अवलंब.
3. ग्रंथसंग्रहातील दूरसंचार ग्रंथाची संख्या वाढणे.
4. ग्रंथालय संग्रहातील मोठ्या किंमतीच्या पुस्तकांचा भरण.
5. ग्रंथालयात मर्यादित प्रतिलिपी मिळण्याची सोय नसणे.

क्लोज सर्किट टिक.की. संकल्पना:

21 व्या शमनाच्या असुरक्षित परिस्थितीत सुरक्षिततेला फार महत्त्व आहे. सार्वजनिक ठिकाणाचा उदा. सनेमा हॉल, बींग्म गॉल, हॉम्सपिटल, विश्वविद्यालय, मंदिरे, संसद व विधानसभेचा अपेक्षित व्यवधानाची ठिकाणी सुरक्षितता ठेवणे आज अत्यावष्टक झाले आहे. सर्वच सर्किटी मानवनियमवर सुरक्षिता व्यवस्था अपूर्व पडते आहे. त्यामुळे जग त्याच्या जोडोस त्यासंबंधी विकसित होत असलेल्या तंत्रज्ञानाचा वापर करणे गरजेचे झाले आहे. जेव्हा किंवा येणाच्या परिस्थितीत किंवा घडणाला घटनांक देखरेख ठेवण्याचे शक्य होणार आहे. सुरक्षिततेची कारणासाठी क्लोज सर्किट टिक.की. तंत्रज्ञानाचा शोध लागला व त्याचा माहिती—तंत्रज्ञानाचा युगात पुढे विकसाव्या आहली.

वेब केंमेरा व डिजिटल डिइडो सुरक्षितता पद
dती आज असित्वचार आली आहे व त्याचा सार्वजनिक ठिकाणी सुरक्षितसाठी वापर वाढतो आहे. सार्वजनिक सुरक्षितसाठी वापरले जाणारे सी.सी.टी.की. तंत्रज्ञान ग्रंथालयाच्या अंतर्गत सुरक्षितसाठी वापरले जाऊ लागले आहे.

आज ग्रंथालये ही नॉलेज सिरीज्स सेंटर बनून वाचकांमुखी होत आहें. त्यामुळे वाचकांना
बंध व्यवस्था प्राप्त होत आहें. पंतु या संबंधी
काही वाचक गैरफायदा घेतात. ग्रंथालयातून
अनुभूत ग्रंथ व इतर साहित्य चोरिस्त्वाने, संगणक
व इतर यंत्र सामुदायिकी चोरी होणे, इतक्या नाही
तर वाचकांकर विकव ग्रंथालय कर्मचार्यांकर हल्ले
होणे, त्यान्या जम्भवी करणे असे प्रकाष्टी ग्रंथालयात
घडली. अष्टस्थ्री ग्रंथालय प्रवेश व निर्माण स्थानी
तर्की कॉरिडोरमध्ये, रंकिंग क्षेत्रमध्ये, कपाटांक
गोडामध्ये सतत देखरेख करण्याची व्यवस्था
केली जाते.

सी. सी.टी.की. ग्रंथालयाच्या वापरण्याचे उद्देश

1. ग्रंथालयात ग्रंथाचारी, ग्रंथ लपवणे,
नियंत्रकाळी किंवा दूरसंचार संदर्भाची
पाने फाडणे किंवा इतर गुंडे पोल्सणे.
2. ग्रंथावाहू घटना घडल्या तर
tपरास्यासाठी किंवा संस्थितवावर जवाबदायी
टाकणासाठी किंवा फळीमधील दर्शे
पुरावासाठी वापरणे.
3. ग्रंथालयातील वाचकांना तर्क ग्रंथालय
कर्मचार्यांना ते सुरक्षित ठिकाणी आहेत.
असा दिलासा देघे.
1. The role of ICT in quality education needs to be emphasized. The seminar aims to discuss various aspects of ICT in education.

2. The seminar will cover topics such as the integration of ICT in teaching and learning, the impact of ICT on student engagement, and the challenges faced by educators in adopting new technologies.

3. The seminar will feature several keynote speeches and panel discussions, with contributions from leading experts in the field of ICT in education.

4. The seminar will provide participants with the opportunity to network and share ideas with professionals from different sectors of the education sector.

5. The seminar is open to all educators, policymakers, and stakeholders interested in the role of ICT in education.

6. The seminar will be held at Vidyabharti International Interdisciplinary Research Journal (Special Proceeding Issue) on 20th April, 2017.

7. The seminar will be conducted in both Hindi and English, with simultaneous translation available.

8. The seminar will conclude with a panel discussion on the future of ICT in education and its implications for policy makers.

9. The seminar will provide a platform for discussing the role of ICT in improving the quality of education and preparing students for the digital age.

10. The seminar is being organized by Vidyabharti International Interdisciplinary Research Journal (Special Proceeding Issue), with support from several organizations.

11. The seminar will be followed by a reception and networking session.

12. The seminar is expected to attract a large number of participants from various parts of the country.

13. The seminar will provide a platform for discussing the role of ICT in improving the quality of education and preparing students for the digital age.

