TWO-DAY NAAC SPONSORED NATIONAL SEMINAR ON 'Using ICT for Quality in Teaching-Learning & Evaluation Processes'

Impact Factor SJIF (2016) – 6.177

Mahatma Education Society's

PILLAI COLLEGE OF ARTS, COMMERCE & SCIENCE

Dr. K.M. Vasudevan Pillai's Campus, Plot No.10, Sector 16, New Panvel 410206

Website:www.pcacs.ac.in

Conference Email:pcacsiqac@mes.ac.in

Re-accredited 'A' Grade by NAAC (3rd cycle)

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INSTITUTIONAL ACHIEVEMENTS

NAAC "A" GRADE (Third Cycle), 2016 **Best College Award 2014-15**

Best College Magazine Award 2015-16 **Best N. S. S. Unit Award 2016-17**

BEST INFRASTRUCTURE AWARD 2015-16

Message from HRD

डॉ. सत्य पाल सिंह
Dr. Satya Pal Singh

सत्यमेव जयते

मानव संसाधन विकास; और
जल संसाधन, नदी
विकास एवं गंगा सरक्षण राज्य मंत्री
भारत सरकार
MINISTER OF STATE FOR
HUMAN RESOURCE DEVELOPMENT;
AND WATER RESOURCES,
RIVER DEVELOPMENT AND
GANGA REJUVENATION
GOVERNMENT OF INDIA

Message

I appreciate the initiative taken by Pillai College of Arts, Commerce and Science, Panvel in organizing a **NAAC Sponsored National Seminar** on the theme 'Using ICT for Quality in Teaching-Learning & Evaluation Processes' scheduled **from 15-16th December, 2017.**

I am glad to know that the seminar will be held under the intellectual leadership of distinguished Academic and Industry Experts and eminent speakers from the field of ICT.

Seminar is the need of the hour as ICT has enormous potential to substantially improve Pedagogy, Assessment and Evaluation of the education which is being imparted to our students. The assimilation of ICT has been slower than expected in our Indian Education System. I am sure the Seminar will trigger momentum which will ensure ICT penetration at all levels of education system. I wish the College all the very best for their future educational pursuits and acknowledge their contribution to the teaching fraternity.

1/12/2017

Date: 01.12.2017

(Dr. Satya Pal Singh)

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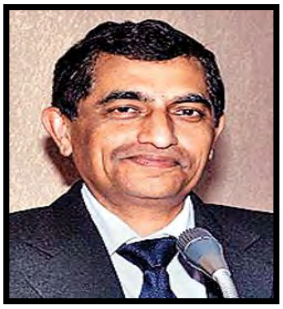

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   Mumbai

OUR INSTITUTION…

Dr. K.M. Vasudevan Pillai is the visionary founder ofMahatma Education Society's Pillai Group of Institutions. Mahatma Education Society's Pillai College of Arts, Commerce and Science was established in the year 1998 with 80 students to cater to the needs of Panvel, Raigad District, an area with hardly any development at that time. The objective was to provide quality education to students across all socio-economic categories.

Our institution has risen from a simple beginning in 1998 to be the most popular institution catering successfully to the needs of rural, urban and global students with eight under-graduates and four post graduate programmes with over 3500 students.

We are permanently affiliated to the University of Mumbai and recognized by UGC under 2 (f) and 12 (B). In a record time of 6 years of its inception the National Assessment and Accreditation Council (NAAC) accredited us with the prestigious **'A' Grade in our First cycle** of accreditation. In the second cycle of NAAC reaccreditation we were again bestowed with an 'A' grade. In the third cycle of NAAC reaccreditation we were awarded an 'A' again. We are trying sincerely to achieve excellence in all our endeavours by improvising our innate qualities, adopting innovative ideas and acquiring new skills. Our Internal Quality Assurance Cell is working continuously on further diversifying activities to enhance and enrich our academic and non-academic practices.Taking to account our academic, infrastructure, non-academic endeavours(Social, Sports, Cultural and others) University of Mumbai conferred us with the prestigious **'Best College Award'.**

We started with just one division of the Bachelor of Commerce degree and today we have 53 divisions in the faculties of Arts, Commerce and Science. We have Bachelor of Commerce. (Regular), Bachelor of Commerce in Accounts and Finance, Bachelor of Commerce in Financial Markets, Bachelor of Management Studies, Bachelor of Science in Information Technology, Bachelor of Science in Computer Science, Bachelor of Science in Biotechnology, Bachelor of Mass Media, Masters of Science in Information Technology, Masters of Science in Biotechnology, Masters of Commerce in Accountancy, Masters of Commerce in Accountancy and Masters of Science in Biotechnology by Research. We now cater to a strength of 3600 students. We have 65 full time qualified lecturers, state-of-the-art infrastructure and high tech libraries and laboratories which are of global standards.

The institution has state-of-the-art audio-visual classrooms with LCD projectors, smart boards, mikes and air-conditioners, wi-fi, internet/LAN connectivity, auditorium with blue ray technology and digital theatre, assembly hall, computer laboratories, state of the art library, hygienic cafeteria, conference room, language laboratory, students' common room, boys /girls room, auditorium, biotechnology laboratories, gymkhana, synthetic turf, spacious ground, rifle shooting range, health club, separate rooms for all departments, research centre, separate room for grievance cell, N.S.S., womens' cell,

IQAC, students' council, counseling centre and sufficient open space within the campus for conducting events. The infrastructure and I.C.T. facilities are regularly upgraded and maintained efficiently through a pool of permanently appointed hardware, electrical and maintenance staff.

Our academic results have surpassed university results for all years. We have been awarded the Prof.Chandgadkar Trophy for the 'Best College Magazine' for four years. We have maintained the position of being among the top five colleges in sports in the University of Mumbai. We have national / international players in almost all the sports events who have bagged Gold and Silver medals and have carved a niche for themselves in international sports. Many of our students have international/national ranking in sports. In the field of cultural activities, we have been bagging gold/silver medals in theatre, performing arts and all other categories. We have been the recipients of the Best College Award in cultural activities by several colleges.

The institution is also aware of its social responsibility and promotes, in a big way, extension activities through its various cells and societies. N.S.S. & Social Awareness Cell organizes a number of activities like to make a difference to the society that we all live in. By taking into consideration our initiatives to make the society a better place to live in, the University of Mumbai bestowed on us the coveted **'Best N.S.S. Unit Award'**and the **'Best N.S.S. Programme Officer Award'** for the academic year 2016-17.We have been felicitated by the University of Mumbai for contributing maximum blood bottles in Raigad District for five years in succession. We have been felicitated by Alert India for our Leprosy Awareness.Progranme. Our N.S.S. Programme Officer has received the Best Teacher Award in the area of Social Work by Lions Club and Rotary Club. Community Service Day is hosted by Mahatma Education Society under which our institution hosts NGOs. A fund-raiser talent show 'Uber Rang', is also organized by our parent body Mahatma Education Society's for all units under its umbrella.

The Entrepreneur Development Cell of the institution and the Entrepreneur Club of our parent institution promotes entrepreneur culture among students. We are working on collaborating with corporate big wigs and organizing workshops/seminars to equip students with the skills to improve their employability quotient. Our Placement Cell has been very active and a number of students were selected by corporate big-wigs like Nokia, Wipro, Infosys, SBI and the like. Several certificate courses have been introduced by many departments to add value to the curriculum. To name a few we run Courses by National Skill Development Corporation, Competitive Exam Courses and the like. We are also working towards more industrial collaborations. Our Biotechnology Department has linked up with Srujan Biotech. Ltd. to provide plant tissue culture training to students. To strengthen national /international linkages our management has tied up with Google India Ltd. , MOU with New York University- Urbanisation Project of the United Nations. We have an International Exchange Programme with St.

Mary's University, California, U.S.A. for imparting cross cultural business studies training to students.

Green measures such as rain water harvesting, composting, waste management, use of solar panels, eco-friendly generators and the like have been adopted by the institution towards environment protection and sustenance. We have adopted green standards and green audit of our institution.

Our college in-house associations strive to develop skills and attributes that will sharpen personality of our students by organizing various activities such as group discussion, article writing, talks, essay/debate/quiz/poster-making competition, power-point presentations and the like.

Our members of the staff are highly dedicated have passion and commitment towards achieving the institution mission and goals. They are honored with incentives in order to encourage them to continually excel.

We have a dedicated Research Development Committee to encourage research amongst students and staff. As far as facilities are concerned, all possible support and encouragement is extended to those who aspire to take up research projects. Our faculty have been acquiring Ph.D./Ph.D. Guideship and are actively involved in several minor/major research projects. Our faculty has been performing experiments internationally and have also recognized for their research work at national and international levels. Our faculty have authored several books of repute, are members of the syllabus revision committee, have been appointed as paper setters, moderators, resource persons, interview panelists, chairpersons, consultants and have been heading important committees at various levels.

The institution has been recipient of the following awards and recognition because of its versatility at various levels:

Awards & Recognition

- **Accredited with A grade by NAAC (Cycle I 03/05/2004)**
- **Reaccredited A grade by NAAC (Cycle II 08/01/2011)**
- **Reaccredited A grade by NAAC (Cycle III 16-9-2016)**
- **Best College Award by University of Mumbai(2014-15)**
- **Best NSS Unit & NSS Programme Officer Award by University of Mumbai (2016-17)**
- **Best College Magazine (Prof.Chandgadkar Trophy)**
- Mahatma Education Society's Pillai Group of Institutions was felicitated as the **Winner of the Best Infrastructure and Facilities award by Lokmat Group** on 24th July 2015.
- Dr. K. M. Vasudevan Pillai was presented an **Excellence Award** by the Union Minister for Chemicals and Fertilisers Mr. Ananth Kumar in New Delhi on 4th December, 2015. The award was presented for "Successful Entrepreneur in Public-Private Partnership".
- Dr. Daphne Pillai was **felicitated for her Research Work in Women Studies** on 14th January, 2016 by Department of Commerce, University of Mumbai on the occasion of the 13th International Conference of Commerce and Management held at the Kalina Campus.
- Dr. Daphne Pillai, was awarded the **Savvy Honours Celebrating Success Award** for her contribution to education and especially for her efforts to empower the underprivileged women on 24th July, 2016
- Dr. K.M. Vasudevan Pillai, C.E.O., M.E.S., was felicitated with the **'Society Icons' Award** for his contribution to the field of Education on 2nd October,2016.
- Mahatma Education Society's Pillai Group of Institutions awarded **the Premium Educational Brand of India** by Economic times on February 16, 2017.
- Dr. Daphne Pillai has been elected as the **President Elect of the International Women's Federation of Commerce and Industry,** Maharashtra Chapter.

IQAC

About

Internal Quality Assurance Cell initiates activities to ensure continuous improvement that leads the institution to academic excellence. IQAC meetings are conducted periodically to check the quality parameters of the college and the effective functioning of the cell in order to fulfil its objectives and functions. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of the institution.

IQAC is the **nodal agency** for quality initiatives in the college. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of the institution. The main objective of IQAC is to channelize all efforts and measures of the institution towards promoting its holistic academic excellence.

Vision

IQAC aims at being instrumental in attaining realistic quality benchmarks and sustaining them for overall development of the institution.

Mission

- Development and application of quality benchmarks/parameters
- Facilitating the creation of a learner-centric environment conducive to quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process
- Promotion of research culture among staff and students
- Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes
- Dissemination of information on various quality parameters of higher education
- Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles
- Documentation of the various programmes/activities leading to quality improvement.
- Acting as a nodal agency of the Institution for coordinating quality-related activities, including adoption and dissemination of best practices.
- Development and maintenance of institutional database through MIS for the purpose of maintaining /enhancing the institutional quality.
- Development of Quality Culture in the institution.

THE SEMINAR

Dramatic advances in educational technology have inspired powerful new ways of learning. There is an urgent need to reconsider and re-invent learning environments to be able to prepare the new generation with the required skills and capacities. Technology integration has long been a key area of concern in education.

The Seminar hopes to stimulate the academic environment by providing a platform for discussion on ICT initiatives by accredited institutions and thereby integrating ICT in teaching- learning & evaluation processes across educational systems. It will ensure heightened level of clarity and focus in functioning of IQAC towards integrating ICT in education. ICT penetration at all levels in institutions will be triggered.

Features of the Seminar

Contemporary theme

Distinguished Academic and Industry Experts

Eminent speakers from the field of ICT

Participation of academicians, researchers, industry experts and students

Interactive sessions

Group Discussions

ICT supported presentations

Exchange of research ideas

Creates opinion for formal recommendations to integrate ICT in education

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AN ANALYTICAL STUDY OF PROBLEMS FACED BY THE STUDENTS OF HIGHER EDUCATION IN MUMBAI WHILE USING ICT

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Abstract

The present study focused on the identifying the problems faced by the students of higher education in Mumbai while using ICT in the colleges. The researcher has used both the method Primary Method and Secondary Method. In the primary method, survey method has been used by the researcher. The population of the study comprised the under-graduate and graduate students of colleges affiliated to the universities of Mumbai, in Mumbai.About 50 students were selected from the different colleges from central Mumbai. Descriptive statistics and non-parametric test were used to analyze the data the collected dada through structured questionnaire. The ICTs have the potential to accelerate, enrich and deepen basic skills in teaching and learning process. It also helps in motivating and encouraging students in the self-learning. Integrating ICT into education seems to be an important for the educators and education administrators in the India. However, if teachers / colleges / universities cannot make good use of the ICT tools, the money and time spent on the ICT is going to be waste.

KEYWORDS: *Higher Education, ICT, Information and Communication Technologies, IT, Information Technology, Problems*

I. INTRODUCTION:

ICTs stand for Information and Communication Technologies. ICT means technologies that provide access to information through telecommunications.ICT covers Information Technology (IT) and extra forms of communication such as Internet, telephone, mobiles (cell phone), wireless networks, middleware (hardware and software), audio visual systems.

ICT in Education means Teaching and Learning with ICT. There are various advantages of ICT both students and teachers.

II. SIGNIFICANCE OF THE STUDY:

This study provides basic understanding aboutproblems faced by the students of higher education while using ICT.

III. OBJECTIVE OF THE RESEARCH PAPER:

The objective of the present study is as follows:

1. To study the problems faced by students of Higher Education in Mumbai while using ICT

IV. HYPOTHESIS OF THE RESEARCH PAPER:

The Hypothesis of the present study is as follows:

HYPOTHESIS 1:

H0: There are not significant problems faced by the students of Higher Education in Mumbai while using ICTs.

H1: There are significant problems faced by the students of Higher Education while using ICTs.

V. RESEARCH METHODOLOGY:

The study is conducted to obtain data on the problemsfaced by the students while using ICT in Higher Education in Mumbai**.** In the present study, the research has used both methods primary methods and secondary method of data collection. The study is conducted in Central Mumbai region.

i. PRIMARY METHOD OF DATA COLLECTION:

In primary method, researcher has collected data from 100respondents. A sample size of 100 was selected using the convenience sampling method. The samples are included both Undergraduate and Post Graduate Students studying in the colleges.

Survey method is used for collection of data from the sample. The structured questionnaire was designed for the same to collect data (responses) from the sample. However, the discussion, observation and personal interviews have been conducted to collect responses from the sample of the study.

ii. SECONDARY METHOD OF DATA COLLECTION:

The secondary data are those which have already been collected and passed through statistical process. The secondary data for the study were based on Annual reports, Newspapers, Journals, Published and Unpublished Books, Dissertation, mimeographed, official reports, research papers and other sources. The articles in magazines, Internet, Videohas also been considered for the purpose of secondary data collection.

VI. LIMITATIONS OF THE STUDY:

The study was confided only in Central Mumbai region and limited to only 50 respondents. The respondents were only students of colleges located in the central Mumbai.

VII. DATA ANALYSIS AND INTERPRETATION:

Data were collected from 50 respondents from Central Mumbai region. Data collected by respondents were coded and tabulated. This data further used for drawing findings and conclusions based on the objectives and hypotheses of the study. Analysis particularly in case of surveys involves estimating the values of unknown parameters of the population and testing of hypothesis for drawing inferences. Analysis therefore categorized as descriptive analysis and inferential analysis which is often known as statistical analysis. The data collected from the respondents were analyzed using simple percentage method, Mean, Median, Mode and One Sample T-Test.

SAMPLE PROFILE:

In the present study samples are selected using simple random sampling. In the Table no. 2.1, researcher has presented details the respondents according to their gender wise distribution.

Table No. 1.1: Gender wise distribution of respondents

Gender	Frequency	Percent
Male	21	42.0
Female	29	58.0
Total	50	100.0

Sources: Compiled from Primary Data

Table No. 1.1 reveals the number of respondents with respect to gender. For the present study, 21 Males and 29 Females were deliberately and randomly selected for the response to questionnaire.

In the table no. 1.2, the researcher has presented details of the respondents according to their age.

Table No. 1.2: Age (Years)

Age	Frequency	Percent
17-19	20	40.0
20-22	20	40.0
22-24	9	18.0
25 and above	1	2.0
Total	**50**	**100.0**

Sources: Compiled from Primary Data

Table No. 1.2 reveals about age wise distribution of respondents. Out of 50 respondents 20 respondents were between 17 - 19 years, 20 respondents were between 20 - 22 years, 9 respondents were between 22 -24 years and and 1 respondent were between 25 years and above.

In the Table No. 1.3, researcher has presented details of 50 respondents about their marital status.

Table No. 1.3: Marital Status

Marital Status	Frequency	Percent
Married	10	20.0
Unmarried	40	80.0
Total	**50**	**100.0**

Sources: Compiled from Primary Data

Table No. 1.3 reveals marital status of the respondents. Out 50 respondents, 10 respondents were married whereas 40 respondents were unmarried.

In the Table No. 1.4, researcher has presented details of the respondents about their education level.

Table No. 1.4: Qualification

Qualification	Frequency	Percent
Under Graduate	37	74.0
Graduate	13	26.0
Post Graduate	10	20.0
TOTAL	**50**	**100**

Sources: Compiled from Primary Data

Table No. 1.4 reveals educational level of respondents. 37 respondents were Under Graduate, 13 respondents were Graduate, and 10 respondents were Post Graduate.

In the Table No. 1.5, researcher has presented details of the respondents according to their occupation.

Table No. 1.5:Occupation wise distribution of respondents

Occupation	Frequency	Percent
Student	50	100
Total	**50**	**100**

Sources: Compiled from Primary Data

Table No. 1.5 reveals occupation wise distribution of the respondents. All the 50 respondents were students.

In the next table researcher has presented details of the respondents according to their monthly income in (₹).

Table No. 1.6: Monthly Income (₹)

Income in ₹	Frequency	Percent
None	30	60.00
Up to 15,000	14	28.00
15,001 and above	06	12.0
Total	**50**	**100.0**

Sources: Compiled from Primary Data

Above table no. 1.6 reveals monthly income of respondents per month (in ₹). 30 respondents were not earning, 14 respondents were earning between up-to Rs. 15,000, 6 respondents were earning between Rs. 15,001and above.

ANALYSIS OF DATA OF THE PRESENT STUDY:

To study the problems faced by students while using ICT in the colleges, the respondents were asked to express their views on the five point benefits scale. The codes for which are given below.

SA = Strongly Agree = 5

Agree = 4

Neutral = 3

Disagree = 2

SD = Strongly Disagree - 1

The details of responses are given in the following table.