14. The seminar will be followed by a reception and networking session.

15. The seminar is expected to attract a large number of participants from various parts of the country.

16. The seminar will provide a platform for discussing the role of ICT in improving the quality of education and preparing students for the digital age.

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18. The seminar is expected to attract a large number of participants from various parts of the country.

19. The seminar will provide a platform for discussing the role of ICT in improving the quality of education and preparing students for the digital age.

20. The seminar will be followed by a reception and networking session.

21. The seminar is expected to attract a large number of participants from various parts of the country.
Adequate support to library staff is necessary. The support should be in the form of training, seminars, workshops, and other professional development activities. The library staff should be encouraged to use ICT tools to improve their work efficiency.

संदर्भ सूची:

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प्रस्तावना:

माहिती व संप्रेषण तंत्रज्ञानाची (ICT) योग्य वापर करण्यासाठी तुमच्या शाखा महाविद्यालयासाठी योग्य तारीख उपकरणे निवडणे हे अत्यंत महत्वाचे आहे. या विभागात माहिती मित्रविषयकाची वापरता येऊन शक्यता या विविध तंत्रज्ञानाची माहिती देण्यात आली आहे. शिक्षण ही तंत्रे वापरसाठी कोणकोणत्या अडचणी येऊन शक्तीत याविषयी देखील यांत चर्चा करण्यात आली आहे.

माहिती प्रश्नीत करण्यासाठी, साधनोंसाठी, तयार करण्यासाठी प्रदर्शित करण्यासाठी किंवा तिथी देवाने घेणारे करण्यासाठी वापरली जाणारी विद्युत उपकरणे म्हणजे माहिती व संप्रेषण तंत्रज्ञान प्रश्नीत यांनेमध्ये रेडिओ, टेलीसिमो, सिडीडी, टेलीविजन, मोबाइल फोन, उपभोक्ता आर्द्रतीत सेवा व सुविधा, संस्कृति व लिंग संबंधीत हार्डवेयर आणि सॉफ्टवेयर अशा गोष्टींचा समावेश होतो. ह्या व्यक्तिक हिडीडी, कॉमर्सिंग, इमेल ल्या अशा तंत्रज्ञान हे यांत समावेश होतो.

शिक्षण ‘माहिती युगात्र’ शैक्षिक ध्येये समजून घेण्यासाठी माहिती व संप्रेषण तंत्रज्ञानाच्या (ICT) नवनविन स्वरूपांचा शिक्षणात अंतर्विक करणे गरजेचे आहे. ह्या सर्व प्रभावशाली करण्यासाठी शैक्षिक नियोग नकार, मुहूर्त्यापक, शिक्षक व तंत्रज्ञाना प्रश्नीत, तंत्रज्ञान विविध, शिक्षण, संप्रेषण अशा विविध क्षेत्रात अंतर्विक नियंत्रणे हे ही योग्य रिवचा घेतला आहे. अगदी आहे. अनेकांसाठी हे काम म्हणजे एखादी नवी भाण्या संपर्क व ती संपर्कविश्वास शिक्षण इत्य類 कठीण काम वापरते.

या विभागात विविध उपकरणे व तंत्रे यांती माहिती दिलेली आहे. यांत देशांत जोडण्या उपभोक्तासून संविभाजित विभाग वापरत अर्थात् उपकरणपूर्वक सर्वांचा समावेश, आहे. शिक्षणपर्यंत, निलेनामेंडर, नियोजककर्मी, अन्यान्य क्रम तयार करणारे तंत्रें तंत्रांचा उपकरणे, त्या संविभाजित संग्रह आचारीत मार्ग काढून योग्य रिवच्या घेणे सोपे जावे हा यासाठी उदेश्य आहे.

माहिती व तंत्रज्ञानाची शिक्षणातिल भूमिका:

माहिती व संप्रेषण तंत्रज्ञान (ICT) वापर करणे शिक्षणाच्या दर्जेदार उल्लेखनीय आणि सक्षमतासम्बन्धी समावेश करता येईल असे साहित्यात: सर्वथा शिक्षणपर्यंत शिक्षणाच्या नात्स तिथी त्याचे कार्य करते व त्या उपयुक्ततेचा जास्तीत जास्तीत जास्तीत जास्तीत जास्तीत कसा करणे घेता येऊन शकतो हा अजून ही चर्चा जाणारा मुंडा आहे. या विभागात माहिती व संप्रेषण तंत्रज्ञानाचा शिक्षणपद्धतीचा पदहलेला प्रमाण व
Proceeding of One Day State Level Seminar on The Role of ICT in Quality Education on 20th April, 2017

1) सुचारूतक साधने
2) ऑडीओ, हिडीओ व डिजिटल उपकरणे (वर्द्ध, दक्षिण व डिजिटल उत्तर)
3) सोपरव्यूर व कन्वेंटिवर
4) संपर्कची साठी
5) माध्यम (मिडिया)
6) शिक्षाणिक वेबसाइटस

शिक्षातील तंत्रज्ञान व 

विध्यार्थ अस्तित्वात असलेले तंत्रज्ञान व भविष्यत येऊ घातलेले तंत्रज्ञान यावर एक नजर वापर करणार्या आणि निर्णय घेणार्या काय अनुपयोग शाखा आहे ह्या वरच आधारित नके तर काय येत आहे ह्यावर भविष्यतील तंत्रज्ञानवर एक दशक.