Table No. 1.7 :Problems faced by students while using ICT in the colleges (in Frequency)

S/N	Problems faced by Students	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
		F	P	F	P	F	P	F	P	F	P
1.	Limited accessibility of computer systems (Time Limitation)	17	34	20	40	7	14	2	4	4	8
2.	Poor working condition of computers (Slow speed of Computer)	26	52	9	18	8	16	4	8	3	6
3.	No availability / Limited access of Scanner and printers for print out & Scanning to students	20	20	11	22	7	14	9	18	3	6
4.	Lack of access of Internet	17	34	17	34	4	8	9	18	3	6
5.	Slow speed of Internet	20	40	19	38	6	12	1	2	4	8
6.	Non availability of the require software	19	38	14	28	6	12	7	14	4	8
7.	Lack of Training to Students	14	28	22	44	5	10	6	12	3	6
8.	Lack of learning equipment tools and resources	19	38	23	46	3	6	2	4	3	6
9.	Non-availability of Computer power point for student use	19	38	21	42	2	4	7	14	1	2
10.	Non-availability of stored lecture notes on CDROM for supplementary learning to student	22	44	11	22	4	8	5	10	8	16
11.	Teacher‘s reluctance to new technology	23	46	15	30	3	6	7	15	2	4

Sources: Compiled from Primary Data

Above table no. 1.7 shows responses of the respondents in frequency and percentage. From the above table, it can be concluded that there are various difficulties by faced by the students such as limited accessibility of computer systems (Time Limitation), Poor working condition of computers, No availability / Limited access of Scanner and printers for print out & Scanning to students, Lack of access of Internet, Slow speed of Internet, Non availability of the require software, Lack of Training to Students, Lack of learning equipment tools and resources, Non-

availability of Computer power point for student use, Non-availability of stored lecture notes on CDROM for supplementary learning to student, Teacher‘s reluctance to new technology.

Table No. 1.8: Descriptive parameters related to Problems faced by Students

	Problems faced by Students	Mean	Median	Mode
1.	Limited accessibility of computer systems (Time Limitation)	3.88	4.00	4
2.	Poor working condition of computers	4.00	5.00	5
3.	No availability / Limited access of Scanner and printers for print out & Scanning to students	3.52	4.00	4
4.	Lack of access of Internet	3.68	4.00	5
5.	Slow speed of Internet	4.00	4.00	5
6.	Non availability of the require software	3.72	4.00	5
7.	Lack of Training to Students	3.94	4.00	5
8.	Lack of learning equipment tools and resources	4.14	5.00	5
9.	Non-availability of Computer power point for student use	4.10	4.00	5
10.	Non-availability of stored lecture notes on CDROM for supplementary learning to student	3.68	4.00	5
11.	Teacher‘s reluctance to new technology	4.02	4.00	5

Sources: Complied from Primary Data

Interpretation:

Table no. 1.8 shows that descriptive parameters related to problems faced by students of higher education in Mumbai. It is found Mean, Median and mode of the problem faced by students of higher education in Mumbai while using ICT is close 3.50, 4 and 5 respectively.

HYPOTHESIS TESTING OF THE STUDY

HYPOTHESIS 1:

H0: There are not significant problems faced by the students of Higher Education in Mumbai while using ICTs.

H1: There are significant problems faced by the students of Higher Education while using ICTs.

For testing above hypotheses, researcher has used **One-Sample Test**

Table No. 1.9: One-Sample Test

One-Sample Test						
Test Value = 3						
Problems faced by students while using ICT	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	5.794	10	.000	1.99	1.2233	2.7521

Sources: Complied from Primary Data

Observation:

From above table no. 1.10 it is observed that t (10) =5.794 , P=0.000.

Interpretation:

P-value is 0.000 which is less than 0.05. Therefore, we reject null hypothesis and accept alternative hypothesis.

VIII. FINDINGS OF THE STUDY: Null hypothesis has been rejected and alternative hypothesis has been accepted i.e. there are significantproblems faced by students while using ICT.

IX. CONCLUSIONS:

It can be concluded from the above that there various difficulties faced by the students of higher education in Mumbai while using ICT. There is limited accessibility of computer systems (Time Limitation), Poor working condition of computers, No availability / Limited access of Scanner and printers for print out & Scanning to students, Lack of access of Internet, Slow speed of Internet, Non availability of the require software, Lack of Training to Students, Lack of learning equipment tools and resources, Non-availability of Computer power point for student use, Non-availability of stored lecture notes on CDROM for supplementary learning to student, Teacher‘s reluctance to new technology. These difficulties are faced by the students.

X. SUGGESTIONS AND RECOMMENDATION:

Based on the findings from the study, it is therefore recommend that:

1. The management of the respective institutions should ensure that better ICT facilities are available for student and teacher use.
2. College should conduct ICT training courses for students, to give information about ICT facilities available in the college. It will help them to use ICT at their convenience and time and will reduce pressure on technical expert.
3. Parents should purchase a computer system for the students.

XI. REFERENCES:

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STUDENTS PERSPECTIVE TOWARDS ICT IN TEACHING AND LEARNING

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Abstract

ICT infrastructure investments in educational institutions should be one of the key priorities of education policy . Despite the attention, research on the effectiveness and efficiency of ICT is inconclusive. In many countries, information and communication technology (ICT) has a shown a positive impact on the development of educational curriculum. This is the era of Information Communication Technology, so ICT should play a crucial role in Educational planning. Student can perform well through the usage of ICT. ICT helps the students to augment their knowledge skills as well as to enhance their learning skills. To know with reference to the usage and Impact of ICT in Education sector of Raigad district, we accumulated data from 100 respondents from 3 colleges . We use convenient sampling to accumulate the data from Raigad district.The consequences show that Availability and Usage of ICT improves the knowledge and learning skills of students. This indicates that existence of ICT is improving the educational efficiency as well as obliging for making policies regarding education sector.

Key words: *ICT, Educational Planning, Knowledge skills, learning skills.*

I. INTRODUCTION

Education technology means the use of all kind of modern media and materials for maximizing the learning experiences. Education technology is suggested by expert as one of the potential means of impairing education effectively and efficiently. Previously, teachers used to teach in rigid, formal and stereo-typed ways. Education was then conceived as the process of transmitting knowledge and ideas. Traditional mode of teaching was more of passive way of imparting knowledge. In today‘s era of digitalization ICT which is more of an active mode of imparting education should be adopted. Today, the student is not considered as an empty vessel to be filled in by facts and figures. They are now expected to use so many media and materials and to get learning experience from all sides. Education is regarded as a process of interaction and interpersonal communication. The modern teacher has to help, to guide and facilitate the learner‘s development. The teacher has to inspire and motivate the young leaners and assist the adult learners in their quest for knowledge and skills.

II. Review of literature

1. Baishakhi Bhattacharjee(2016), In her paper ―Role of ICT in 21st Century‘s Teacher Education‖ discussed about the role of ICT in 21st Century‘s teacher education and concluded that ICT is one of the major factors for producing the rapid changes in our society and It can change the nature of education and roles of students and teacher in teaching learning process.

2. Shraddha(2016),In her paper ―Issues And Challenges in Bringing ICT Enabled Education To Rural India" studies the challenges and suggests suitable strategies for enabling smooth implementation of ICTs in rural education sphere for ensuring maximum impact and fuller utilization of resources and concluded there is a need to focus on improving four aspects of ICT - access, usage, economic impact and social impact.
3. Sharmila Devi(2012)In her paper, ―ICT for Quality of Education in India", 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.
4. Mahmood(2016) ,In his paper," Use of ICT in Higher Education", concluded that there needs to be shared vision among the various stakeholders and a collaborative approach should be adopted. Care should be taken to influence the attitudes and beliefs of all the stakeholders. Also proper controls should be ensured so that accountability, quality assurance, accreditation and consumer protection are taken care of. ICT enabled education will ultimately lead to the democratization of education.

III. Objectives

- To study Access and use of ICT at home or outside college
- To study Access and use of ICT in college
- To study students response towards traditional way of teaching
- To study students perception towards introducing ICT in teaching and learning process

IV. HYPOTHESIS

H0:There is positive correlation between perception about ICT and use of ICT.

H1: There is no correlation between perception about ICT and use of ICT.

V. RESEARCH METHODOLOGY

The present study is based on primary and secondary data. Primary data is collected from undergraduate students from Pillai College of Arts, Commerce ,Science, New Panvel, Satyagraha College, Kharghar & CKT College, Panvel. Data is collected from 100 respondents for the month of November 2017.Structured questionnaire was handed over to students. Secondary data is collected from books, journals, periodicals and research papers. Data has been analysed using STATA SOFTWARE. Univariate and Multivariate analysis has been carried out for the present study.

VI. LIMITATIONS

- Data has been collected from selected colleges in NaviMumbai.

VII. ANALYSIS and INTERPRETATION OF DATA

1.Access to ICT(Computer, Laptop, Mobile etc) at home or outside college.

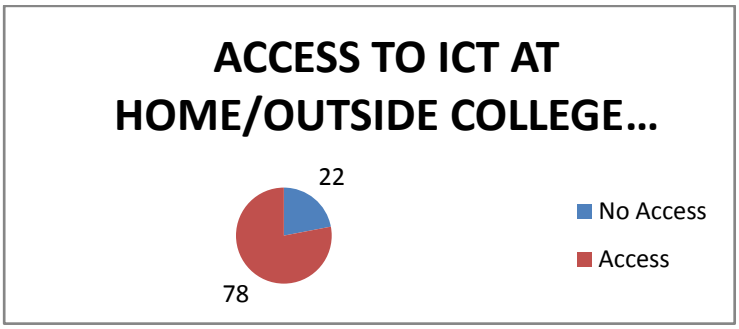

Fig 1.1

In the above pie chart it is observed that out of a sample size of 100 respondents , 22 % of the respondents do not have access to ICT at home or outside college and 78% have access to ICT at home or outside college.

2.USE OF ICT AT HOME

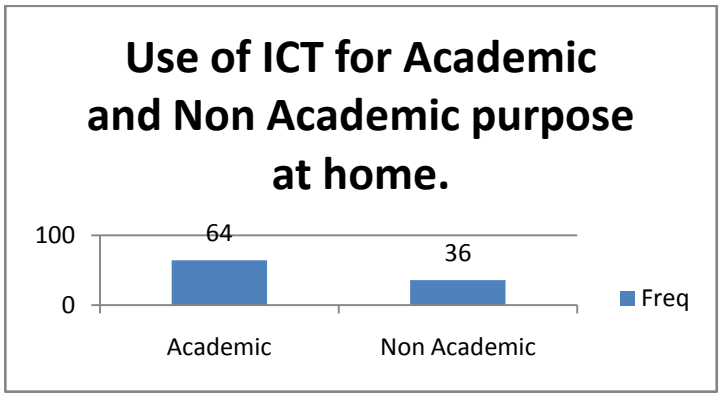

Fig 1.2

In the above chart It is clearly evident that 64% of the respondents use ICT for academic purpose and 36% use for nonacademic purpose at home.

3.Virtual learning platform at college.

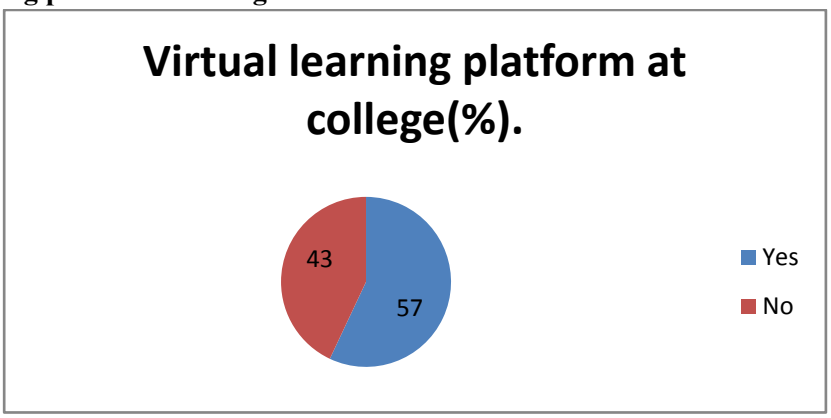

Fig 1.3

In the above chart It is clearly evident that 57% of the respondents agree that their college has virtual learning platform and 43% disagrees for the same.

4.Access to ICT in COLLEGE

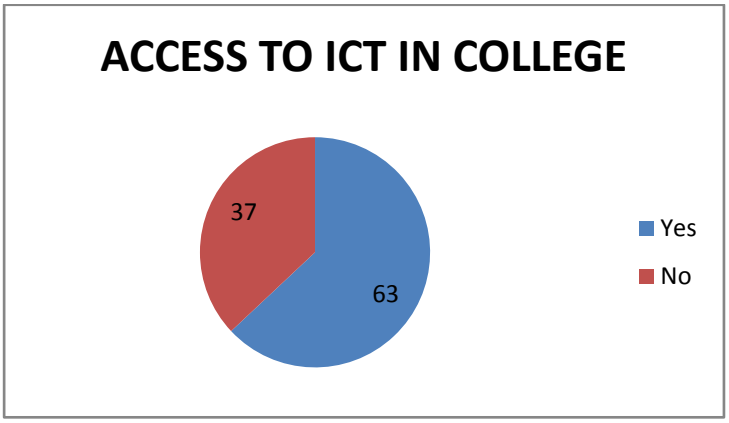

Fig 1.4

In the above chart It is clearly evident that 63% of the respondents agree that they have Acess to ICT in COLLEGE and 37% disagrees for the same.

5. USE OF ICT IN COLLEGE PREMISES

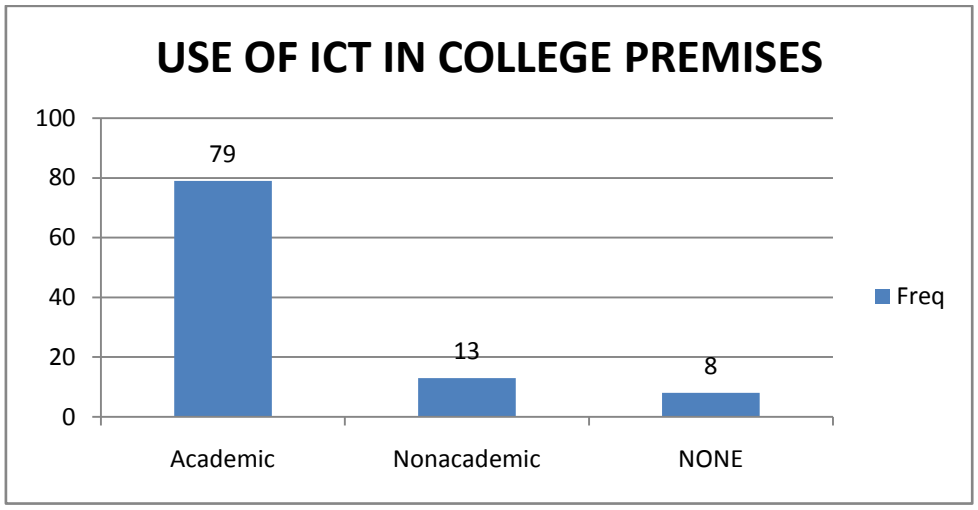

Fig 1.5

In the above chart It is clearly evident that 79% of the respondents use ICT IN COLLEGE FOR ACADEMIC PURPOSE and 13 % use for nonacademic purpose and 8% do not use for any of the above.

6.REACTION OF STUDENTS TOWARDS TRADITIONAL WAY OF TEACHING

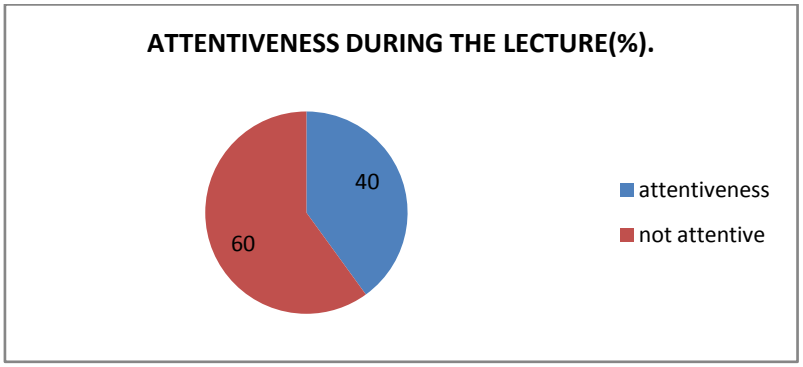

Fig 1.6

In the above chart It is clearly evident that 60% of the respondents are not attentive during the traditional lecture period and 40% are attentive for the lecture

7.Perception of the students and use of ICT

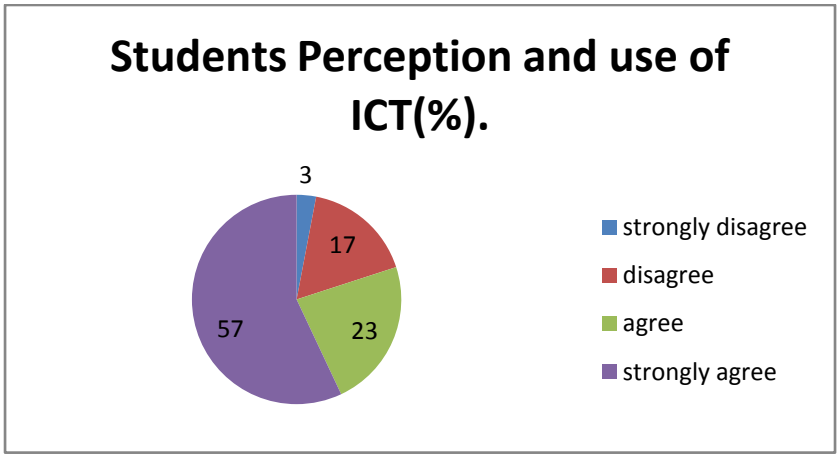

Fig 1.7

This is clearly indicate that 57% respondent strongly agree about the positive correlation between perception and use of ICT and 23% are agree,17%disagree,3%strongly disagree for the same

10. Testing of Hypothesis

Table No. 1.1

Hypothesis :						
ICT use and Perception						
	Access					
Perception	**No**	**Yes**	**Total**			
Disagree	11	51	62			
Agree	11	27	38			
Total	22	78	100			
Pearson	**chi2(1) =**	**1.7239**	**Pr = 0.189**			
Since p-value greater than level of significance i.e. 95%, therefore reject the null hypothesis						
Therefore there is no correlation between perception of ICT use and use of ICT						

VIII. CONCLUSION-

1. Majority of the respondents have acess to ICT at home and outside college which indicates digitalization era and students are equipped with technology.
2. Majority of the respondents have acess to ICT in College which shows technology implementation in college.
3. Majority of the respondents are not attentive towards traditional way of teaching demanding introduction of ICT in teaching.
4. There is positive correlation between perception and use of ICT.

IX. SUGGESTIONS AND RECOMMENDATION:

1. There is a need to introduce ICT in teaching and learning process and necessary measures should be taken to do the same.
2. Colleges are equipped with ICT tools, there is a need to provide training to teachers regarding use of ICT.

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*The International Journal of Indian Psychology ISSN 2348-5396 (e) | ISSN: 2349-3429 (p) Volume 3, Issue 4, No. 68, DIP: 18.01.208/20160304 ISBN: 978-1-365-39398-3 http://www.ijip.in | July-September, 2016 © 2016, M Alam; licensee IJIP. This is an Open Access Research distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any Medium, provided the original work is properly cited. Use of ICT in Higher Education Dr. Md. Mahmood Alam1 **

Kumbhar, R. (2015). How to Write Project Reports, Ph.D. Thesis and Research Articles. Pune: B.P.Juvale, Universal Prakashan, Pune, ISBN: 978-81-87552-64-2.