रेडीओ व दुरदर्शन

20 व्या शतकाच्या सुरुवातीपासून रेडीओ व दुरदर्शन यांचा वापर शिक्षणसाठी केला जात आहे रेडीओ व दुरदर्शनाचा वापर मुख्यतः खालील प्रकारे केला जातो. (ICT) या ह्या स्वरूपांचा मुख्यत्व तीन प्रकारे उपयोग करण्यात येतो.

1. शास्त्रीय विषयांची संबंधित धार्मिक विचारकी व रेडीओवरन प्रसारित केले जाणारे कार्यक्रम यांचा सहाय्याने वर्तमान शिक्षण्ये.
2) ಶಾಖಾಂತೆಯೇ ಶಿಕ್ಷಣದ ಪ್ರವೃತ್ತಿಯಲ್ಲಿ ತಂತ್ರಜ್ಞಾನ ಪ್ರವೃತ್ತಿಯಲ್ಲಿ ತತ್ವಿಕರಿಸಿಕೊಂಡಿರುವ ನೂರು ಕಾರ್ಯಕ್ರಮ ಪ್ರವೃತ್ತಿಯಲ್ಲಿ ತಯಾರಾಗಿದ್ದವು.
3) ಸಮಾಜದಲ್ಲಿ ಮಹಿಲಾತ್ ಶಿಕ್ಷಣದ ಕಾರ್ಯಕ್ರಮದ ದಾಖಲೆಗಳು ಕೊನೆಯ ಪ್ರಸಾರ ಕೋಪೆಯ.

ಪಕ್ಷಿ ಉಚಿತವಾಗಿರುವ (IRT) ಪ್ರಸಾರಿತ ಕೆಲಸಿರುವ ಕಾರ್ಯಕ್ರಮ ದೈನಿಕ ಸ್ವರೂಪದಲ್ಲಿ ಅಸರಾಂತವಾಗಿ ರಿಗೆಡಿಕೊಂಡು, ಒಂದು ವಿಶೇಷವಾಗಿ ಶಂಖಾಂತೆಯನ್ನು ಅಸಾಸ್ತಿಯ ವ್ಯಾಕ್ರಣದ ಲಕ್ಷಣ ಘತನೆ ಶಾಖಾಂತೆಯ ಪತ್ತಿಗಳಿನಲ್ಲಿ ತಹೊರಿಸಿದರು. ಯಾಗೆ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಶಿಕ್ಷಣದ ಪ್ರಶ್ನೆಗಳನ್ನು ವೀಶಪ್ಪೂರ್ವಂ ವಹಿಸಿದರು. ಅದರ ಪಕ್ಷಿಗೆ ಉಚಿತವಾಗಿರುವ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ತನಿಗೆ ಹೊಂದಿದರು. ವಿಶೇಷವಾಗಿ ಶಾಖಾಂತೆಯ ಪತ್ತಿಗಳಿನ ಅಥವಾ ಪ್ರಾಪ್ತವಾದವು. ವ್ಯಾಕ್ರಣ ಪತ್ತಿಗಳಿನ ಕೆಲಸಿದರು. ಪಕ್ಷಿ ಉಚಿತವಾಗಿರುವ (IRT) ಪ್ರಸಾರಿತ ಕೆಲಸಿರುವ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಶಿಕ್ಷಣದ ಪತ್ತಿಗಳಿನಲ್ಲಿ ತನಿಗೆ ಹೊಂದಿದರು. ರಿಗೆಡಿಕೊಂಡು ಕೆಲಸಿದರು. ವಿಶೇಷವಾಗಿ ಶಾಖಾಂತೆಯ ಪತ್ತಿಗಳಿನ ಅಥವಾ ಪ್ರಾಪ್ತವಾದವು. ವ್ಯಾಕ್ರಣ ಪತ್ತಿಗಳಿನ ಕೆಲಸಿದರು. ಅಧೀಶ್ಯ ಪ್ರಸಾದವಾಗಿ ಶಿಕ್ಷಣ ಪತ್ತಿಯವರು ಮೊದಲೆಗೆ ಪ್ರಸಾರಿಸಿದರು. ಉದಾ. ಭಾರತದ ಇದ್ದೀ ದೇಶದ ಮೂಲ ವಿದ್ಯಾಪಿಠತೆಯ ಅನೇಕ ಕಾರ್ಯಕ್ರಮದ ದುರದರ್ಶನ ವಿಶೇಷವಾಗಿರುವ ವಿಶೇಷವಾಗಿ ಶಿಕ್ಷಣದ ಮದ್ದಿನ ತಾಜ್ಜು.
(ICTS) साधनामुद्रे, विशेषतः संगणके व इंटरनेटमुद्रे शिक्षक व विद्याध्यायना जानाची नवी कवाडे उघडी ज्ञाले आहेत. संगणके व इंटरनेट वापरण शिक्षक व विद्याध्यायी पुस्तकी ज्ञानचा परीक्षेके जाऊन व्यङ्ग्याची विश्लेषणी संबंधत तत्त्वनी माहिती मिळून शकतात व आपल्या ज्ञानात भर घडून शकतात. यामुळे आतापर्यंत शिक्षक केंद्रीत अर्थान्या शिक्षणपक्ष दत्तीत नवा बदल घडून आला आहे. आतापर्यंत शिक्षक विद्याध्यायना ज्ञान देत असत मात्र आता विद्याध्यायी देखील स्वतः इंटरनेट वापरण माहिती मिळून शकतात व ती वर्गीय वादू शकलात महत्त्वाचे शिक्षणपक्षपदती हलूळू शिक्षरी दर्शीत होत चालली आहे.