VIRTUAL STRUCTURES AND COLLABORATIVE PROCESSES TO ENHANCE TEACHING AND LEARNING

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Abstract

This study outlines the development of a pre-internet education initiative in rural Maharashtra (Jalgaon) that linked eight rural schools, each with declining enrollments, to collaborate through audio technology in sharing specialist high school teachers. The collaborative structure that was formed enabled senior high school students on a large number(RUMBLE, 2001) in the intranet to access courses not available on-site, thereby expanding their range of curriculum options. Replication of the Maharashtra (Jalgaon) model in rural Maharashtr (Ratnagiri), enhanced by the Internet, enabled senior students in an intranet to access four Advanced Placement (AP) science subjects ,each taught from a participating site. Within the Jalgaon and Ratnagiri intranets collaborative teaching and learning has developed. The creation of virtual educational structures that support and enhance traditional classes has expanded the capacity of participating rural schools and reduced the significance of their physical locations. The Jalgaon and Ratnagiri initiatives highlight the possibilities of inter-school collaboration to sustain education in small rural communities. This paper presents the implementation of E-learning technology with collaboration.The e-learning was being considered useful only for distance learning programs. But no one can deny the fact that e-learning is the most innovative application of the Internet and it has done wonders globally and currently is achieving education classroom as well. In February 2009, India launched a National Mission on Education through Information and Communicaton Technology (ICT), which is a billion dollar enterprise.

Keywords: *E-Learning, Web-Based learning, Indian Initiatives, Distance Learning Programs, remote online learning .*

1.INTRODUCTION

More than 2.5 billion people – over 40% of the planet's population – live in rural and remote areas of developing countries. Of the small fraction that has any access to telecommunications, radio broadcasts and voice telephony have traditionally been the main services provided. Today, a wide variety of new telecommunication applications such as e-mail, e-commerce, tele-education, tele health, and telemedicine, among others, has made access to interactive multimedia services as important for rural and remote communities as voice connectivity alone. Since each rural district or community requires a different mix of voice, text, image, video and audio communications to best meet its needs, today's telecommunication network operators must be able to support a wide range of services, applications and bandwidth levels at a reasonable cost. Still there are many parts of the country, which are in darkness about e-learning (MALIK, 2009). This paper sought to promote universal access to basic telecommunication, broadcasting and Internet as tools for development in rural and remote areas. Our Group has spent a year researching technological developments that have the potential to support telecommunication applications which are commercially viable, or sustainable through other transparent financing mechanisms, in rural and remote areas of developing countries. The major hindrance to the acceptance of e-learning can be attributed to the Indian mindset that is more inclined to traditional classroom teaching (HANSEN, 2008). The visibility of e-learning is

currently limited to IT and educational CDs, but With PC penetration and overall online accessibility increasing in the country, the future of e-learning looks promising, provided the organization of content and delivery is well-structured.

Rural and remote (or just ―rural") areas exhibit one or more of the following characteristics Scarcity or absence of public facilities such as reliable electricity supply, water, access roads and regular transport; Scarcity of technical personnel;

Difficult topographical conditions, e.g. lakes, rivers, hills, mountains or deserts, which render the Construction of wire telecommunication networks very costly; Severe climatic conditions that make critical demands on the equipment; Low level of economic activity mainly based on agriculture, fishing, handicrafts, etc.; Low per capita income; Underdeveloped social infrastructures low population density; Very high calling rates per telephone line, reflecting the scarcity of telephone service and the fact that large numbers of people rely on a single telephone line. These characteristics make it difficult to provide public telecommunication services of acceptable quality by traditional means at affordable prices, while also achieving commercial viability for the service provider(HAMBRECHT et al., 2000).

1.1 THE ROLE OF TELECOMMUNICATIONS IN

RURAL AREAS Of more than 3.5 billion inhabitants in the world‘s low income countries, approximately 72% live in rural areas. Rural areas can generally be characterized by low population density and long distances between settlement areas. Due to unfavorable geographic and climatic conditions, access from urban centers to rural areas, and vice versa, is often difficult. Further disadvantages of rural areas are:

– Low educational level, high illiteracy rate.
– Hardly any job opportunities.
– Low income per capita and per family.
– Increasing migration of the young to urban centres.
– Unreliable and badly functioning (public) transport.
– Irregular, if any, power supply.
– Poor health care and medical services.
– Lack of other government services.
– Little participation in national affairs.

The basic objectives to which telecommunications services have to contribute are to trigger and sustain structural and economic development, to minimize the above mentioned disadvantages and to generally improve the quality of life in rural and remote areas. New industries and other commercial operations are attracted only to places where telecommunications are at hand. Unnerved rural areas will, therefore, develop only slowly, if at all, thus contributing to the acceleration of unwanted rural to urban migration. One of several preconditions to reverse this trend is the availability of telecommunication services and applications. According to f Laurillard‘s (2006) research ―elearning as the use of any of the new technologies or International Journal of e-Education, e-Business, e-Management and e-Learning 40 Volume 6, Number 1, March 2016 applications in the service of learning or learner support", and it has been considered as operational definition of e-learning.

2. FINDINGS

PROBLEMS with installation and maintenance of wire plant have prompted the widespread use of wireless systems in rural areas. Nine types of wireless access systems were identified through the case studies and activities, illustrating existing and emerging access options for reaching rural communities. Given the trend toward shared facilities such as tele centers, university extension centers, post office kiosks, etc., as well as the variety of revenue models associated with social

services in the health, educational and ecommerce fields, the focus group considered technologies which expanded the number of supportable applications as well as those which demonstrated lower per-line costs. Demand for Internet-based telecommunication applications in rural areas, particularly e-mail, has resulted in new applications of old technologies, such as VHF radio systems and meteor burst communications, for non- real time services. In addition, new combinations of existing technologies are extending the reach and flexibility of wireless access systems, as well as reducing total costs through the integration of shared systems and components. In particular, many rural operators are deploying very small aperture terminals (VSATs) and point-to-multipoint terrestrial radio systems integrated with wireless local loop systems based on standards such as PHS and DECT. Access options on the horizon for rural areas include a number of technologies that are new to the rural Market place or still under development. Cdma450 and GSM400 cellular base stations implemented in the 450 MHz range are scheduled for commercial introduction in 2001. The use of the lower frequency bands will enable each base station to cover approximately double the area achieved by existing digital cellular base stations operating in the 800-900 MHz frequency range. Third generation cellular systems, known as IMT-2000, are designed to deliver a wide range of traffic types and volumes more efficiently and inexpensively than the current generation of wired and cellular telephony networks. Gateways based on Recommendation H.323 support real-time, two-way communications between local area networks (LANs) and the PSTN. Such gateways offer developing countries the option of constructing local and wide area networks to deliver telephony and other services in rural areas, without undermining existing investments (DUGAS; GREEN; LECKIE, 1999)in the PSTN. Wireless router networks, integrated with IP telephony software, have the potential to provide significant cost savings and social benefits as multi-service application platforms for tele centers, Government offices, schools and other organizations in rural areas. Since these technologies are largely untested in rural areas, Our Group recommends that we conduct pilot projects aimed at confirming the technologies‘ robustness in rural environments and effectiveness. Traditionally, the term rural is applied to the countryside or anything related to it. Rural is often used in opposition to urban. However, this is not the case here. For the purpose of this Report, the expression ―rural and remote" (or just ―rural") refers to rural, isolated and poorly served areas by telecommunication facilities, where various factors interact to make the establishment of telecommunication services difficult. A rural area may consist of scattered settlements, villages or small towns, and may be located several hundreds of kilometers away from area may also be considered as rural.

Implementation of Virtual Classroom Loopholes:

– Scarcity or absence of public facilities such as reliable electricity supply, access roads and regular transport;

– Scarcity of technical personnel;

– Difficult topographical conditions, e.g. lakes, rivers, hills, mountains or deserts, which render the construction of wire telecommunication networks very costly;

– Severe climatic conditions that make critical demands on the equipment;

— Low per capita income;

– Underdeveloped social infrastructures (health, education, etc.);

2.1 SCOPE

The scope of LIS education in India has undergone sea changes with the rapid expansion of research and development activities, particularly in the area of Information and Communication Technology (ICT). For qualitative improvement of LIS education in India, there is a need to introduce new courses based on ICTs in different LIS schools to face new challenges. In fact, technology has not only affected operations of library services but also LIS education itself. The purpose of this report is to

present the essential points of the our Group case library; canvas the technologies that have been used, or are anticipated for use, in rural and remote areas; and recommend refinements, enhancements and new directions in the development of such technologies. Access networks and terminal equipment are the network segments most strongly impacted by the characteristics of rural and remote areas. Therefore, this report focuses on access and end-user equipment and their interfaces, leaving the issue of core networks to CASE Study. Communications for rural and remote areas; and Promotion of infrastructure and use of the Internet in developing countries. A number of computing terminals are profiled in this report but, in keeping with our focus on telecommunications, we have included only those information technologies that are enabled for connectivity.

2.2 METHADOLOGY

Our Group chose applications as the starting point for its identification of information and communications technologies used in rural and remote areas. From the list of applications, on the one hand, and the available technologies, on the other, this report seeks to identify gaps between the information and communication services needed in rural and remote areas, and the technical solutions offered by existing technologies at the low end of the cost spectrum.

Figure 1.1 – conceptual approach

It is an assumption of this report that the selection of technologies for rural applications ought to be based on criteria weighted according to the needs, culture, budget and physical environment, among other characteristics, of each planne deployment. The focus group identified a number of criteria along these lines, including: Infrastructure, Ease of Installation, Ease of Operation and Maintenance, Tolerance of environmental extremes, Energy, Level of power consumption, Compatibility with off-grid energy solutions, Social Benefit, Variety and flexibility of service applications, Support for local language(s), Skills and/or training required by end users (including literacy) Cost, Modularity and scalabilit, Compliance with recognized standards, Initial and lifetime costs ―Future proof" technology evolution.

The affordability of services to the end user, while extremely important to the realization of social benefit, is not primarily a function of technology, so it is not included among the criteria in the social benefit category.

2.3 SETTING THE STAGE (RURAL EDUCATION IN Jalgaon and Ratnagiri)

Rural Jalgaon and rural Ratnagiri have many small schools located in remote communities. In both District a prominent social issue has been the sustainability of small, local schools that serve these places. Because of the importance of agriculture and forestry in Jalgaon and shing and mining in Ratnagiri, small schools are central to both the national and regional economies. The development of virtual classes between them, accompanied by collaborative teaching and learning, was initiated in Jalgaon and subsequentl partially replicated in Ratnagiri. It is beyond the scope of this Case study to undertake a comparative analysis of rural education in each country, but the following brief case studies outline recent changes in each place that have been shaped by the introduction of information technologies in small schools. In the Jalgaon case study, small schools in rural communities in the LalMati Kusumba region formed a common, collaborative structure that led to the creation of enhanced learning experiences (MASIE, 2000) for students. The Jalgaon initiative therefore forms a second, directly- related, case study to the developments that preceded it in rural Ratnagiri. The changes that took place in rural Ratnagiri schools preceded the introduction of the internet and were intended to challenge an environment in which traditional, autonomous schools competed with one another for students, in favor of a more collaborative approach between institutions. By the time the Jalgaon initiative commenced the Internet was being examined for its teaching and learning potential in schools.

In Jalgaon and Ratnagiri teachers are prepared for teaching in traditional classrooms rather than in the collaborative and interactive teaching and learning environments facilitated by intranets. The concept of classes as sites in networked environments is not a familiar one to many teachers who work in non-rural communities. This can be a problem when urban teachers take up positions in rural schools that are part of intranets. The professional education of pre-service teachers in Jalgaon and Ratnagiri usually includes experience as interns in classrooms. Preservice teaching experience in virtual classrooms between networked rural schools is much more di&cult to obtain. An enduring problem for some members of the teaching profession and their students in Jalgaon and Ratnagiri in the development of teaching and learning across dispersed rural sites is reliance on computers and information technologies. This can be seen in the above comments by Jalgaon students about the initial year of learning in a networked environment. A high level of technical support is needed to ensure that teachers can teach and students can learn in intranets by using information technologies with confidence.

2.4 IMPLIMENTATION PHASES

A. END-USER SKILLS AND TRAINING

The need for basic literacy, computers skills and training in the use of information and communication technologies remains a significant barrier to uptake of telephone, e-mail and Internet-based applications in rural areas. Language barriers and the complexity of personal computer (PC) operation also hinder Internet diffusion. Many innovative schemes have been devised in rural areas to overcome these barriers. Although not widely utilized, techniques such as voice mail, local translation of content, and icon-based telephones indicate that foreign languages and illiteracy are not necessarily barriers to the use of communications services, if the end user‘s needs are comprehended and addressed. For example, radio

B.SKILLS REQUIRED FOR INTERNET ACCESS

The use of personal computers (PCs) to provide Internet access for educational, business and tele-medicine applications requires on-site personnel with relatively advanced skill sets in computer operation and software configuration. A (The United Nations Educational, Scientific and Cultural Organization) UNESCO- sponsored pilot project at teacher training colleges in Zimbabwe found that low computer literacy rates, high turnover in computer resource personnel andlimited access to the PCs had a negative impact on use of the Internet for curriculum development, despite training programs offered on Windows 95, Internet browsing and e-mail . Computer resource managers involved in the UNESCO pilot project identified PC hardware configuration as the most difficult task they faced. The absence of local expertise in computer operation and repair in the areas surrounding the colleges compounded the skills shortage. Given the difficulty with which computers were obtained, installed and maintained in these academic institutions, where basic literacy is a foregone conclusion, the problems associated with maintaining PCs in less specialized environments can be expected to be the same or worse.

C.INSTALLATION, OPERATION AND MAINTENANCE

Special shelters and temperature control systems are required to maintain electronic equipment and batteries in areas where temperatures routinely exceed 40° Celsius or drop well below the freezing point. Inadequate and periodically impassable roads make travel between urban and rural areas for maintenance visits risky, time consuming and expensive. The lack of mains energy supply in many rural and remote areas is a major obstacle to deploying telecommunications infrastructure. In addition to the cost of purchasing and installing an off-grid power system, the lifetime cost of maintaining the power supply must be absorbed by the telecommunications operator. Problems with installation and maintenance of wire plant have prompted the widespread use of wireless systems in rural areas. Even

with the use of wireless technology, however, unexpected logistical details encountered in the field can be responsible for significant cost overruns and delays of service activation.

D.INFORMATION TECHNOLOGY AND MICROFINANCE INSTITUTIONS

The support of small business creation in poor areas through micro loans – typically small loans of less than a few thousand Rupees, given to poor individuals for the purpose of capitalizing small businesses – has revolutionized development practices around the world. Government Bank, the most widely recognized progenitor of the microlending approach, has developed a model for village phone businesses in Jalgaon.

3. APPLICATION AREAS

Distance education/tele-education Basic literacy, education and vocational training are extremely critical to economic development. The potential benefits of distance education can hardly be overstated. Table 3.3 lists the case studies in the case focusing primarily on distance education or tele-education. Two reports in our case study indicate that degree programmes offered to university-level students over satellite links lend themselves to cross- border distribution. The case study uses distance education as a means of providing ongoing training to telecommunications engineers and regulators around the world. The Human Resources Development programme offers distance education courses through the Virtual Training Centre and the Global Telecommunication University/Global Telecommunication Training Institute (GTU/GTTI).

4. INFORMATION APPLIANCES

An appliance is an instrument designed to accomplish a single task simply and efficiently. For example, kitchen appliances such as food blenders and mixers perform specialized tasks in order to save time and simplify the cooking process. The term information appliance is increasingly used to describe a diverse range of IT products and multimedia terminals which help to simplify and reduce the costs of information processing. Information appliances reduce costs by optimizing design for a particular application and eliminating unnecessary components from the software and hardware configuration.

CLIENT/SERVER APPLICATIONS

The client/server model of computing describes an approach to organizing and distributing resourceswithin a networked computer environment. Clients are computing terminals or software applications thatsend requests in order to access computing resources on a network. Servers are the computer or softwarecounterparts which respond to client requests and provide the resources. The order of process ofinteraction between client and server is governed by a formal set of rules known as a protocol. Normally, the connection between client and server requires several different protocol suites staked upon one another. The client/server approach developed in the 1980s to reduce the costs of deploying and managing networks of personal computers in corporate environments. In a local area network (LAN), a server is typically a centralized computer configured for the management of network resources including files, databases, and software applications. PCs connected to the network act as clients and request access to resources managed by the server, including physical devices such as printers. The client/server model is also the design paradigm of the World Wide Web (WWW). In the context of the WWW, a software application known as a ‗browser' is the client.

5. VIRTUAL CLASSROOM IMPLIMENTATION

Virtual education refers to instruction in a learning environment where teacher and student are separated by time or space, or both, and the teacher provides course content through course management applications, multimedia resources, the Internet, videoconferencing, etc. Students receive the content and communicate with the teacher via the same technologies.

5.1 Characteristics Of Virtual Education

Virtual education is a term describing online education using the Internet. This term is primarily used in higher education where so-called Virtual Universities have been established. Virtual courses – a synonym is online courses – are courses delivered on the Internet. "Virtual" is used here to characterize the fact that the course is not taught in a classroom face-to-face but through some substitute mode that can be associated with classroom teaching. That means people do not have to go to the real class to learn. A virtual program (or a virtual course of studies) is a study program in which all courses or at least a significant portion of the courses are virtual courses.

INSTRUCTION MODES FOR VIRTUAL EDUCATION

Many virtual study programs are mainly text based, using HTML, PowerPoint, or PDF documents. Multimedia technologies have been investigated for many years and eventually found their way into practice. Today a wide spectrum of instruction modes is available, including the following:

Virtual Classroom: A virtual classroom is a learning environment created in the virtual space. The objectives of a virtual classroom are to improve access to advanced educational experiences by allowing students and instructors to participate in remote learning communities using personal computers; and to improve the quality and effectiveness of education by using the computer to support a collaborative learning process. The explosion of the knowledge age has changed the context of what is learnt and how it is learnt – the concept of virtual classrooms is a manifestation of this knowledge revolution.

Hypertext courses: Structured course material is used as in a conventional distance education program(ARORA, 2007). However, all material is provided electronically and can be viewed with a browser. Hyperlinks connect text, multimedia parts and exercises in a meaningful way. Video-based courses are like face-to-face classroom courses, with a lecturer speaking and Power point slides or online examples used for illustration. Video-streaming technologies is used. Students watch the video by means of freeware or plug-ins (e.g. Windows Media Player, RealPlayer) in 2007 through new online education platforms. Audio-based courses are similar but instead of moving pictures only the sound track of the lecturer is provided. Often the course pages are enhanced with a text transcription of the lecture. Animated courses: Enriching text-oriented or audio- based course material by animations is generally a good way of making the content and its appearance more interesting. Animations are created using Macromedia Flash or similar technologies. These animations help understand key concepts and Also allow for better retention of learning. Web-supported textbook courses are based on specific textbooks. Students read and reflect on the chapters by themselves. Review questions, topics for discussion, exercises, case studies, etc. are given chapter wise on a website and discussed with the lecturer. Class meetings may be held to discuss matters in a chat room, for example. Peer-to-peer courses are courses taught "on-demand" and without a prepared curriculum. A new field of online education has emerged in 2007 through new online education platforms.

5.2 CYBER SCHOOL

A virtual school or cyber school describes an institution that teaches courses entirely or primarily through online methods. Though there are tens of thousands of commercial and non-accredited courses available online, the term "virtual school" is generally reserved for accredited schools that teach a full-time (or nearly full-time) course of instruction designed to lead to a degree. Virtual public and private schools serving every grade level including graduate programs may elect to pursue accreditation through various regional and national organizations. Accredited schools must meet rigorous standards as defined by the issuing organization and are designed to insure that students are receiving the highest quality instruction and education. Examples of organizations that issue school accreditation include: Middle States Association of Schools and Colleges, Northwest Association of

Accredited Schools All student services are conducted through Internet technology. The virtual school differ/contrasts from the traditional school through the physical media that links administrators, teachers and students and is an alliance of public distance learning schools. Many states in the United States have their own virtual school, and many of them have students numbering in the thousands. By providing a student's social security number the person is then entered into a database where they can choose which classes they want to take.

6.Virtual Classroom Advantage

In this paper, technology refers to both the hardware and software to provide the basic infrastructure for e-Learning. This includes components for networking (e.g. access points and links to the Internet) as well as client computers and software for basic services (e.g. e-mail, file sharing, web pages etc.). Technology also refers to servers that could be used for centralized data/program storage. It does not include specific e-Learning software intended purely for the purposes of pedagogy, which is covered under 'applications'. However, the underlying technology is intended to have the capabilities to support e-Learning applications.

In the context of rural areas, following factors are important:

* Technology (both hardware and software) must be cheap but robust enough for rural conditions. In essence, it must have an excellent cost/benefit ratio.
* Open-source software is most suitable as it is free for use under the GNU public license.
* Given the harsh conditions (e.g. dusty environment) in rural areas, it is necessary to develop a programme/policy for the type of equipment used, how to best protect equipment, and how to monitor breakdowns and associated costs, with a desire to continuously improve utilization/lifespan of equipment.
* Given limitations in cost, it is impossible to ensure a 1:1 student to computer ratio. Indeed, this is not even done in well-funded public schools in developed countries. Instead, given the requirement to minimize costs, it is best to maximize technology utilization to ensure a good cost/benefit ratio, e.g. by having a computer lab.
* Bandwidth in rural areas is often very expensive. OSS is chosen not primarily to reduce costs, but to increase the flexibility to modify and test and develop appropriate materials. The flexibility also makes it possible to adjust to small bandwidth. Network-side--Server Server is a freely available Linux-based server that is intended to meet the ICT requirements of e-learning application. It can be used to drive networks that have in excess of 100 client computers.
* Documents: Staff can work with their own documents and share them among each other in workgroups. Staff can simply copy relevant files to student folders. There are hourly backups of all documents on the server and it is easy to restore lost documents.
* Web: Internet access is provided on every computer with 'safe' access. The school has its own website, which is easy to manage. Pupils have their own webpages, supervised by teachers. An internal website may be used for access to web-based educational software.
* E-mail: Webmail is available with access control depending where the use is. An unlimited number of e-mail addresses/aliases are possible. All mail is scanned for computer viruses.
* User management: Very simple account creation and management of pupils, groups of pupils, faculty teams, working groups, staff, etc. Promoting pupil accounts or groups to the next grade is easy and can be done with a couple of mouse clicks.
* Programs: When users log in they automatically get their programs (i.e. roaming profiles). It is very easy to manage and assign software for groups and individuals. CD images can be stored on the server and played everywhere. This is useful in rural environments, where CD/ DVD-ROM drives break down easily.

* Security: Backups are made automatically, removing the hassle of doing so manually. For Windows computers, there is a free virus scanner. The school's management system (i.e. financial administration, pupil administration) has a double backup.
* Hardware/System: 'Older' client computers are sufficient and good performance is achieved on an 'older' server computer. Free programs are used to protect against viruses and spam. Offsite management of the server is possible with a safe/encrypted connection.
* Documentation: The server is documented fully. There is also client installation documentation and end user documentation.

Content management systems:

A content management system may be used by educators to create and manage online courses for rich interaction. It has many useful features expected for e-Learning purposes:
* Content managing (resources),
* Quizzes with different kinds of questions,
* Database activities,
* Chatting,
* Glossaries
* Whiteboard

The client-side solutions are computers used by pupils/teachers to access the network. The two suggestions presented in this paper are traditional desktop/laptop computers. Traditional desktop and laptop computers Most educational institutions around the world maximize utilization of ICT equipment by having computer labs where students can log into computers and do their work. The use of computers in the classroom can be rotated among pupils, or if there are a sufficient number of computers, a computer lab could be operated so that pupils could go whenever they desire. Videoconferencing is a real time communication medium, conducting a meeting in a virtual conference room between two or more persons present at different locations by using computer networks to transmit audio and video data. In this system AudioVideo data is transmitted from Instructor to Students which are allocated for the particular training. Basically this module handles Real-Time data which are shared between numbers of users on network. To implement this module JMF API used which is directly supported for RTP session. This module also provides an area on a display screen that multiple users can write or draw on.

Whiteboards are a principal component of teleconferencing applications because they enable visual as well as audio communication. This module implemented by using Java Shared Data toolkit which directly supports for drawing shapes, text and colors etc. The communication between Instructor and student is through RTP protocol. Here we are using RTP, FTP and TCP for implementation. Information(NIKAM; GANESH; TAMIZHCHELVAN, 2004) about the Sessions running is with the server within that network.

Desktop Capturing As the name of project the desktop capturing module require to capture the remote side desktop to monitor and control the activities. This particular module uses by Instructor or Trainer to monitor the students desktop to control the activities which are not required for that session. Desktop Capturing implemented by using Robot class of JAVA API.

Question/Answer Sharing

This module is simple way of communication within number of clients by using text data. This particular facility of the system required for students to post the queries to the instructor in between sessions. Usability of E-Learning System Making an e-Learning system usable basically involves two aspects: technical usability and

pedagogical usability. Simply put, technical usability involves methods for ensuring a trouble-free interaction with the system, while pedagogical usability aims at supporting the learning process. Both aspects of usability are intertwined and tap the user's cognitive resources. The main goal should be minimizing the cognitive load resulting from interaction with the system in order to free more resources for the learning process itself. A prerequisite for doing so is the usability engineer's detailed knowledge about human learning in general and learning goals and processes in a content domain in particular. The paper mostly emphasizes on Technical Usability.

7.RESULTS AND DISCUSSIONS

Basic results and advantages of e-learning system: Access to content anywhere and anytime: 24 hours x 7 days Access to content anywhere and anytime is a strong reason. Imagine, however, you would be able to pick and choose your live lessons from a 24h scheduled Teachers who are available 24 hours a day. How is this possible? It is possible because of the time zones and because one can enter a virtual classroom at any given time.

* Classroom teaching is inconvenient because students "have to wait to make up class 'students have to wait to make up class', this is why traditional classroom-based training initiatives are seen to be "disruptive" because they often or not include a waiting list. What about virtual classroom-based initiatives? Very likely it will be much easier to fill these classrooms.

* The quality of e-learning content is measurable, consistent and based on pedagogical expertise. 'Quality of e-learning is measurable'. Granted: a CD containing a course will very likely be pedagogically and methodologically sound and will contain a test to examine progress made, when studying it from beginning to end. A book or a manual too are of high quality.

As a result in the research of e-learning following points need to consider:

* While the usability and educational effectiveness of an e-learning application are not one and the same, the two arguably have very much in common. Even though many organizations have made great strides in their ability to develop and deliver e-learning programs to their employees, customers, and suppliers, the usability of these e-learning applications is often lacking or entirely overlooked when the usability issues require solving for rural community.

7.Conclusion

This paper has presented an overview of e-Learning in the context of rural areas. The proposed systems of e-learning with modules are discussed. E-learning offers real potential for the rural area. It will never replace the presence of a lecturer and the class dynamic that is important in the learning environment. It will however, bring learning opportunities to areas where little was available in the past and this is a critical advantage for rural areas. Given the difficulties still with the on-line systems it is almost a requirement that a back up CD be available as there will be several occasions for one reason or another that the system will not function. However, these difficulties will decrease with time as the systems are perfected. In rural area as people become more confident they can begin to work more and more from their homes. Computers are becoming more widely available and the younger generation are much more computer literate than their predecessors. The flexibility of learning both in time and space that it allows will be attractive to many professional as they up skill themselves in a rapidly changing world. For e-Learning to be a success in a rural area there needs to be total involvement of the local community, leading to its acceptance and ownership, combined with continuous communication among the various specialists (e.g. teachers and IT specialists) as well

How to acquire fair educational opportunities in rural areas as in city is now a social hotspot in China. To solve the problem, E-leaning should play an important rule. However, some new challenges should be addressed in rural areas than in city. Based on Internet Protocol Television (IPTV), the user can access and learn a rich set of multimedia content by distance learning via dynamic and heterogeneous

networks and devices. This paper proposes an available architecture to describe the applications of E-learning in Rural Area based on IPTV. In additional, based on our architecture, available solutions of some key techniques are proposed.

INDIA is embracing e-learning in a big way. India has learned lessons from the success of the e-way in the West and today the grim educational picture is being replaced by e-governance‘s-classroom, e-tutorials. It is a matter of pride for the country in general and agencies in particular for the popularisation of the mission mode programmes on e- governance.

The major advantage of e-learning is that it is self-paced and learning is done at the learner‘s pace. The content can be repeated until the trainee understands it. E learning is interactive too. With the growth of e-learning, more and more pupils will opt for it, as there would be no worry that the maths teacher will beat them for a sum gone wrong. Also, there will also be no fear of coming late to class and then standing outside the classroom waiting for permission to enter.More and more working professionals would be interested in learning the e-way because of flexibility that e-learning offers. E-learning will soon become a great tool to enhance qualifications and getting promotions in the job market. So,to sum up, the future of e-learning is bright.It is very difficult for a person of my stature to issue a declaration on the issue but I suggest that higher educational institutions in India, which plan to venture into e-learning should take a lesson from this and must first follow the education and communication strategy of organisational change where the stakeholders should be informed as to how the change will affect them.

The government needs to stimulate a learning culture and e-learning must become a policy issue. Government must recognise the e-learning industry as a separate forum and not treat it as part of the IT enabled services (ITeS) or a sub sector of the IT industry.

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HURDLES IN IMPLEMENTING INFORMATION AND COMMUNICATION TECHNOLOGIES INTO TEACHING AND LEARNING PROCESS IN HIGHER EDUCATION IN INDIA: A ROAD AHEAD

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Abstract

The use of ICT in the classroom is very important for providing opportunities for students to learn to operate in an information age. Studying the obstacles to the use of ICT in education may assist educators to overcome these barriers and become successful technology adopters in the future. This paper provides a meta-analysis of the relevant literature that aims to present the perceived barriers to technology integration in education. The findings indicate that teachers had a strong desire for to integrate ICT into education; but that, they encountered many barriers. The major barriers were lack of confidence, lack of competence, and lack of access to resources. Since confidence, competence and accessibility have been found to be the critical components of technology integration in education, ICT resources including software and hardware, effective professional development, sufficient time, and technical support need to be provided to teachers. No one component in itself is sufficient to provide good teaching. However, the presence of all components increases the possibility of excellent integration of ICT in learning and teaching opportunities. Generally, this paper provides information and recommendation to those responsible for the integration of new technologies into education.

Keywords*: Teaching, ICT, integration, hurdles, professional development, review*

INTRODUCTION:

We are in a digital era. It is difficult to think of any event in our daily life that is not using ICT.

ICT Stands for "Information and Communication Technologies." ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums.

In the past few decades, information and communication technologies have provided society with a vast array of new communication capabilities.

ICT can be used in different ways according to persons use. There are three main types of ICT systems -- Information system that focuses on managing data and information, Control system a system that controls machines. It uses inputs, processes the input, and provides output. Third is the Communication system, which deals with transfer of data from one place to another.

Organising and processing the data of an organisation can provide useful information. These can be communicated for effective use and decision making.

ICT covers Internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centres, commercial information providers, network-based information services.

With the advent of Web 2.0, it was more common for the average web user to have social networking profiles on sites such as Myspace and Facebook, as well as personal blogs.

Students these days are probably using Web 2.0 tools in their daily lives. One of the challenges we educators face today is adapting to a generation of students who have grown up using the Internet and Web 2.0 tools.

For most European countries, the use of ICT in education and training has become a priority during the last decade. However, very few have achieved progress. Indeed, a small percentage of educational institutes in some countries achieved high levels of effective use of ICT to support and change the teaching and learning process in many subject areas. Others are still in the early phase of Information and Communication Technologies adoption. As teachers are faced with some barriers that prevent them to employ information and communications technology (ICT) in the classroom or develop supporting materials through ICT. Therefore, this study aims to explore the challenges and barriers preventing teachers from using ICT in the classroom and ossible ways to overcome them.

OBJECTIVE:

- The purpose of this study was to examine the challenges in ICT use in teaching and learning.
- To study School/Institute related and teacher and student related challenges and possible solution.

Research Methodology

The Research paper uses secondary data available in journals, research papers and websites.

ICT in Education:

The Information and Communication Technology (ICT) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer, and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. When such technologies are used for educational purposes, namely to support and improve the learning of students and to develop learning environments, ICT can be considered as a subfield of Educational Technology. ICTs in higher education are being used for developing course material; delivering content and sharing content; communication between learners, teachers and the outside world; creation and delivery of presentation and lectures; academic research; administrative support, student enrolment etc.

In the current information society, people have to access knowledge via ICT to keep pace with the latest developments. In such a scenario, education, which always plays a critical role in any economic and social growth of a country, becomes even more important. Education not only increases the productive skills of the individual but also his/her earning power. It gives them a sense of well being as well as capacity to absorb new ideas, increases their social interaction, gives access to improved health and provides several more intangible benefits. The various kinds of ICT products available and having relevance to education, such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio counselling, interactive voice response system, audiocassettes and CD ROMs have been used in education for different purposes (Bhattacharya and Sharma, 2007).

Importance of ICT in Educational Institutions

ICT plays various roles in learning and teaching processes. According to Bransford et al. [4], several studies have reviewed literature on ICT and learning and have concluded that it has great potential to enhance student achievement and teacher learning. Wong et al. [5] point out that technology can play apart in supporting face-to-face teaching and learning in the classroom. It can help the teachers enhance their pedagogical practice and equip them with the knowledge and skills to use different computer technologies to access, analyze, interpret process and disseminate information to learners.

Table I: The benefits of education based technology :

- Technology can be used anywhere and anytime is cost effective as new technology introduced.
- Technology has greater geographic reach, is self-paced training to match the learner,effective learning delivery a variety of education methods available (Koller, Harvey & Magnotta, 2001).
- Catheral (2005) said that some education technology can be flexible, creates greater learner-learner interaction, ensures greater teacher-teacher interaction, with progress being tracked.
- Technology learning promotes for social learning (online chats); self-regulated study;
- Technology creates personalised learning, professional development, data and assessment, blended and hybrid learning, online courses(Digital Learning Imperative, 2012)

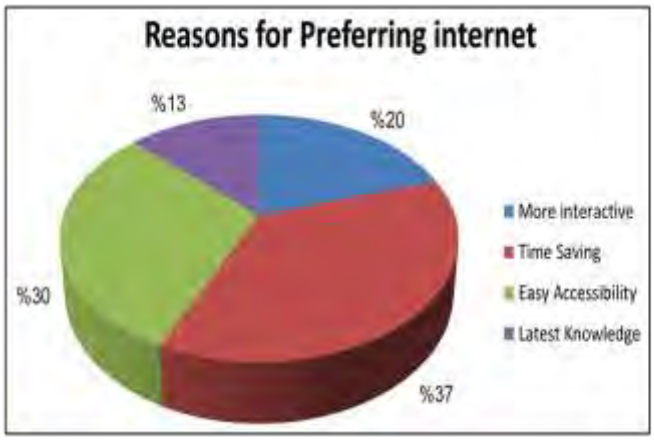


Figure 1: Factors that affect the integration of ICT in Education

ICT ENABLED EDUCATION

Change process:

The highest barrier to integration of information and communication technologies into the teaching/learning process is the change as such. CEO (1999) discerns five stages of integration and overcoming difficulties:

1. Entry learners are trained how to use information and communication technologies;
2. Adoption teachers use technologies as supplementary aids in the context of traditional teaching/learning methods;
3. Adaptation technologies are used for expansion/enrichment of the curriculum;
4. Appropriation technologies are integrated and used due to their exceptional and unique qualities;
5. Invention - new areas are invented where the use of technologies is appropriate.

In stage one (Entry) learners, not the teacher, gets acquainted with information technologies. Technologies are treated as a problem and inconvenience (Figure 1).

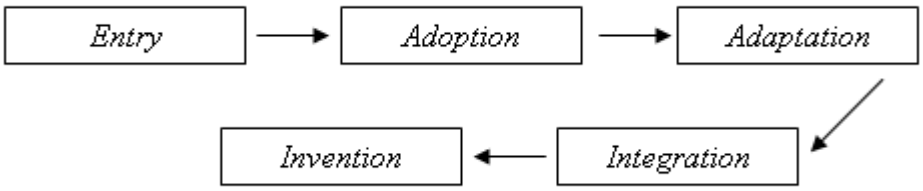


Fig. 2. Five stages of technology integration

In stage two (Adoption) technologies are treated as a useful but limited phenomenon. Teachers use technologies to expand their personal tasks, such as administration of tasks, organizing schedules etc. In this stage teacher gives students examples and encourages learner use of technologies.

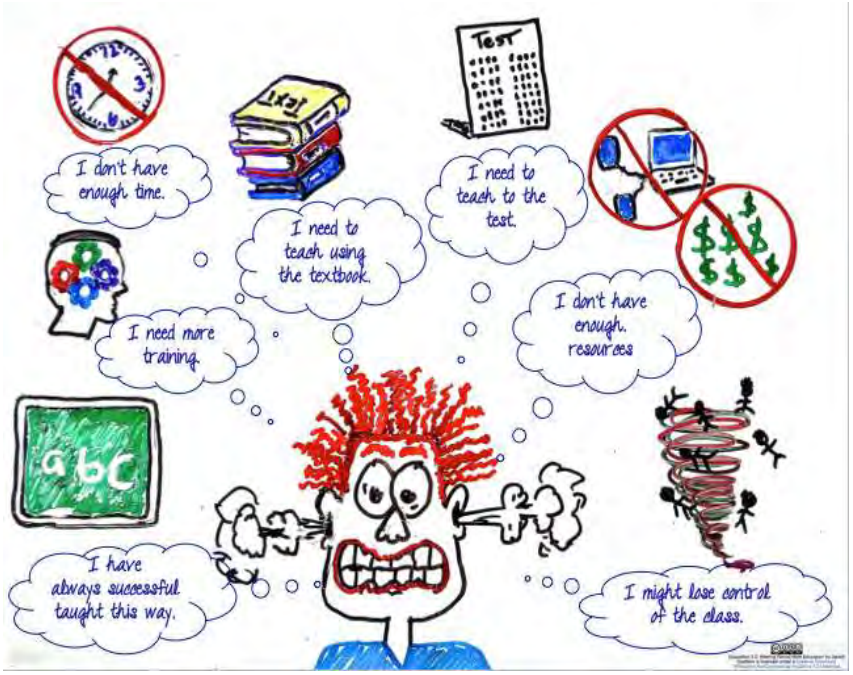
In stage three (Adaptation) technologies are used in class work. Teachers use information technologies to add variety to the teaching content but do not change their teaching style. Teachers use compact discs, Internet, electronic encyclopaedia to obtain information more often than traditional teaching/learning means books. In this stage teachers do not change the teaching form and it remains teacher-centred.