सक्रिय संबंधांत: माहिती व व्यङ्ग्यानूळा माहितीचे विशेषण करणार शिक्षक पदती याच अंक सक्रिय बदल घडून आले आहेत. त्यामुळे विद्याध्यायना मार्ग उपलब्ध झाला आहे. आता विद्याध्यायी त्यांच्या संविधानात विद्याध्यायी माहिती मिळून शकतात. निरनिरनांतर व्यक्तीने तिच्या अपेक्षा करू शकतात, दैनंदिन जीवनातील घटना अविस्तर शकतात व त्यासोबत विश्लेषण अहेत. अशा पद्धतीने माहिती व व्यङ्ग्यानूळा माहितीमुद्रे केवळ अविश्वसनी राहू करून गुण मिळून विद्याध्यायी पदतीत प्रोत्साहन मिळून विद्याध्यायी महत्त्वाचे शिक्षक पक्षे शिक्षणाचा शिक्षणातील रस वाढणार भदर होत आहे.

दुरुस्त शिक्षण: माहिती व व्यङ्ग्यानूळा माहिती पालनांमुळे विद्याध्यायी शिक्षण तड यांच्यात संवाद व संकायाची भूमिका निर्माण होणार भदर होते. शिवाय या साधनामुळे वेगवेगळी तंत्रासंगतील व्यक्तीला त्यांच्या संस्कृतीतील आपल्या ज्ञानाच्या कक्षा संदर्भात नवीनित तत्त्वात आहे. त्यासाठीच साधनांचा व्यवहार योग्य तत्त्वात नवीनित तत्त्वात आहे.

माहिती व संप्रेषणाच्या साधनांचा शिक्षणात कसा फायदा होतो: —

माहिती व साधनांचा शिक्षणार विकस्त आणि कसा प्रभाव पडतो हे ती साधनेच करून तसा व राजकीय पारंपर्याचा जातात वापर अवलंबून असते. या साधनांचा संप्रेषण सार्वजनिक शिक्षणार फायदा होईल असे नाही. मात्र ही साधने योग्य पद दत्तीने वापरली गेल्यास त्यांचा फायदा नवीनित होतो.

माहिती व संप्रेषणाच्या साधनामुळे शिक्षणाच्या गुणवद्ध वापर काय परिणाम होतो ह्या माहिती व संस्कृतीतील शिक्षण पदतीवर निर्भरत चांगला परिणाम होतो. प्रसारित केलेला ज्ञानाच्या अनेक माहितीमुळे त्यांच्या आपल्याच्या कर्मक्रमापेक्षी रेखों द्वारे सुरुवात कार्यक्रमाचा साधीत अभ्यास करणार आलेला त्याचे धारण नूतन आहे तत्त्वात उत्तम परिणाम झाल्यावर तशीच विद्याध्यायी गुणांत व उपरस्थितीत ही सुधारणा झाल्यावर आढळले.
मात्र संगणक, इंटरनेट यांचा वापरमुळे शिक्षणाया दर्जत फारसा फकर पदवीते होते आढ़तून आलेले नाही.याविषयात संशोधन करण्यासता रसेला या अन्यासकाने काही उल्लेखनिय अंतर नसत्याचे हटले आहेत किंवा, माहिती व संप्रेषणाच्या साधनांचा वापर करण्यासाठी विद्याधृतता गुणवत्तेत व व्यक्तीगत भारवधृत घेण्याचा विद्याधृतता गुणवत्तेत त्याला फारसा फकर आढ़तून नाही. माहिती व संप्रेषणाच्या साधनांचे एम्फास जाणा-यामुळे व्याख्यानाच्या विद्याधृततवादी अनुपस्थितीवर अस्त्रस्ताचे मात्र अनेक समीक्षक व्यक्त करतात.

मात्र माहिती व दर्जतव्यानुसार शिक्षणाच्या साधनांमुळे वेधीत व उपलब्ध दर्जत फारसा फकर आढ़तून नाही. पारंपरिक शिक्षणाच्या जोडीला संगणकाचा वापर करण्यास आत्मसंवेदनशील गुणवत्तेत वाढ वाढ शकते. संगणकाचा वापर केल्यामुळे विद्याधृतता शिक्षणविषयी आवड निर्माण ज्ञात्याची ही काही उदाहरण आहेत.