In stage four (Appropriation) teachers begin to perceive the opportunities provided by information and communication technologies and start creating tasks that are pre-eminent in their possibilities. Learners start guiding their own learning and use technologies for their learning aims to achieve their higher order thinking objectives. Technologies are perceived as a useful tool.

In stage five (Invention) teachers start changing the class and teaching/learning setting to improve the use of technologies during lessons. Students use technologies to achieve basic and higher order thinking skills.

Hurdles(Barriers) in ICT enabled Education:

Teacher Level Barriers:



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Lack Of Time :

teachers are usually burdened with multiple tasks other than teaching. Moreover, they have to teach all types of subjects along with ICT. They do not have time to design, develop and incorporate technology into teaching and learning. The teacher needs time to collaborate with other teachers as well as learn how to use hardware and software and at the same time keep oneself updated with the latest technology.

To Overcome this Time Issue following step can be taken:

If the Institute intends to achieve good results in the area of ICT integration, then at least one week a year should be devoted to teacher activities outside the class. During these events

teachers should be acquainted with innovations in information and communication technology area, and should be explained in detail how to use these innovations and integrate them into the process of teaching/learning.

Lack Of Confidence :

Many teachers are lacked in Knowledge and skills use ICT and

Lack Of Teacher Competence:

Lack of trained teachers A major obstacle in the use of ICT in education is the lack of knowledge and skills. There is dearth of dynamic teachers formally trained in ICT. Moreover, there is hardly any quality training imparted on a regular basis to teachers involved in ICT education.

To Overcome this Issue following step can be taken:

Management should provide proper training on regular basis on new technology Management can allow teachers to attend workshops or training program to incorporate ICT in their teaching process.This can increase teachers confidence and comfortness towards ICT.

Resistance to change and negative attitude:Unfavourable organizational culture and poor attitude and beliefs Often in developing nations, the educational organizations and school management fail to perceive the importance and seriousness of the role of ICT in education enhancement. Also, the teachers‟ attitudes and beliefs are outdated and orthodox. They are unaware and rigid and not willing to adapt to the change. They harbor false beliefs that ICT is meant primarily for the youngsters and are skeptical about the effectiveness and utility of ICTs in school education.

To Overcome this following step can be taken:

- Barriers as opportunities

The difficulties should be viewed as opportunities to develop. It should not decrease motivation but should be transformed into the constructive process of teaching/learning, which could support ICT integration in a more efficient way (Lai 2001).

- Peer support

Reliable colleagues can become internal "technology" teachers who could teach in small and convenient groups. Teachers can be provided help by sharing best practices of the same school teachers or analysing the benchmarking projects.

Management Level Barriers:

Lack Of Accessibility :There is lack of computers and computer-related resources such as printers, projectors, scanners, etc. The ratio of computer per student is insufficient. There is a mismatch between the complementing resources and inappropriate combination of ICT resources result into reduced diffusion of technology as well as poor ICT understanding in these educational institutions.

Even the basic ICT equipments and computers possessed by institutes are unreliable and undependable.

To Overcome this following step can be taken:

Universities should make some provisions to ensure that ICT technologies can be utilized in every institute.Universities should provide some fund to Institutes to include ICT enabled education in the curriculum.As well as institutes should encourage every teacher to give feedback on their Usage.

Lack Of Technical Support:

The ICT projects in institutes are not self-sustainable. When the projects launched by government or private sector phases out, the maintenance of equipments need to be borne by the students. The students often with weak economic backgrounds are unable to fund the maintenance and computing facilities expenses.

·Appropriate and latest hardware and software facility availability determines the effective and efficient usage of technology. The Institutes lack up-to-date hardware and software availability. Old and obsolete equipments are major hindrances to ICT adoption and application.

To Overcome this following step can be taken:

It is worth mentioning that not only ministries should tale how the process of integration should be organized, but also schools/Institutes could give feedback on difficulties they are facing integrating ICT into curriculum and suggesting what could be done differently.

A. Teachers' Familiarity with ICT

TABLE I: TEACHERS' FAMILIARITY WITH ICT

Items	Variables	Frequency	Percent (%)
How is your personal experience with ICT?	Never Used	2	6.6
	Limited User	7	23.3
	Frequent User	14	46.6
	Confident User	7	23.3
How do you judge yourself in using ICT in your classes?	Never Used	10	33.3
	Limited User	13	43.3
	Frequent User	5	16.6
	Confident User	2	6.6
How do you think of other teachers' familiarity with ICT?	Never Used	11	36.6
	Limited User	14	46.6
	Frequent User	3	10.0
	Confident User	2	6.6

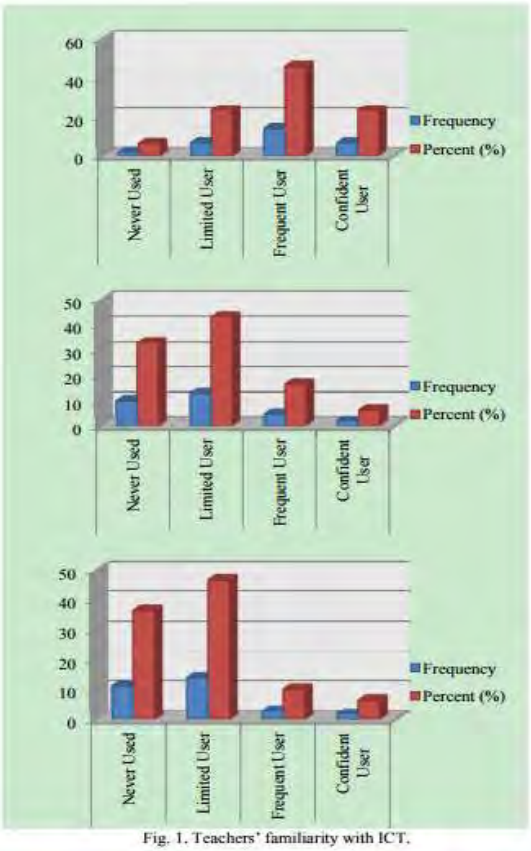

Fig. 1. Teachers' familiarity with ICT.

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Road Ahead:

Students and academic staff should be regularly sensitized on the latest ICT innovations. This can be achieved through customised ICT training workshops for both academic staff and learners.

There is need to develop an ICT culture among academic staff and learners.

Universities should strengthen the technological-pedagogical-content knowledge of lecturers through continuous professional development in order to implement ICT in a critical way.

Need of the hour is to increase ICT infrastructure in educational institutes. A motivational grant may be given by academic control bodies.

It is suggested that, for effective ICT integration in teaching and learning, the Ministry of Human Resource Development should come up with various policies to supplement institutional initiatives towards integrating ICT in higher education for producing more skilled youth in India.

To develop/upgrade knowledge and skills in basic computer literacy and integrated use of ICT in teaching - computer literacy and integrated use of ICT in teaching - yet specific/concrete competencies to be improved among teachers and other professionals seldom articulated

To encourage and motivate teachers to develop e content, to use audio visual aids in teaching, to use various web 2.0 teaching tools available for participatory approach towards teaching and learning.

CONCLUSION

This paper has reviewed three factors that prevent teachers from using ICT frequently and appropriately for their teaching including lack of access to technology, lack of effective training, and lack of time. The paper has also paid greater attention to these factors in India. The Ministry of Education should find permanent solutions for the barriers that disable teachers‘ use of ICT, especially the ones which are related to education policy such as lack of time and lack of access to technology. It is recommended that the class time is extended and that curricula are reduced so teachers could have sufficient time to fulfil the requirements of each curriculum within the lessons available, making use of ICT. Teachers should be relieved from their regular duties for a reasonable time for attending training sessions without the fear of the accumulation of work when they resume their duty. It is also recommended that educational institutes should be provided with sufficient, appropriate and up-to-date technologies. The Ministry must emphasise in-service training as one of its priorities. Thus, teachers would be able to cope up with the rapid evolution of technology.

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Issues And Challenges in Bringing ICT Enabled Education To Rural India Authors Dr. Shradha H. Budhedeo Assistant Professor Department of Business Economics Faculty of Commerce Maharaja Sayajirao University of Baroda Vadodara, Gujarat, India Email: shradhamsu@gmail.com,||Volume||4||Issue||01||Pages-4759-4766||January-2016|| ISSN (e): 2321-7545 Website: http://ijsae.in DOI: http://dx.doi.org/10.18535/ijsre/v4i01.01

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An Effective use of ICT for Education and Learning by Drawing on Worldwide Knowledge, Research, and Experience: ICT as a Change Agent for Education (A LITERATURE REVIEW) Syed Noor-Ul-Amin Ph.D Research Scholar Department Of Education, University Of Kashmir e.mail:syd_aman@rediffmail.com

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ROLE OF ICT IN ENHANCING TEACHING, LEARNING AND EVALUATION

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Abstract

A quality of higher education system has become a need of developing countries. IQAC established in the institutions is one of the important units in the system ICT works for maintaining the quality of H.E and enhancement the use of ICT in education transforms more student centered learning process. But rapid change in the world of it, the role of ICT becomes more important and it denotes the sound effects of it in the field of education. The effective use of ICT will help to enhance tub broad level of scholastic performance in the teaching learning and evaluation process, quality and accessibility of education and digitalization ICT will also sustain the sound rapport with the quality assurance is directed and expected in the assessment and accreditation process of the college by NAAC.

Keywords*: Transforms, Rapid, Accebility, Digitization*

Introduction:

Globalization has brought about an immense change in every walk of life right from the habits of eating to habits of working. How education sector can be exception to this alteration? It has gone through a great change in the country like India. We have moved from our ancient heritage education system of Gurukula to the modern day techno-savvy university education system. Today, education has become all inclusive process covering almost all aspects of life—social, cultural, political, economic, national, etc. Present is the era of information communication technology (ICT) which made transmission and spread of information most reliable and easiest. The Indian education system is striving 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, more popularly known as NAAC often emphasizes and signifies the process of teaching-learning and evaluation considering one of the major criterions of 350 points/ marks among seven indicators of assessment.

Many researchers like Maki (2008) and Clarke-Okah et.al (2009) have stated that ICT can be implemented in effective administration of educational institutes. They state that the help of ICT records can be processed quickly and meticulously. It can help to generate reliable and consistent records. ICT helps to save space, money and human resources as well. Krishnaveni and Meenakumari (2010) opines that using ICT help in better planning. Setting standandards effective change and monitoring results of the core functions of universities.

The paper aims at exploring the avenues available using information and ICT in the Quality assurance as well as newer Digital Technologies such as computer and Internet have been touted as potentially powerful enhancing tools for education change and reform.

21stcentury is the age of Information and CommunicationTechnology. All over the globe, there is a trend to use ICT in the teaching learning process. The teacher and learner must gain access to technology for improving learning outcomes. Educational reforms include successful designing and implementation of ICT in teaching learning process, which is the key to success.It involves use of computers, computer software and other devices to convert, store, and process, transmit and to retrieve information and includes the services and application associated with them.

ICT is an acronym that stands for: 1.Information-it covers the topics such as meaning and value of information; how information is controlled; the limitations of ICT;legal considerations; how data is captured, verified and stored for effective use; the manipulation, processing and distribution of information; keeping information secure and designing networks to share information.2. Communication-networks of sending and receiving equipment, wires and satellite links. (a) Internal networks-Local Area Network (LAN)(b) External networks-Wide Area Network (WAN). 3. Technology-collection of techniques, knowledge of how to combine resources to produce desired products, to solve problems, fulfill the needs or satisfies wants; it
includes technical methods, skills, processes, techniques, tools and raw materials.

The Provision for the use of ICT enhancement of teaching process and as a well conceived Plan for continuously monitoring the student progress. The institution needs to have an effective mechanism to recruit adequate qualified faculty. The student evaluation processes are reliable and valid further have an open and participative mechanism for evaluation of teaching and promoting work satisfaction of the faculty. The teachers need to have opportunities for continued academic growth and Personality Development. The ability of in situations in having sustainable good practices in teaching learning and evaluation to achieve academic.

—Information and Communications Technologies (ICTs) are a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. Communication and the information are at the very heart of the educational process, consequently ICT-use in education has a long history. ICT has played an educational role in formal and non-formal settings, in programs provided by governmental agencies, public and private educational institutions, for profit-corporations and non-profit groups, and secular and religious communities." (unesco.org).

The Ministry of Human Resource Development (MHRD), Government of India and the Indian Space Research Organization (ISRO) took a path breaking policy decision to launch a dedicated educational satellite, in which the use of ICTs can make substantial changes both in teaching and learning.

Change of scenario:

Traditionally learning was hard, based on deficit model of student, and process of transfer, and reception was individualized and facilitated by division of content into small units and a linear process, but introduction of ICT has changed the traditional concept.ICT defines learning as neutral, social, active, linear or non-linear, integrative, and contextualized, based on ability and strength of students.Use of ICT in teaching-learning environment can bring a rapid change in society. It has the potential to transform the nature of educationi.e. Where and how learning takes place and role of learners and teacher in the process of learning.

It is essential that teachers must have basicICT skills and competencies. It is for the teacher to determine how ICT can best be used in the context of culture, needs and economic conditions. Good teaching is not simply adding technology to the existing teaching and content domain rather it should cause the representation of new concepts and requires developing sensitivity to the dynamic, transactional relationship between the three components of knowledge: Content, Technology and Pedagogy.

Role of ICT in Teaching, Learning and Evaluation process:

ICT helps in improving the quality of education stating that information and communication technology is an important instrument that can transfer the present isolated, teacher-centered and book-centered learning environment into a student– centered environment. ICT can change the traditional concept of learning process and the components of ICT should be integrated in the education programme in such a way that teaching should be enabled to face the new demands and

improve the efficiency and effectiveness of education at all levels in both formal and non-formal settings.

According to the definition, the role of ICT tools is very wider and has multidimensional and multifunctional task as it can be used to –communicate", –to create", —disseminate", –store" and —manage" information on diverse levels—teachers-students, teachers-management, students-management, teachers-students-administration, teachers-students-public, etc. The tools and resources of ICT include all modern day inventions in the field of internet, software and hardware tools which are used to communicate through satellites, computers, mobile phones, tablets and similar devices and also the old day tools like telephone, television and radio. It has enhanced the progress in education sector rapidly. Most of the institutions use it at its best to reach a wide diversity of social communities or public. ICT must become a priority in the Indian colleges diversely spread over vast rural geography, as it is in most of the European countries. It's a challenge for the country like India but can be achieved. The present Hon. Prime Minister of India often talks about digitization of education system and emphasizes the need of skilled manpower production from the educational institutions promoting the world level digital teaching and learning. Many steps have been and being forwarded in this connection by University Grants Commission (UGC) and NAAC.

Usage of ICT in teaching is student centric:

The process of teaching-learning has become more student centric and its set aim is to produce skilled work-force. The traditional approaches and methods of teaching learning have witnessed a reformative 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. Education satellites also have made its stake in the process of teaching-learning and evaluation; e.g. India has launched world's first education satellite called EDUSAT in 2004 to impart distance learning to millions of Indians and have developed virtual digital classrooms. The use of ICT tools and resources is highly increased in recent years even the main focus is to promote such learning by reaching at every nook and corner of the country. To implement this type of teaching-learning program, highly qualified and well trained man power is needed and hence teacher education becomes an issue of the first attention. The significance of teacher education/ training is highlighted as:

—The quality of basic education provided to our children is largely influenced by the quality of our teachers in the schools. As no nation can afford to provide poor quality education, it is necessary that we build a strong system of quality teacher education—on which depends the quality of the teacher and ultimately the Nation's education."

Hence teacher training programs have an immense importance in the transaction of teaching-learning and it needs to be imparted by using ICT resources with a wide range. The access to ICT tools for teachers and students provide an interesting and mutual communication while teaching and learning. It benefits both teachers and students on a greater scale. Here an example/ model of how to use ICTs in literature classroom is furnished which can also be exploited in other streams of study. British Council has developed a lot of tools and online courses to educate teachers all over the world and they offer special kind of programs on demand. In addition, use of various multimedia tools helps learners use various learning styles and develop creativity and critical thinking. They make them acquire and practice the language skills. Some of them also promote collaborative learning. They provide automatic examples of the target language and culture."

Conclusion:

ICTs save large amount of time, money and energy making the process of teaching learning and evaluation more fascinating and all involving with a smoother application. In the country like India, we need to have abundance of resources and at the same time an expert teacher community to implement and to reach at the very rural outset where most of the illiterate population resides. And this target can only be accomplished through the impressive and active use of ICTs in education.

Adoption of ICT in Higher Education will change over all the scenario in the Higher Education system. Implementing ICT in the Higher Education will need time to time training to the staff. Implementation of ICT will definitely assure the Quality of Higher Education the purpose for which the IQAC is formed in Higher Educational institutions if we wish to implement ICT in. administration and academics effectively we must provide more ICT facilities, equipment and tools to the administrators and faculty. Management and authorities should take quick decisions for implementing ICT in educational institutions.

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USE OF ICT TO ENHANCE ACTIVE LEARNING IN TECHNICAL EDUCATION

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Abstract

India is a country where traditional teaching has special importance. The traditional teaching method involves one way teacher centric approach where a teacher explains the concepts and questions will be given to prepare homework. In today's web based world, with the help of Information communication Tools(ICT) teacher centric approach can be changed towards learner centric approach.ICT tools like video lectures, moodle quizzes, Flipped classroom methodology and personalized home-based e-learning with discussion and practical applications in the classroom are discussed here to to enhance active learning in engineering education. This paper focuses on the use of ICT in technical education by discussing case study with computer and IT departments, Identified departments are here computer engineering and Information technology Different techniques used here are creation of website as content management system, use of flipped classroom, use of screen-o-matic for video recording of concepts, moodle as a platform for online quiz conduction.

Keywords: *ICT, Active learning, flipped classroom, moodle ,screen-cast, blooms taxonomy*

Introduction

Teachers already face myriad problems such as varying student interest and abilities, student focus on exam testing, managing large classes, and so on. To mitigate some of these problems, teachers are often called upon to explore use of technology in their classrooms. However, lack of awareness of both the technology and the effective technology integration practices is a barrier for large-scale adoption in regular teaching-learning process.In this digital world, Information Communication Tools plays very important role to enhance teaching and learning process.ICT can help to solve teacher centric approach to students centric approach. Following are some ways to incorporate use of ICT in education for effective teaching learning process. Video lectures, Google classroom ,Flipped classroom methodology and personalized home-based e-learning with discussion and practical applications in the classroom are discussed here to to enhance active learning in engineering education. This paper considers final year subject of Computer and IT Engineering syllabus as per Mumbai University. Title of subject is ―Software testing and Quality Assurance ―.Use of ICT will be explained with the help of this subject. STQA subject is considered as case study in engineering education to demonstrate use of ICT in technical education..

Objectives

- Use of ICT as Digital Media in teaching learning process.
- Website creation as Content Management System
- Flipped Classroom Activity
  - Use of Video Lectures as out of class activity
  - Use of small Quiz or mapping of content with real time problem solutions as in class activity.
- Evaluating Effectiveness of active learning with ICT
- Use of open source Screen-O-Matic Screencast for video creation.