शिक्षकांना माहिती व दर्जतव्यानुसार साधने हाताळण्याचे योग्यता प्रशिक्षण दिल्यास शिक्षण पद्धतीत आपल्याची बदल घडून गेला शकतो. मात्र अजुन या प्रशिक्षणांना सहाय करी त्याच्यात आलेला नाही स्थिती अशा प्रशिक्षणाच्या शिक्षणपूर्तीत दत्तशीत बदल घडून आत्मस फारसा काही ठोस पुरावे ही उपलब्ध नाहीत सम्म या विषयी उपलब्ध असाधिती माहिती ही विद्याधृत व शिक्षकांकडून फिचरप्रामाण्यात आली आहेत व त्याप्रमाणे काढलेले निर्णय सकारात्मक आहेत.

संगणक व इंटरनेटमुळे होणारे फायदे मोजणासाठी प्रमाणित अशा चावण्यांचे नाहीत र्यामुळे ही या साधनांचा प्रभाव मोजणात अडक्यावेत हेत आहेत. शिवाय ही साधने शिक्षण पद्धतीत असा काही तत्त्वे म्हणजेच आहेत की त्याचा उपयोग करून त्याचा प्रभाव मोजणे हे एक कठीण काम झाले आहे.

संदर्भपृष्ठ :-
1) विकासपिडिया :- ‘तंत्रज्ञानाचा वापर’
   googleweblight.com.
2) ‘माहिती संप्रेषण तंत्रज्ञान’ – इत्यता 9 वी, महाराष्ट्र राज्य माध्यमिक उच्च माध्यमिक शिक्षण मंडळ, पुणे
3) श्री. कोल्कटे – ‘माहिती आणि तंत्रज्ञान’ – साईनाथ प्रकाशन, नागपूर
4) डॉ. एस. एस. सकसेना – ‘आई. सी. टी.’
   (एक समीक्षक अध्ययन) – आय. पी. प्रा. लि. आय.प्रा.

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It is an umbrella term - that includes all technology for the communication of information. It refers to the forms of technology that are used to transmit, store, create, share, or exchange particular task.

ICT या महत्व: या ICT या विकित ICT असलेख दिसून येतात या वेबसाइटला गुणल चे सर्व इंजिन वर्ग इंटरनेटवर येतात ज्याची वस्तुंच आकर्षक असते. ICT या विकित ICT याधवन यविक्षिप्त क्षेत्रीय महत्त्वाचे संकलन करून प्रस्तावित केल्या जाते. ICT या अंतर्गत वेणां - या विकित ICT याधवन विकित क्षेत्रीय महत्त्वाचे संकलन करून प्रस्तावित केल्या जाते. उदाहरणार्थ, विज्ञान व कला, एवढं होतो आणि याचे उपयोग करून उत्तम भरती मालामाल होते. टेक्नीक व सामाजिक विकासाची विकसिती ICT याधवन याधवन विकित केल्या जाते. देखे, एकूण विकित ICT याधवन विकित केल्या जाते. अशाांतरून विकित घडान असणारी - या संगीत विकित गणना तंत्रज्ञानाची संक्षिप्त असणारी - या घडामोडीच्या आधारात येते. जगात या घडामोडीच्या शिक्षणाची संक्रिया असणारी - या याची घडायुक्त करून उत्तम करून प्रस्तावित केल्या जाते. इमेल deshmukhvmd123@gmail.com
3. ICT आणि संग्रहः

शोधक्षाळा आयोगी भूमि जरूरी Information and Computer Technology हे या गांधी व उपग्रहार्थ उत्तरार्थतत्व बाळांक होते. तत्वांश प्रवत्ती आयोगी बाळे आणि संग्रह विषयावधी देखील बाळांक होते. ही प्रवत्ती वां विशेषता माहीमे भूमिजे रेकॉर्डिंग, ब्रॉडकास्टिंग, रेडिओ, कंप्युटर, सीडी, इत्यादी माध्यमांचा समावेश संग्रहात दिसून येतो.

4. विषय प्रवेशः

I) सांगिक अथवण अथवण आणि मूल्यापनांमध्ये

ICT वा समावेशः

संग्रह अथवण फक्ततीः संग्रह प्रातिक अथवण असताना ते मौर्यवीक संग्रहातील मनेरंजनाचे साधन असत्याचे लांचत भावारी जशी प्रवत्ती होते गेली तत्तत्त्वी पुढील या साधनांनी त्याच्य जगा घेतली. पुढील पुढील हा जन्म वेळच्या वेळच्या सांगिक ज्ञान ICT व्यावहार वेळ जात घेतले.

प्रथमीन काराखासणून संग्रहात लागत आणि शास्त्र या दोन्ही प्रकाश- हे महत्त्वपूर्ण शोधकार्य केले दिसून घेतला. या शोधकार्यांमध्ये वेणा-या विषयाना महाविद्यालयांनी अथवासमावेशांना सांगिक करण्याचा आलेले होते. हा अथवासमावेश आणि स्त्रांसिद्ध करण्याचा दोन्ही वयस्वी अथवासमावेशांचा सांगिक करण्याचा आलेले होते. पूर्वीपाणून चालत आलेली अथवण आणि अथवण ही प्रक्रिया तर चालू हुया. मात्र ही आणखी प्रमाणित यासाठी ICT याची मदत घेता येतू शकते. ICT याची उपयोगीता पुढील प्रमाणे :

अथवण प्रक्रियामध्ये ICT : प्राथमिक उद्देश्यांदाखल काही उद्देश्ये : जसे. अलंकार

सागर नस्लांना सिफर कर दाखवून त्याच्या जोड्या त्याच्याची पद्धती ICT द्वारे प्रमाणित होऊ शकते.