Learning Objectives with case study STQA(learner will be able to:)
Understand the basic process of Software Testing.
List down the benefits of Software Testing – As a learner and as a Teacher.
Apply Software Testing Life Cycle in real time testing problems.

Use of ICT as digital media in teaching learning process

Digital media plays very effective role in active teaching learning process. With the help of this case study different types of ICT will be explained in detail. This will help other teachers to develop for their subject.

Website creation as Content Management System

A content management system (CMS)is a computer application that supports the creation and modification of digital content. It typically supports multiple users in a collaborative environment.For this case study we created two websites which are free and open source platforms .To design CMS **t**he content decisions taken related to following objectives with reference to BLOOM's Taxonomy.

- To **reinforce** and **strengthen** the Software Testing concepts learned in the basic course in Software Testing and Quality Assurance.
- To **understand** STLC and V model
- To **use** basic concepts to design test cases
- To **design** test cases for real life problems
- Different tools were provided for learning and practicing such as Winrunner, Bugzilla etc.
- There are some related videos, ppts, pdf files, NPTEL course on SOFTWARE TESTING which helps them to learn effectively.

Google classroom and WORDPRESS is used as open source content management system for Software Testing and Quality Assurance. Screenshots of these CMS are given below.
Google Classroom as CMS for STQA (https://sites.google.com/view/stqa/)

FIGURE 1 : SCREENSHOT OF WEBSITE AND THE STUDY MATERIAL

FIGURE 2 : SCREENSHOT OF WEBSITE AND THE STUDY MATERIAL

WORDPRESS website as CMS for STQA(www.stqablog.wordpress.com)

FIGURE 3 : SCREENSHOT OF WEBSITE (WORDPRESS) QUIZZES

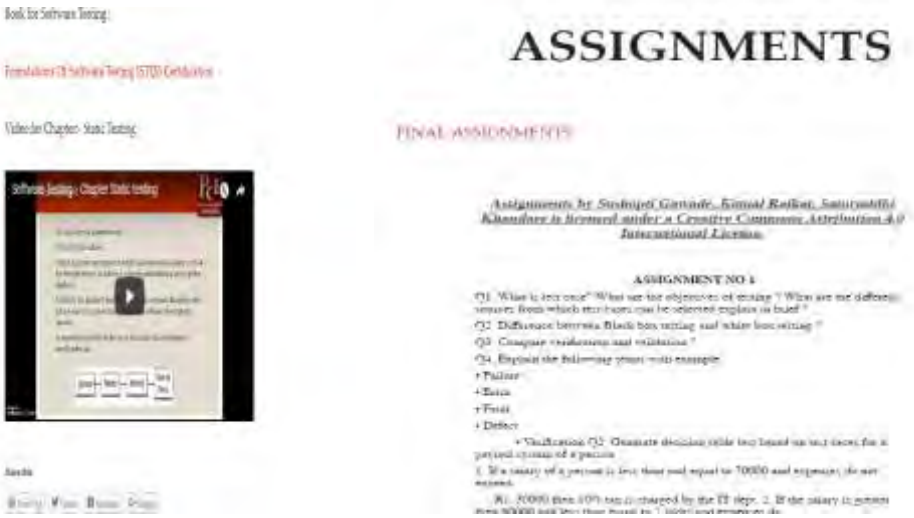


FIGURE 4 : SCREENSHOT OF WEBSITE (WORDPRESS) VIDEOS AND ASSIGNMENTS

Flipped Classroom Activity

Typically in a flipped classroom strategy, there are two segments – Out-of-class segment and In-Class segment. The out-of-class segment requires student to refer to some given material (Video,Text etc) and form an understanding about the concepts that are relevant. In terms of concept marking the pedagogic decisions that were taken for the Out-of-class segment related to:

a. Cognitive Levels of Questions to be asked along with the resources Mostly Recall to Apply level question for out of class and Create Level question for In-class.

Learning Objective(s) of Out-of-Class Activity

At the end of this student will be able to,

· **Understand**definition of Software Testing(UNDERSTAND Level)

· **Understand** Software Testing Life Cycle process (UNDERSTAND Level)

·**Identify**bugs, faults,errors and failure (APPLY Level)

·**Apply** Software Testing Process(ANALYZE Level)

· **Design** test cases for real life problems (ANALYZE Level)

Open Education Resource: Moodle Quiz, ppts, videos, pdf material

b. Assessment Strategies – Multiple choice questions for out of class,and Team-Pair-Solo strategy for in-class.

Multiple choice questions for out of class,

Q.1 Which of the following is not a STLC phase?

a. Requirement gathering

b. Test Planning

c. Test closure

d. Test design

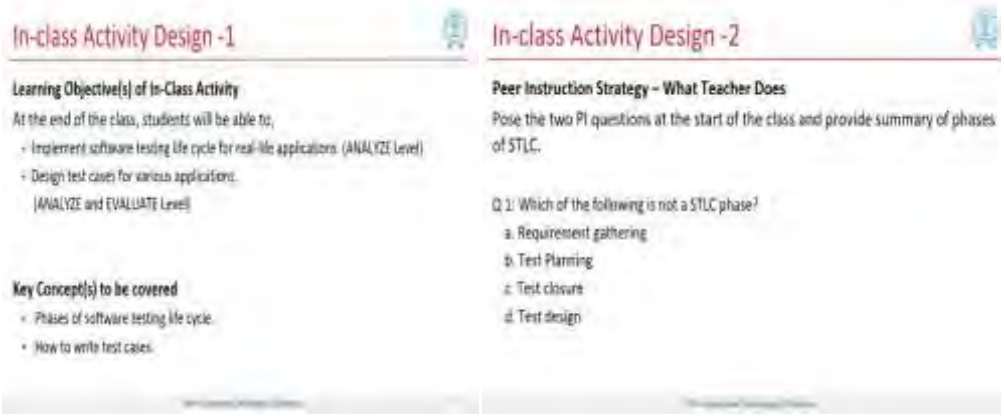
Q.2 The approach used to make sure all the requirements are covered when writing test cases is

a. Test Matrix

b. Checklist

c. Test bed

d. Requirement Traceability Matrix



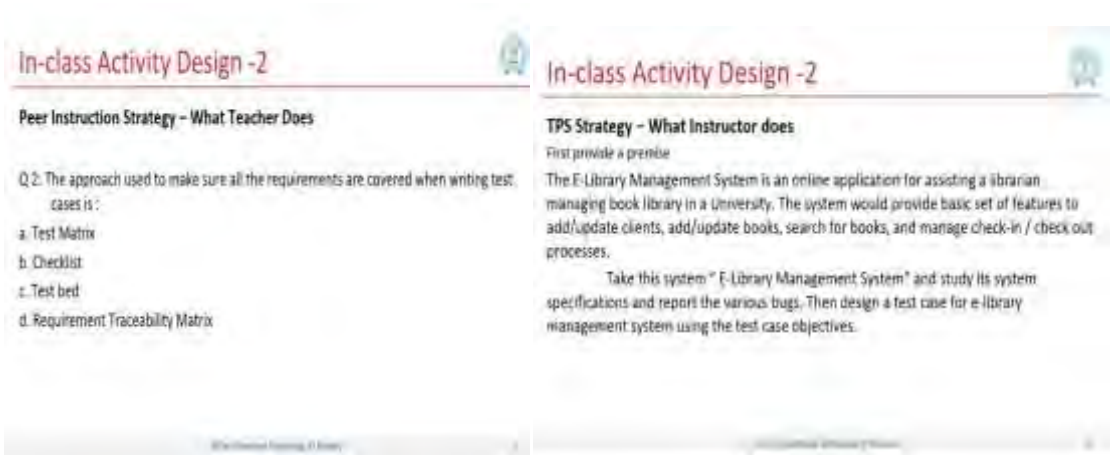
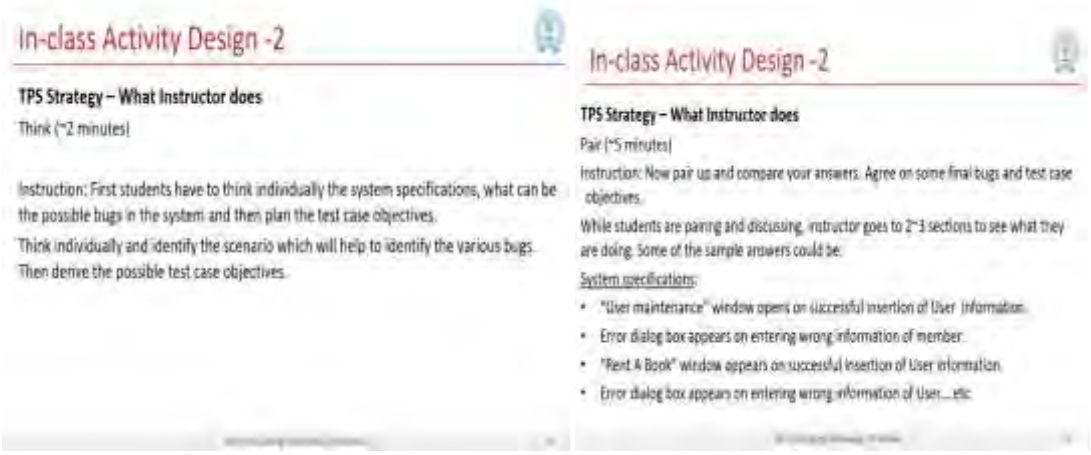


FIGURE 5: SCREENSHOTS FOR FCA (FLIPPED CLASS ACTIVITY)



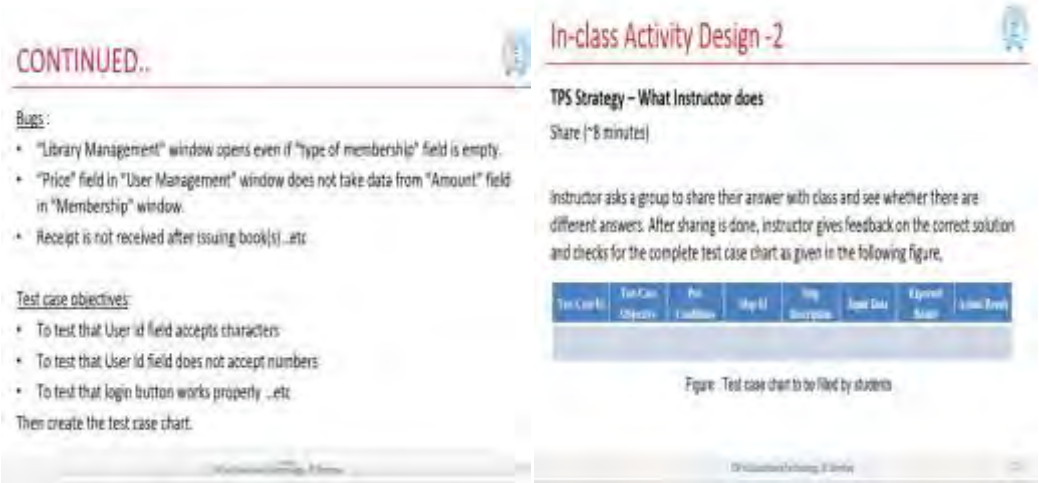


FIGURE 6: SCREENSHOTS FOR FCA (FLIPPED CLASS ACTIVITY)

Evaluating Effectiveness of active learning with ICT

The effectiveness can be assessed at two levels:

1. At the student(Learner) level
2. At the consumer level

Effectiveness at the student level

Effectiveness at the student level involves metrics related to student access of the resource and student learning. The google sites lesson report can be used to evaluate this effectiveness, with the report showing the total number of students who accessed the reports (along with time) and their marks (based on their answers to MCQs). Additionally there is an option for teacher to grade essays and these marks also will be calculated if needed.

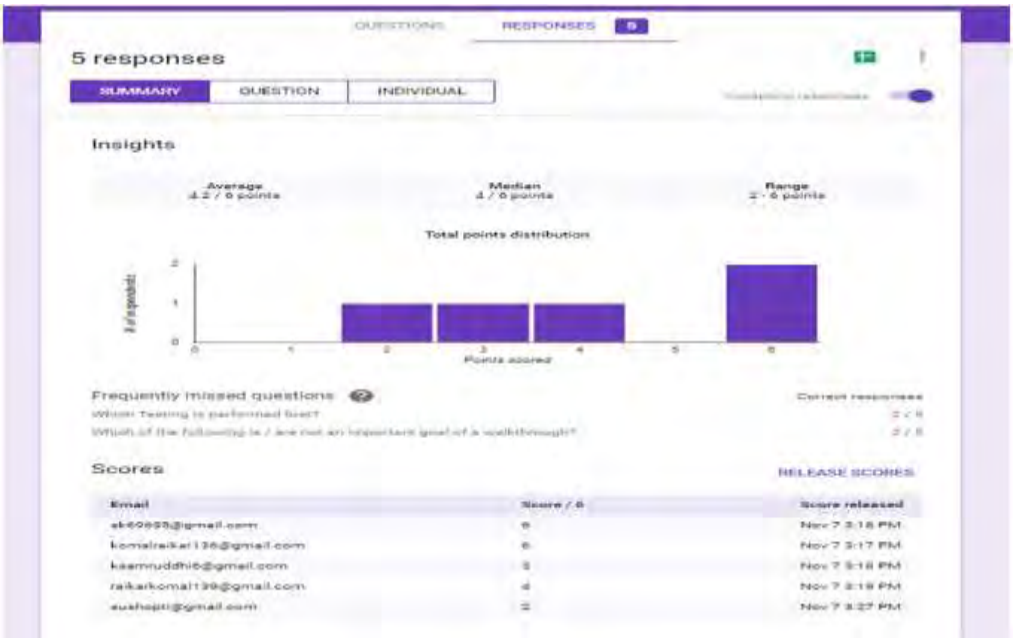


FIGURE 7: SCREENSHOTS FOR STUDENT RESPONSES

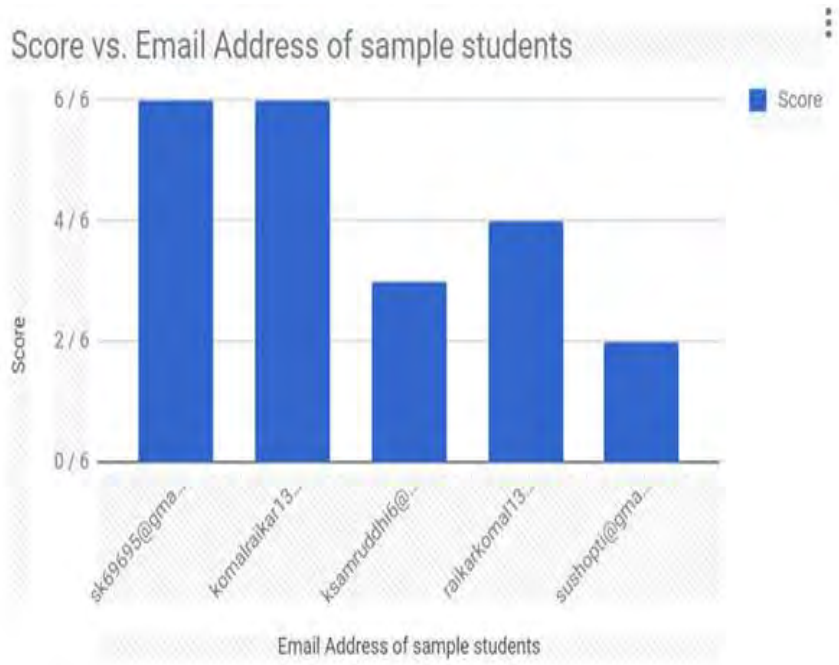


FIGURE 8: SCREENSHOTS FOR ANALYSIS WITH BAR CHART.

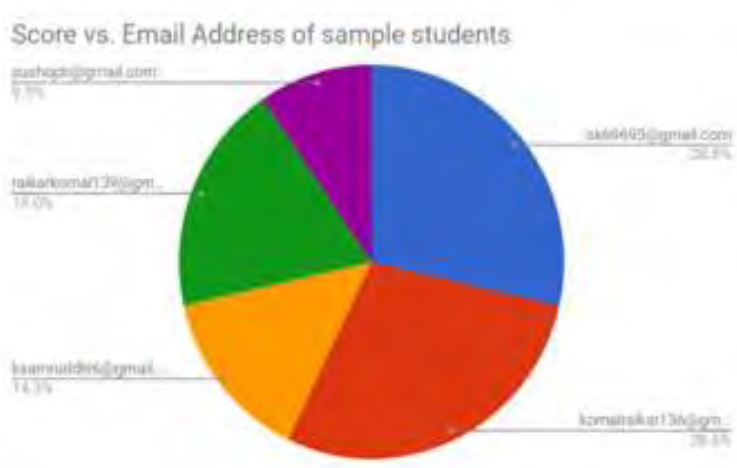


FIGURE 9: SCREENSHOTS FOR ANALYSIS WITH PIE CHART.

Effectiveness at consumer level

Consumers are typically teachers who want their students to learn concept mapping. Linking a survey on three main constructs – Ease of Use, Concept Coverage and Concept Complexity, can help in identifying the effectiveness of this method at consumer level. This has to be done as a follow-up activity.Implementing survey with every user who downloads this resource will be asked their email address and as a follow up the survey will be send to their email address.

Conclusion

In today's web based world, with the help of Information communication Tools(ICT) teacher centric approach can be changed towards learner centric approach.ICT tools like video lectures, moodle quizzes, Flipped classroom methodology and personalized home-based e-learning with discussion and practical applications in the classroom are discussed here to to enhance active learning in engineering education. With different ICT used in this case study demonstrates effectively active learning can be achieved in technical education.Flipped classroom may be effective and efficient tool to enhance teaching-learning process. Out-of-class activity will help address common problem of varying learning abilities of learners.The resources are available on the WORDPRESS webpage www.stqablog.wordpress.com and it is openly available to the users **Acknowledgement**

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FLIPPING HEAT TRANSFER CLASSROOM: A LEARNING

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Abstract

A paradigm of Teaching-learning process all over the globe is shifting from conventional Teacher centric towards learner centric mechanism. This new learner centric pedagogy may address conventional problems, such as varying abilities and interests of students, managing large classes, by dividing entire teaching-learning into out-of-class activities and in-class activities. Flipped Classroom is a form of teaching wherein study material is disseminated, well before the actual class, to the learners as an Out-of-Class activity. In the present work, a design of flipped class used for Third Year Engineering learners in the subject of Heat Transfer, which is a core, Mechanical Engineering subjectis presented. A study material in the form of power point presentation for a topic is disseminated as out-of-class activity through WORDPRESS web page of a teacher well before the actual class. Lerner's performance is assessed through multiple choice questions via google form as an open source. Team-pair-share strategy is adopted as in-class activity to evaluate learners understanding about the topic.

Keywords: *Flipped Classroom, Heat Transfer, Engineering Education*

Introduction

There is no universal definition of the term Flipped Classroom however; it appears that a flipped classroom provides video lectures or presentations as out-of-class activity followed by in-class activities. Learners are expected to view the videos or presentations outside the classroom before,and after too, coming to class. During the class, available freed time can be devoted to interactive sessions like Q&A sessions, discussions, exercises or other learning activities.

The origins of Flipped Classrooms is traced back to 2007 when two high school chemistry teachers in Colorado, Jonathan Bergmann and Aaron Sams, became concerned with students who often missed classes due to various competitions, games or other events.They began to record lectures, demonstrations, presentations and upload on YouTube for students to access. Since then Flipped Classrooms have evolved into a number of variations all with video lectures as their key feature. Sometimes the video lectures include embedded questions prepared by the instructor and students are required to read background materials or participate in online quizzes before coming to class.