आरोह : सा रे ग म इ निसान (साग, रे, ग, म, इ, न)

अपरोह : सा नि ध ध म ग रे सा (साध, निध, धम, म, गे, गास)

त्याच्यामध्ये दुसरे उद्देश्यासारखे प्रमाणे की संग्रहत्ता निर्देशीकरण एक उपप्रयोग होते. ही सत्यसंचालनी निर्देशी ही अन्य जीवी प्रायंभले व दाखवून आहे. आजपर्यंत आणणे केवळ हयाचे महत्त्व सांगिकात मात्र ICT या रेकॉर्डिंग व डीजीडी द्वारे तरी वाचने त्यांना आवश्यक विशेषाच्या इंडिव्हाइल वाचन शक्ती.

त्याच्यामध्ये एखाद्या राजकीय बंदीश ओकीडी अकीडी द्वारे पाठवू शकतो. त्याच्यामध्ये एखाद्या राजकीय बंदीश ओकीडी अकीडी द्वारे पाठवू शकतो. त्याच्यामध्ये एखाद्या राजकीय बंदीश ओकीडी अकीडी द्वारे पाठवू शकतो.

त्याच्यामध्ये एखाद्या राजकीय बंदीश ओकीडी अकीडी द्वारे पाठवू शकतो.

उदा. Gmail, Whatsapp, Facebook इत्यादी त्याच्यामध्ये शास्त्राशी संग्रहात असताना-या व्यांच व त्यांच वर्गीकरण आयोगी बाळांदाच दाखवू शकते. शोधक्षाळा वाळ दाखवून त्यांच वाळांदाच वाळ, मात्र वर्गीकरणाच्या कोणत्या प्रक्रिया कोणते मोडते यांच ज्ञान आयोगी बाळरे देश शकतो. त्यांच्यांचे महत्त्व देखील सांगू शकतो उदा. शाहनाईवार्दक उदितमिळत खां साहल व महत्त्वाच्या उदितमिळत खां साहल यांच्या फोटो, त्यांच्या बाळ (शाहनाई) शाहनाई ते सूतिर वाळ वर्गीकरणाच मोडते. आणि सुप्रतिककर्त्यांसारखे या वांवांची उपयोगीता असते. ता तिथी गोंदी आणणे आयोगी बाळदरे सांगू शकतो.

शास्त्रांकरून आयोगी बाळ आणि संग्रहातयाचे उपयोग करून घेता येते शकतो. करण आयोगी हे दृष्टिकोन माझी अस्त्रांकरे वर्गीकरणे.
मन आधि मनसिक या अध्ययनों या साम्यांतर असतता. मात्र आयसीटी व्यावहार अध्ययन अध्ययन होत असताना विद्यमान हा सफीर समान बसलेला अतुल शिक्षा माध्यमकास कर्मचार्यांदर्रे स्थिरत असतो. त्यामुळे कमी केवा गांठे अध्ययन होत शकते.

2. संगीत अध्ययन फळतः:

ICT ही कार्यग्राहक विषयात सामाजिकते आहे. त्यातले एक कार्यान्वयनात महणजे इंटरनेट होय. या इंटरनेट वा संगीतात अध्ययन, अध्ययन करणे—यांना निर्णितत फायदा होतो.

1. अध्ययनार्थी आयसीटी तील e-library द्वारे संगीत साहित्य वाचू शकतो.
2. अध्ययन करणे—यांला आधुनिक गीत तो विकिव Website वरन डाउनलोड करू शकतो. उदा. Raag tune, Jatta.com, songs pk.com इत्यादी.
3. अध्ययनार्थी अध्यायाचे विकिव ग्रंथ आधि पुस्तकांचा आधार घेत शकतो.
4. एकाच्या गण्यात आणि रचना रोकले व डाउनलोड करू दुःस्थ शकतो. उदा. इंटरनेट.
5. विकिव विस्ताराप्रमाणे गायकांत गायकी ऐकू शकतो. ज्यांचे या दूर संस्कृतामध्ये लाईन प्रोग्राम बघू शकतो.
6. अध्ययनार्थी आधुनिक गायकांना गायन आधि आवडाचे वादन सोशल नेटवर्किंग माध्यमाने मागू शकतो.
7. हीही हों कोंपट्टुतांदर्रे एकाच्या सांगीतिक विषयाचे वाचा केली जात शकते.
8. संगीत क्षेत्राते पडणां—या पडणार्थी माहिती आयसीटी व्यावहार्यां वाचू शकते. इत्यादी.

3. मूल्यांकन फळतः:

अध्ययन आधि अध्ययनाचे कार्यक्रमे उपरोक्त विषयांचे मूल्यांकन करणे गरजेचे आहे. हे मूल्यांकन समीक्षा, परसिपऱ्याच्या, व्यापक आधि प्रभावीताचे विषयांत आयोजित करता येतो यामुळे लांबीला दृष्टी कोसळण्याचा विकल्प होत शकतो. त्यानंतर आधार विद्याध्यक्षमुळे चर्चासंस्कृत प्रायोजित करत येतो. यामुळे व्यावसायिकमुळे निर्णयात महत्त्वपूर्ण विषयावर चर्चा करण्याचा उत्तराधिकार वाढत शकतो. व शिक्षणाची आवड निर्माण होते.

स्पष्टत आयसीटी वाहील पद्धतीत अध्ययनकमाची सांवळी तयाची करणे घेने व पातळंटर करन सादर करण्याच्या स्वरूप झाले. या सादरीकरणामुळे काही विद्याध्यक्ष महत्त्वात निर्णयसोय मदत होणून तो सादरीकरणासाठी उत्तम प्रवाह करू असले पाय शकते व व्यावसायिक महत्वाची बाजूसुन वेळा शकतात.

त्याच्यानुसार महाबिद्यालयीन दररोज राजविधया जाण—या इतर उपक्रमांमध्ये विद्याध्यक्ष सहभाग घेतेत विकिव गीतांती तयाची करणे घेतले या मात्र नेशनल लेफ्टलां विशेष विद्याध्यक्षांमध्ये प्रतियोगीतात पावू शकतो.

या संपूर्ण प्रक्रियेचे अध्ययनाथी ही तेंदूळा कार्यक्रमाचे आयसीटी अध्ययन बनू शकतो. तसेच या प्रक्रियेचे विद्याध्यक्ष आवड निर्माण विषयांचे झाण होत शकते.

5. संशोधन उद्देश:

ICT ही कार्यग्राहकीत अध्ययन आधि अध्ययन प्रभावीतिवर दादव व आवश्यक केला जाते. त्याच्यानुसार या शोध निदेशाच्या उद्देशात हा शिक्षक विद्यार्थी केंद्री अनुसू शकतो कारण शिक्षण क्षेत्रात अपने सुधीरातीले विद्यार्थी असतात यापैकी काहीही अधिक पातळीची आवश्यकता असते. आशासाठी ICT...
6. संशोधनाची आवश्यकता व उपयोगीता:

प्रस्तुत शोध निर्धारणामध्ये संकल्पनास्थाने केलेल्या माहितीतीला आधारावर असे महत्त्वाचे येईल की पारंपरिक शिक्षणाच्या जोडीला संगणकाचा वापर करण्याचित आत्माने शिक्षणाच्या गुणवत्तेत वाढ होण्यासाठी त्याच्या विद्यार्थ्यांकडून शिक्षणाची आवड निर्माण होते व विद्यार्थ्यांना टेक्नॉलॉजी सारख्या प्रभावाची हातावृत्ती सबब होत्या. त्याच्या माहितीत वाढीस लागतो. करिता अथवा अध्यापक आणि मूल्यमापन करताना ICT वेळा शिक्षण असणे आवश्यक आहे. त्याच्या रूपात शोधनीयांकांतर्गत होणारे अथवा अध्यापकांचे कार्यरत्ने शिक्षक आणि विद्यार्थी सोयांनी उपयोग होतो. त्याच्या रूपात विद्यार्थ्यांकडून आत्माने वाढीस वाढीत शिक्षणाची सुदृढ गुणवत्ता वाच भोज. हाच गुण अध्यापनाच्या संस्थेत देखील लागू होऊ शकतो. आणि अध्यापकांची आणि अध्यापकांची दोनी चतुः तेहीत व आयोजनाची कार्यरत्नेटा अपेक्षा राहू शकतात. त्याच्या रूपात अपेक्षा आपल्या नाविवेच करणारी माहिती संकल्पना करण संगणतीत विषयांसोबत अधिक जवळीक सदू शकतात.

सारांश:

ICT या तंत्रज्ञानाचा वापर करून शिक्षणाच्या दर्जे उल्लेखनीय आणि सकारात्मक सुधारणा करता येते शकतात. उदा. पारंपरिक अध्ययन पद्धती आता काही प्रमाणात मागे पद्धति अनुसूच तिथे जागा आता प्रायोज्यिक व स्वचालन यांनी व्याख्या सुधारण केली आहे. माहिती समान करण्याचा वेगऱ्या दिवसांदिवस वाढत आहे.

माहिती या दष्टांशाचा साहित्यामध्ये परिणाम पद्धती माहितीचे विविध करण्याची पद्धती याच्याबाबत घूर्ण आले आहे. त्यामुळे विद्यार्थ्यांना माहिती मिळविलेली सांगितली तिथी अथवा करण्यासाठी नवीन मार्ग उपलब्ध आला आहे. त्यामुळे विद्यार्थी तंत्रिका संकेतमाणे माहिती मिळून सकतात. निरंतरता आणि सांगितली अथवा करण्यास करू शकतात. दैनिक जीवनातील घटना अथवा पाक्षिक सकारात्मक व त्या योगाने विषयांचे अध्ययन अधिक मर्यादित करू शकतात त्यामुळे गुण मिळविलेली संदर्भात प्रौद्योगिकी मिळविलेली विद्यार्थ्यात शिक्षणाची रस वाढवण्याचा मदत होत होत आहे. करिता प्रस्तुत शोध निर्धारणांची Teaching, Learning आणि Evaluation सोबत ICT वें महत्त्व सांगणायचा प्रयत्न करू शकतात आहे.