It is a homogeneous blend of out-of-class and in-class activity, which provides complete freedom to learners to learn the concept as per his choice and time. Learners are expected to refer the shared study material may be videos, animations or presentations prior to actual class. During the class Think-Pair-Share technique may be used to enhance subject understanding. Learning freedom and peer discussions under teacher's guidance and supervision certainly make the teaching - learning more interesting and effective. Several studies have shown that students prefer flipped classrooms because they are more interactive and there is increased peer-to-peer learning. In addition, teacher is able to spend more time for guiding discussions and elevate learner's learning interest instead of covering material in a traditional lecture format.

It was decided by authors to practice flipped classroom in a class of Heat Transfer, a core Mechanical Engineering at Third Year Engineering level. An open education resource in the form of presentation is developed and dissimilated among learners through author's WORDPRESS website as study material and a multiple choice question's quiz through google form to evaluate efficacy of the idea. The process is presented in this paper.

This open education resource, OER, is a Power point presentation dissimilated through WORDPRESS webpage useful as out-of-class activity while flipping the classroom. This is only one sample lesson, in the form of power point presentationwhich deals with a basic concept related to Conduction Heat Transfer. Other similar concepts of Convection and Radiation heat transfer may be conveyed to learners using the same pedagogy. This or other such OERs in the same form or may be video lectures can be disseminated for all concerned learners through WORDPRESS webpage for Out-of- Class activity.OER is downloadable fromhttps://sandeep1604.wordpress.com/page/

Target audience is Third year Engineering Students of Mechanical domain as well asUnder Graduate Engineers.

Learning Objectives

After going through this presentation, learner will be able to:

1. Identify conduction heat transfer
2. Understand the concept of steady state heat conduction
3. Quantify the rate of heat transfer in conduction
4. Comprehend heat conduction equation
5. Prepare thermal resistance network

Design Decisions

The design decisions involved in the creation of this OER are as follows:

1. Content Decisions
2. Pedagogic Decisions
3. Technology Decisions

Content Decisions

The content decisions are based on the following:

a. Concept of Conduction mode of Heat Transfer, specifically steady state conduction heat transfer through plane wall
b. Power point presentation depicting basic concepts of the subject matter is provided to learners through WORDPRESS webpage

Pedagogic Decisions

In a flipped classroom strategy, typically there are two segments namely Out-of-Class segment and In-Class segment. Learners are required to refer given material (Video, Presentation, Text etc.) and understand the concept as an out-of-class activity. The pedagogic decisions that were taken for the Out-of-class segment and in class segment are:

a. Cognitive Levels of Questions to be asked along with the resources – Recall to Apply level question for out of class and Create Level question for In-class
b. Assessment Strategies – Multiple choice questions for out of class, Team-Pair-Share strategy for in-class

Technology Decisions

While developing the Out-of-Class and In-class activities, the major technology decisions taken were:

a. Downloadable power point presentation on the subject matter may be uploaded on WORDPRESS webpage, as out-class-activity. Learners can post their queries on relevant blog on the same webpage

b. Assessment Strategies –multiple choice questions, MCQ, for out of class through quiz or MCQ with Google form as an open source.Team-Pair-Share strategy for in-class activity

Description

Learners of a class are requested through mail to download the OER from the WORDPRESS webpage, about a week before the actual class. Blog for discussion is created on the same webpage where learners can post their questions as well as queries after going through the presentation as per their convenience and ease. Peers as well as instructor/s, answer questions/queries asked, on the blog, to clear the concepts as well to help clearing doubts in out-of-class activity.

How to use this OER

No permission is required on website tom use this resource. User can access the study material, simply by visiting www.sandeep1604.wordpress.comand download presentation as resource for study by selecting HEAT TRANSFER PRESENTATION

Once the material is referred, learners have to take a MCQ quiz MCQ. Figures 1 and 2are showing general settings of a lessor. This is same for all the lessons unless mentioned.

Precautions to be taken for Out-of-Class Lesson Activity

1. The activity will be provided at least 1 week in advance
2. Minor incentive in terms of marks for completion of the activity
3. Screen casts as well as open source video lectures will be suggested as additional resources and separately made available on the same webpage itself. This will take care of common cribs related to —website not available", —resources not accessible" etc.

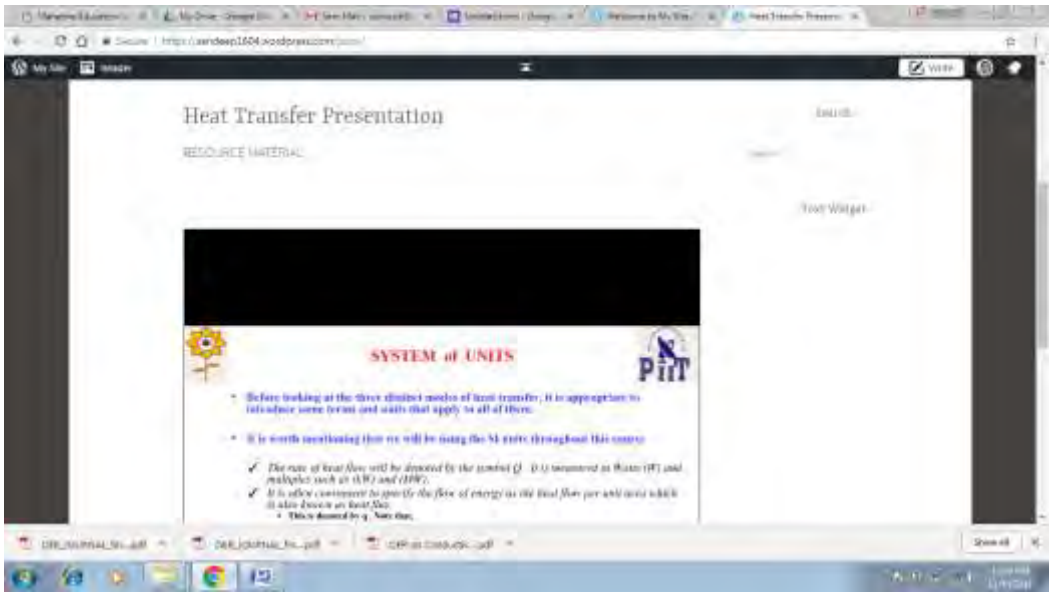

FIGURE 1: SCREEN SHOT OF WEBSITE AND THE STUDY MATERIAL

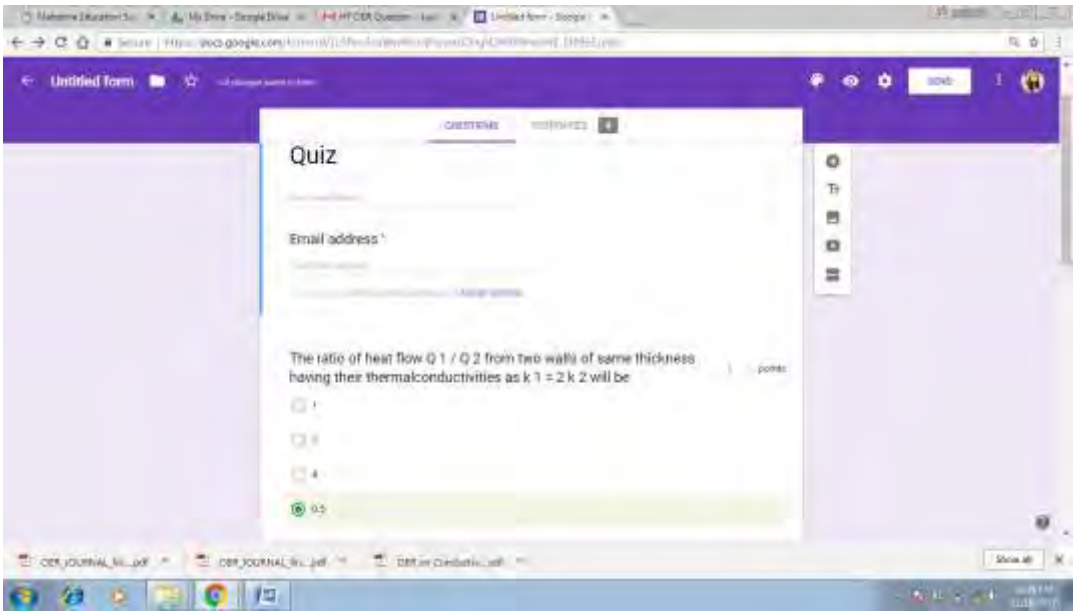

FIGURE 2: SCREEN SHOT OF GOOGLE QUIZ ON THE SUBJECT MATTER

Evaluating Effectiveness

The OER effectiveness can be assessed at two levels:

1. Effectiveness at learner level: Effectiveness at the student level involves metrics related to student access to the resource and student learning. To evaluate the effectiveness of OER, WORDPRESS visitors report will show the total number of learners who accessed the resource. Learnersare requested to post their queries on blog.
2. Effectiveness at teacher level: OER consumers are typically teachers who want their students to learn heat transfer. Linking a survey on three main constructs – Ease of Use, Concept Coverage and Concept Complexity, can help in identifying the effectiveness of this OER at consumer level. This has to be done as a follow-up activity. Thus, every user who downloads this resource will be asked their email address and as a follow up the survey will be sent to their email address.

Survey Questions

Construct	Question	Scale
Ease of Use	I found it easy to download the lesson activity	Strongly Disagree to strongly Agree (5 point liker scale)
0Concept Coverage	The lesson covers required concepts related to conductive heat transfer that I need to learn in the course	
Concept Complexity	The content inside the course is too complex for my students to understand	

Conclusion

Flipped classroom may be effective and efficient tool to enhance teaching-learning process. Out-of-class activity will help address common problem of varying learning abilities of learners. A community of teachers who are using ICT tools in teaching learning and teachers who plan to use Flipped Classroom Strategies can be built. The resource is already available on the WORDPRSS webpage and its access requires the users to provide their email address.

Acknowledgement

Authors are grateful to IIT Bombay for providing training on ICT use in education.Authors are also indebted to Prof SushoptiGawade for her enthusiastic help during preparation on OER and dissimilating the same on webpage. Facilities at PCE New Panvelare also gratefully acknowledged.

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Flipping Core Courses in the Undergraduate Mechanical Engineering Curriculum: Heat Transfer, Advances in Engineering Education

A STUDY ON DETERMINANTS FOR USING ICT IN TEACHING, LEARNING AND EVALUATION PROCESS IN ARTS, COMMERCE & SCIENCE COLLEGES OF MUMBAI UNIVERSITY

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Abstract

The use of Information and Communication Technology in teaching-learning process is a relatively new and has been the educational focus as compared to the traditional teaching and learning. The effective integration of this technology into classroom practices creates a challenge to teachers and students. The aim of this paper is to bring together the findings and study on effective use of ICT in teaching learning & evaluation process. Researcher aims in knowing and understanding the use of ICT by teachers in teaching and evaluation and in learning by the students. The study is conducted in arts, commerce &science colleges of Navi Mumbai affiliated to Mumbai University.

Keywords: *ICT, Teaching, Learning, Evaluation*

INTRODUCTION:

Information and Communication technology is a technology in communication, data processing which helps in achieving the educational goal. It is basically a combination of hardware and software through which teachers can deliver their lecture to the students and students can also use the technology interface in interaction with teachers, and browse required knowledge. Information and Communication technology is a way in education which has efficient technique into teaching, learning and evaluation. It also motivates the teachers and students, which helps them in finding the information, answers or any required information for their academic activities online.

The process of teaching and learning has become more student focused aiming to produce capable work-force in the market. Earlier as compared to traditional approaches and methods of teaching learning & evaluation today there is a change due to ICT tools like projectors, laptops, Desktop system, online delivery of lectures, smart phoned e-books and other web resources and software and hardware devices. In 2004 India launched world‘s education satellite known as EDUSAT for imparting distance learning for many Indians and also developed a virtual digital classrooms.

ICT has been beneficial in learning efficiently and also generates an interest to learners helping in improving the quality of education. The knowledge developing approach has a bettereffect on learning. ICTaim is to increase the capability of learners, addsignificance to education. It offers increased possibilities for classification of knowledge related to teaching and for innovation in teaching activities which enable the learning and reasoning activities anytime and anywhere which is the best role of technology today.

As a communication technology it is useful for teachers for preparing lessons, sequencing classroom activities and many more related to education. It also helps teachers to work in teams and share ideas related to their curriculum. ICT has a role with broadband and smartboard which increases collaboration between educators.ICT integration into the learning process is very effective and has the potential to engage learners. For example using multimedia to present reliable information motivates and challenges students which develops their problem-solving skills.

LITERATURE REVIEW:

According to Daniels (2002) ICTs have become within a very short time, one of the basic building blocks of modern society.

As per Microsoft Corporation (2007) report on its ICT initiatives in Africa acknowledged that technology alone does not drive development but enables it.

According to Oliver (2001) we need teachers who are attuned to data and its interpretation. We need systems that aggregate the right things and that make it easy for teachers to record their observations. We need more diagnostic specialists in education as well as more identification of teachers who are good conceptualizers and multi-media communicators. These are new specialists. ICTs open up much the same opportunities in education as medical technologies opened in the health industry over the last 50 years – and they will demand a similar set of specializations. The other factor required to ensure the quality of education improves with ICT application is the training and quality of teachers and related professionals in the creation, use and interpretation of data and applications generated from use of those ICTs

According to New Media Consortium (2007)ICT presents an entirely new learning environment for students, thus requiring a different skill set to be successful. Critical thinking, research, and evaluation skills are growing in importance as students have increasing volumes of information from a variety of sources to sort through.

According to Zhao and Cziko (2001) three conditions are necessary for teachers to introduce ICT into their classrooms: teachers should believe in the effectiveness of technology, teachers should believe that the use of technology will not cause any disturbances, and finally teachers should believe that they have control over technology.

OBJECTIVES OF THE STUDY:

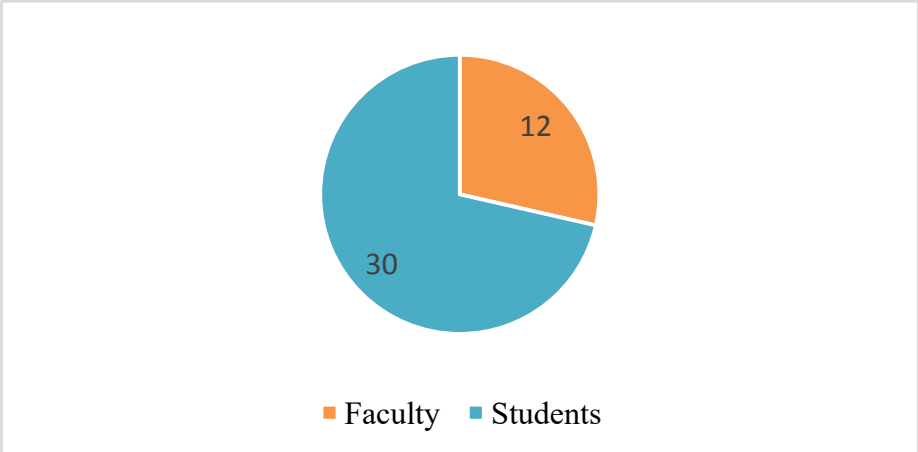
- To study the determinants of using ICT in teaching, learning and evaluation

RESEARCH METHODOLOGY:

Present study is based on the primary data collected from a purposive sample of teachers and students in the selected four colleges of Arts, Science and Commerce colleges affiliated to Mumbai University which is selected for the study. A questionnaire is used as the instrument of data collection. For arriving at meaningful conclusion the study uses percentage analysis.

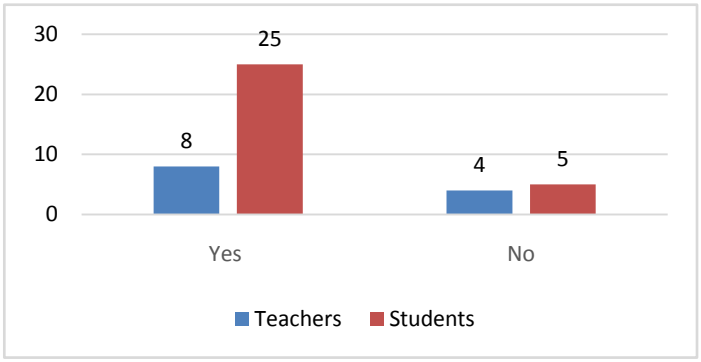
DATA ANALYSIS AND INTERPRETATION:

Figure 1: Teachers and Students



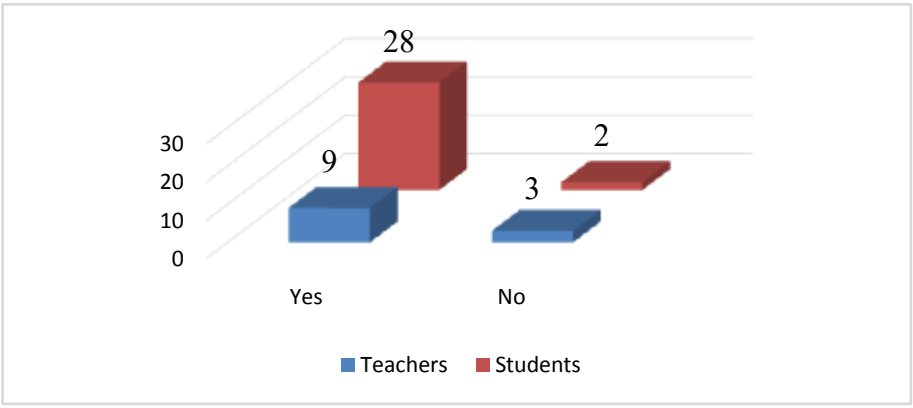
As per above figure 1 shows the teachers and students surveyed for the study. It is found that teachers are 12 per cent and students are 30 per cent.

Figure 2: Use of ICT in teaching and learning



The above figure 2 shows that majority of teachers are using ICT in teaching and 25 per cent students are also using ICT in learning.

Figure 3: ICT helpful in a better communication (teaching & Learning)



The above figure 3 shows that teachers and students are of view that ICT is helpful in a better communication. It can be seen that 9 per cent teachers agreed that it is helpful in teaching and 28 per cent students are of view that ICT is helpful in learning.

Table 1: Use ICT by teachers in following activities of academics

Sr No	ICT use	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	To use for teaching	2 24%	1 12%	3 36%	2 24%	4 48%
2	To prepare lessons	1 12%	1 12%	2 24%	3 36%	5 60%
3	To find digital learning resources	1 12%	1 12%	1 2%	4 48%	5 60%
4	To do the Exam related work	2 24%	1 12%	2 24%	3 36%	4 48%

Above Table 1shows that teachers strongly agree that the given factors of ICT are used to make teaching-learning and evaluation. From the above study it is found that teachers are using ICT in their teaching. It is found that the use of ICT in teaching, they have strongly agreed which is 48 per cent,

preparing lessons is 60 per cent, finding digital learning resources is60 per cent and for exam related work is 48 per cent.