संदर्भ:

1) WWW.Google.Com
2) Wikipidia
3) AGB Publishing Souvenir
4) संगणत कलाविहार
The Role of ICT in teaching-Learning & Evaluation

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Shri. P. Ravindra

1. Introduction

The role of Information and Communication Technologies (ICT) in education has become increasingly significant in recent years. ICT has transformed the way teaching, learning, and evaluation are conducted in educational institutions. This paper discusses the impact of ICT in enhancing the quality of education.

2. Literature Review

The literature review section discusses the various ways in which ICT has been integrated into education. It highlights the benefits of using ICT in education, such as improved access to resources, increased student engagement, and more effective assessment methods.

3. Methodology

The methodology section outlines the methods used to gather and analyze data. It may include a description of the research design, data collection methods, and data analysis techniques.

4. Results

The results section presents the findings of the study. It may include statistical analyses, case studies, or other forms of data presentation.

5. Discussion

The discussion section provides an in-depth analysis of the results. It may include a comparison of the findings with previous research, implications for future research, and recommendations for educators and policymakers.

6. Conclusion

The conclusion section summarizes the main findings of the study and highlights the significance of the research. It may also include suggestions for further research.

7. References

The references section lists all the sources used in the study. It follows the appropriate citation style for the discipline.

8. Appendices

The appendices section includes any additional information that is not included in the main text, such as tables, figures, or raw data.

9. Glossary

The glossary section provides definitions for any technical terms or jargon used in the study.

10. Acknowledgments

The acknowledgments section thanks any individuals or organizations that contributed to the research.

11. Conclusion

In conclusion, the paper has discussed the role of ICT in quality education. The use of ICT in education has become increasingly important, and it is expected to continue to play a significant role in shaping the future of education.

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The Role of ICT in teaching-Learning

Anytime-Anywere Learning Process

Drama

Effectively
Anytime, Anyware सिक्कु शकतो अभ्यास करताना एवढी समया आती तर सिक्सकरी मेट होणाऱ्या वाट न पाहता तो Google वर किंवा U-tube वर सर्व करून आपली समस्या सोडून शकतो त्यासाठी सिक्सकरी आज.सी.टी. वे व वर्गेकाळीमध्ये आय. सी.टी. वा कसा उपयोग करायचा यागिकीचे Skills याची भरपूर माहिती असावला ही. त्यासाठी सिक्सकरी ट्रॅन्सिंग देखन यासंदर्भातील सर्व शासन--माहिती दयावला ही. जोणे करून सिक्सकरी स्वतः नवीन नवीन तंत्रज्ञान वा विविधाने कौशल्य आत्मावास करून त्याचा उपयोग आपल्या वर्गेकाळीमध्ये करून अध्ययन--अध्ययन प्रक्रिया रंजक--सोपी--परिणामक करू शकतो. तंत्रज्ञानशास्त्र (आय.सी.टी.) सिक्सकरीचे विविधात्मक आधिकारिक देखील यथाज्ञाना निर्भरता ज्ञान देखावेच Multiple Sources त्याचा जवळ राहतो. तंत्रज्ञानाचा साधनाने तो निर्मितीही ज्ञान, वृत्तांक, कौशल्य आत्मावास करून स्वतःचे व्यक्तित्व आधिकारिक समूह, स्वधर्म, व निम्नाच्या विविधानाच्या व दृष्टिकोनाच्या तारांत होईल. या नवीन नवीन तंत्रज्ञान वा विविधाने कौशल्य आत्मावास करून त्याचा उपयोग आपल्या वर्गेकाळीमध्ये करून अध्ययन--अध्ययन प्रक्रिया रंजक--सोपी--परिणामक करू शकतो. तंत्रज्ञानशास्त्र (आय.सी.टी.) सिक्सकरीचे विविधात्मक आधिकारिक देखील यथाज्ञाना निर्भरता ज्ञान देखावेच Multiple Sources त्याचा जवळ राहतो. तंत्रज्ञानाचा साधनाने तो निर्मितीही ज्ञान, वृत्तांक, कौशल्य आत्मावास करून स्वतःचे व्यक्तित्व आधिकारिक समूह, स्वधर्म, व निम्नाच्या विविधानाच्या व दृष्टिकोनाच्या तारांत होईल. जे बदलाचा परिणाम त्याचा आय.अध्ययन--अध्ययन प्रक्रियेच्या ह्या उपक्रमात दिसेल ती अधिक परिणामक होऊन संविधानसत्ताची वाहनवानी होईल. आय.सी.टी. म्हणून सिक्सकरी जगातील ज्ञान मिळालेले अनेक रस्ते मिळतेंना यामध्ये तो नवीन Updaed राहूकाळी.
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