Table 2: Use ICT in learning for the following academic activities

Sr No	Academic Activities	Once a week	Once a Day	More than once a day
1	Browse and download study material	12 (3.6%)	10 (3%)	8 (2.4%)
2	Online reading books/journals/magazines	13 (3.9%)	8 (2.4%)	9 (2.7%)
3	Watch lecture videos	11 (3.3%)	9 (2.7%)	10 (3%)
4	Know about new technology	14 (4.2%)	12 (3.6 %)	4 (1.2%)

As per above table 2, indicates the frequency of use of ICT.From the analysis it is found that students are using ICT once a week for browsing and downloading and study material which is 3.6 per cent, Online reading books/journals/magazines 3.9 Per cent, Watch lecture videos is 3.3 per cent and know about new technology is 4.2 per cent

FINDINGS & CONCLUSION:

From the above analysis it is seen that teachers have agreed that ICT is helpful in teaching and students are of view that ICT is helpful in learning. Teachers are using ICT for their academic activities for teaching and evaluation, to use ICT for digital resources, to prepare lessons and to do exam related work. From the above study it is also found that the students are also using ICT into learning for browsing and downloading study material, Online reading books/journals/magazines, Watch lecture videos and to know about new technology. Hence it can be concluded that ICT has an important role to enhance the teaching, learning and evaluation. Majority of teachers use computers for teaching, exam related work. It is also found that ICT has enhanced E-learning in colleges. Information can be accessed online by the teachers and students which saves time as compared to the filing system. It has also made easy for teachers to update teaching-learning materials by learning about the latest materials improving their work.

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USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR QUALITY ENHANCEMENT IN TEACHING PROCESSES FOR THE UNDER GRADUATE STUDENTS OF COMMERCE STREAM, UNIVERSITY OF MUMBAI

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Abstract

This study investigates whether teaching through ICT improves teaching quality for the under graduate students of commerce stream, University of Mumbai. Chi Square wasused to analyze the data. The result of the study shows that teaching through ICT has improves teaching quality for the under graduate students of commerce stream

Keyword*: ICT, under graduate students and Mumbai University*.

1. Introduction:

The opportunities for education arising from developments in information and communication technology (ICT) are very promising. In recent years, increased computing power, improved wireless and user-friendly technology, and reduced telecommunication costs have contributed to lowering barriers to information access and exchange. The potential for using more innovative, cost-efficient, and user-friendly ICT solutions in education, and for reaching all groups of society including the poor, those in remote areas, and other disadvantaged groups has become increasingly feasible in less advanced countries and in more advanced ones.

ICT has the potential to ―bridge the knowledge gap" in terms of improving quality of education, increasing the quantity of quality educational opportunities, making knowledge building possible through borderless and boundless accessibility to resources and people, and reaching populations in remote areas to satisfy their basic right to education. As various ICTs become increasingly affordable, accessible, and interactive, their role at all levels of education is likely to be all the more significant in making educational outcomes relevant to the labour market, in revolutionizing educational content and delivery, and in fostering ―information literacy."

To date, many initiatives in ICT for education in developing countries have been limited to increasing information access for educational institutions in general and specifically for teacher training, aimed at using ICT-based resources and tools in the classroom. Evidence that the use of ICT leads to higher student achievement or other positive effects is limited to pilots that have yet to be implemented on a larger scale in developing countries. However, ICTs enable access to and use of information that may not be commonly available in certain

Contexts, thus providing teachers with content they would not have had otherwise to engage their students. In addition, teacher training in ICT for education parallels training in teaching methodology that supports student centered learning. Hence, investments in ICT for education are likely to lead developing countries toward educational reforms that are necessary for fostering an information-literate citizenry, which is the key to competing in the global economy.

Investments in ICT for education at the higher educational level support the development of a skilled, ―ICT-capable" labour force that may attract direct foreign investment, as well as research and

development activities and university private sector links that are important drivers of innovation and growth in advanced economies.

Nowadays, when schools and colleges are transforming themselves into smart schools and colleges, where the role of ICT has been skyrocketing, monitoring the critical part of ICT in education, the education ministers or administrators must be sufficiently insightful in actualizing the methodologies to enable ICT in supporting the educating and learning process in the school. ICT is the sprout of the education activities, as well as it will be the secondary alternative to enhance the powerful and important education systems. Therefore the study is undertaken under the title –Use of Information and Communication Technology (ICT) for Quality Enhancement in Teaching Processes for the Under Graduate students of Commerce Stream, University of Mumbai"

2. Relevance of the Study:

The internet has become an integral part of every individual's life. Even in school and colleges, the use of internet has increased at an alarming rate. ICT-Information and communication Technology has given wings to empower the use of technology related activities in the world of education. There is a negative image of ICT on the minds of many people and to eliminate that impact, schools and colleges play an important part. ICT or what we call it 'the internet' has a positive side that helps to increase the knowledge of the student.

3. Scope of the Study:

3.1 Conceptual Scope: This study is limited to study of use of ICT in teaching processes for under graduate commerce streams, University of Mumbai.

For the study four commerce courses are included:

1. **Bachelor of Commerce,**
2. **Bachelor of Commerce in Accounting and Finance**,
3. **Bachelor of Commerce in Financial Market** and
4. **Bachelor of Commerce in Banking and Insurance**.

3.2 Geographical Scope: The study covers under graduate commerce colleges, University of Mumbai in Mumbai city.

4. Methodology:

4.1 Class of respondent

For the purpose of the survey total 45 teachers from different undergraduate commerce colleges, University of Mumbai have been selected on random basis.

4.2 Sampling method

For collection of primary data non-probability convenience sampling method will be used.

4.3 Method of data collection

In this research researchers will use both primary and secondary data.

4.3.1 Primary data will be collected from 45 teachers from different undergraduate commerce colleges University of Mumbai have been selected on random basis.

A pilot study will be conducted on 10 teachers. The final study will be done on 45 teachers. The study will be limited to Mumbai city only.

4.3.2 Secondary data will be used to support the study collected from books, journals, websites, and newspapers.

4.4 Statistical Technique of analysis of data: Chi square is used to test the hypothesis.

5. Objectives of the Study:

1. To know whether Teaching through ICT improves teaching quality for the under graduate students of commerce stream.

6. Hypothesis of the Study:

Ho: Teaching through ICT has not improved teaching quality for the under graduate students of commerce stream.

H1: Teaching through ICT has improved teaching quality for the under graduate students of commerce stream.

7. Result:

The hypothesis was proved by using the test Chi – square:

Table 1: Observed Value

	Improves Teaching Quality	**Does not Improves Teaching Quality**	**Total**
ICT Teaching	20	4	24
Non ICT Teaching (Traditional Teaching)	6	15	21
Total	26	19	45

Table 2: Expected Value

	Improves Teaching Quality	**Does not Improves Teaching Quality**	**Total**
ICT Teaching	14	10	24
Non ICT Teaching (Traditional Teaching)	12	9	21
Total	26	19	45

Table 3: Chi- square Calculation

O	**E**	**O – E**	**$(O – E)^2$**	**$(O – E)^2 / E$**
20	14	6	36	2.571
4	10	-6	36	3.6
6	12	-6	36	3
15	9	6	36	4
Chi Square Calculated Value				13.171

The computed value of Chi – Square i.e13.171 isgreater than the table value of Chi Square for 1 degree of freedom at 5% level of significance (3.841). Hence we reject the null hypothesis and accept alternate hypothesis and conclude that teaching through ICT has improved teaching quality for the under graduate students of commerce stream, University of Mumbai.

8. Conclusion of the study:

Teaching through ICT has improved teaching quality for the under graduate students of commerce stream.

9. Limitation of the study:

1. This study attempts to find whether teaching through ICT improves the quality of teaching of Commerce College only. It excludes other courses.
2. Only Mumbai area was selected for the study.
3. The sample consists of only 45 teachers because of limitation of time and resources for the study. However, considering the size of the population, this sample is found to be adequate enough to be a representation of the population.
4. Only Mumbai University affiliated commerce colleges were selected for study.
5. Only Commerce stream Under Graduate students were selected for study.

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ICT impact on EducationEffective ICT utilization on lessons by Prof.KAGETO,Makoto Professor , Nihon Fukushi University Guest professor ,National Institute of Multimedia Education.

A RESEARCH PAPER ON IMPACT OF I.C.T USED IN TEACHING METHODS IN PANVEL CITY COLLEGES

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Abstract

—India is a rich country in the culture of learning. Education sector is growing tremendously at a faster pace. Introduction to computers have triggered the growth of education system of India but ICT have multiple reactions, it is both intrigued and frustrated teachers and researchers alike. The many promising prospects of computers and its applications did not materialise, and research into their effectiveness in learning has left many unanswered questions. The methods used in educational research of this nature in the past and present have evolved over the years. Findings from various research studies have indicated positive effects and consequently a need for more in-depth studies into the impact of ICT on learning in the future. Hence this paper is analysing attitude of teachers towards using ICT techniques in teaching. It tries to measure the impact of using ICT techniques on teaching learning and evaluation process"

Keywords*: ICT, Impact, Attitude, teaching skills, learning*

1. Introduction:

ICT is considered as powerful tool to promote education. It has become a primary focus especially in the least developed countries and developing countries where the reach of education is to masses with least resources. Although earlies in 70's and 80's computers were not been fully integrated in the learning of traditional subjects, the commonly accepted perception that the system of education would have to prepare the students for a knowledgeable society increased the interest in ICTs. The study shows the impact on college teacher's attitude due to use of ICT techniques as well as it measures attitude of college teachers towards use of ICT techniques in future. ICT systems used in Panvel city colleges are educational technology that is applied in the educational process. It includes three application approaches:

a. Hardware approach like use of machines and materials.
b. Software approach like use of methodologies and strategies of teaching learning.
c. Systems approach that uses the management technology that deals with the systematic organization of the hardware and the software. Different software packages for the use in different department of education

E.g. of systems used in Panvel city colleges are Resource center in CKT and Pillai campus which uses library software, Anjuman-I-Islam's Kalsekar Technical College uses administration software to maintain the records of teaching and non- teaching staff and students. Similarly Pillai group of institution has also developed 100% online system for managing teaching and other administration activity. Pillai College has also developed software related to managing the entire teaching learning process.

1.1. Definition of ICT:

ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums.

1.2. Demography of Panvel and college education profile:

Panvel is a city in Raigad district of Maharashtra in Konkan Division. The city is highly populated due to its closeness to Mumbai. Hence education sector is highly growing with many new schools and

colleges initiated in the proximity. Panvel is a huge and most populated city in Raigad district. The city is the headquarters of the Panvel sub-division of Raigad district, which is the largest in the district as per number of villages which is 564 and also Panvel taluka which has 177 villages under it. Pillais Institute of Information Technology, Engineering, Media Studies & Research, Pillai college of Arts science and Commerce, Changu Kana Thakur Arts, Commerce and Science College, New Panvel, Barns High School & College of Arts, Science & Commerce, MPASC(Mahatma Phule Arts, Science & Commerce) College Panvel, Anjuman-I-Islam's Abdul Razzak Kalsekar Polytechnic, panvel, Anjuman-I-Islam's Kalsekar Technical Campus [AIKTC), New Panvel etc.. are well known colleges in Panvel city. More than 3 lakhs of students avail education from Panvel education systems according to current CIDCO report.

1.3. Relevance to study ICT system used in Panvel colleges:

The study brings out the gap between the popularity of ICT techniques and the real impact of using them. It measures the attitude of teachers towards growing use of technology in teaching. The aim of the study is to measure the feedback of the target audience‘s ICT needs and their information seeking behavior in collecting ICT resources. Through limited sample size of 210 teachers from 7 colleges including Pillais Institute of Information Technology, Engineering, Media Studies & Research, Pillai college of Arts science and Commerce, Changu Kana Thakur Arts, Commerce and Science College, New Panvel, Barns High School & College of Arts, Science & Commerce, MPASC(Mahatma Phule Arts, Science & Commerce) College Panvel, Anjuman-I-Islam's Abdul Razzak Kalsekar Polytechnic, panvel.

1.4. Research problem :

The ICT systems used in Panvel colleges is advance. Thanks to University of Mumbai online evaluation every teacher is equipped with the method of evaluation online, those who were away from ICT systems and only using traditional methods of teaching are also interested in advanced methods of using technology in teaching. Many colleges are well equipped with usage of Google classroom, some teachers use MOODLE software, Pillai Engineering college in Panvle city host moodle in their website too. This shows that ICT users have grown from last few years.

The problem found by the researcher is that this software induced through proper training for which colleges spend training cost, and training time those software‘s usage and impact is not measured. There should be proper model to measure impact of ICT techniques used for teaching. The changing attitude of teachers and students towards ICT usage should be measured so that necessary changes can be implemented.

2. Research Methodology:

a. The study uses quantitative and empirical method of research design.
b. Data collection will be done through two techniques that is:
   i. Primary source through a questionnaire
   ii. Secondary source through preparing literature review of research paper and book published about ICT.
c. Data analysis is done with the help of two techniques a Likert scale analysis for limited option questions asked and Chi - squre for testing of hypothesis.
d. Data interpretation is done by converting numerical in to statements proving hypothesis and achieving the objectives.
e. Data is presented by using tabular and chart format for better understanding of the impact.

2.1. Objectives

a. To understand application of ICT skills in colleges.
b. To know how ICT tools are applied to provide knowledge to students.
c. To find what are the barriers in ICT implementation.

d. To find the opinion of teachers in using ICT.

2.2. Hypothesis

a. H_0 – There is no significant growth in knowledge due to use of ICT techniques in learning.
b. H_1 – There is strong relation between using ICT and understanding of concepts by students while teaching is equipped with ICT.

2.3. Literature review

a. Hepp, Hinostroza, Laval and Rehbein (2004) advocated in their paper "Technology in Schools: Education, ICT and the Knowledge Society" that ever since the inception of ICTs in education, they have been used but not to its maximum.
b. Moreover, Kozma and Anderson (2002) write in their paper "ICT and Educational Reform in Developed and Developing Countries" that for an economy to be knowledgeable education should be its primary necessity. Simultaneously, the teaching strategies in schools are bending towards ICT. This change towards ICT has been very dramatic. Similarly, Kozma and Wagner (2003) agreed on that idea that the ICT will enhance the basic education and is a very challenging field of development work nowadays, in both poor and wealthy nations (Wagner, D., Kozma, R., 2003).
c. Additionally, still in the field of ICT in education, Ezer (2005) points out that 'the ICT for development literature often treats education 'in passing".
d. Reid (2013) studied on ‗Quality assurance, open and distance learning, and Australian universities'. They found that determined online instructors moved through different phases of their online learning experience, and their needs changed at each stage. Furthermore, considering educational leaders were responsible for the quality of online programs and instruction they also needed to engage in professional development, and experiment with online learning environments, infrastructures, and technologies.

2.4. Scope of study

The study analyses the impact and attitude of teachers while using ICT techniques in teaching learning and evaluation. The geographical scope of study is Panvle city area where a sample of two township is considered that is Old Panvel and New Panvel from the Panvel taluka which has 177 villages under it. The study is only measuring attitude and impact of college teachers and it doesn't analyses other educational intuitions. The study doesn't analyses the gender difference in impact of using ICT techniques.

2.5. Data collection:

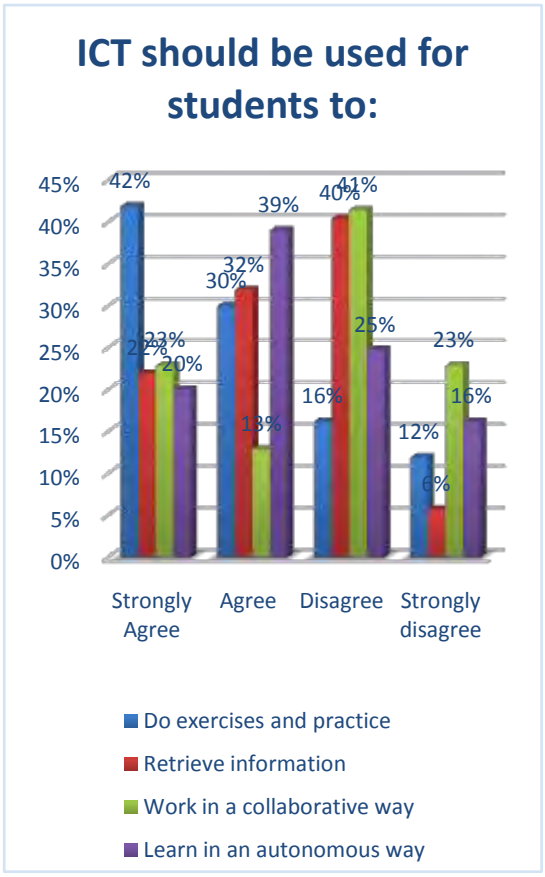
Data collection is done through two techniques that is Primary source through a questionnaire and secondary source through preparing literature review of research paper and book published about ICT. The study material is majorly collected with the help of E book and online research papers published. Sample size Clustered stratified sampling method is used to collect data:

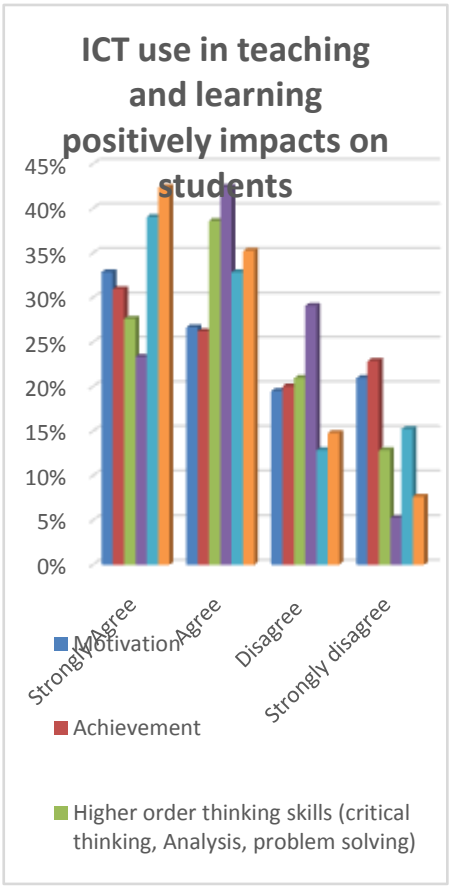
Streams	No of teachers
Communication	21
Mathematics	19
Management	41
Business/ Commerce	43
Law	11
Accountancy	29
Information Technology	32
Life science	14
Total	210

The sample size is collected form 7 colleges of Panvel city including Pillais Institute of Information Technology, Engineering, Media Studies & Research, Pillai college of Arts science and Commerce,

Changu Kana Thakur Arts, Commerce and Science College, New Panvel, Barns High School & College of Arts, Science & Commerce, MPASC(Mahatma Phule Arts, Science & Commerce) College Panvel, Anjuman-I-Islam's Abdul Razzak Kalsekar Polytechnic, panvel.

3. Data analysis and Interpretation:





Interpretation of Likert scale analysis:

1. **It was analyzed from the responses that when it comes to using of ICT techniques ICT should be used for students to do the following:**
   42% teachers responded that they take practical and assignments with the help of ICT techniques. They do exercises and practice a lot with ICT techniques like google classroom. 32% teachers agreed that ICT is very useful for retrieve information. But 23 % of teachers strongly agreed ad well as strongly disagreed that students work in a collaborative way and 39% teachers agreed that students learn in an autonomous way.
2. **ICT use in teaching and learning positively impacts on students in the following manner:**
   43% of students are positively influence students and motivates them. 31% of teachers strongly agree that the students achievement higher order thinking skills (critical thinking, Analysis, problem solving) Competence in transversal skills (learning to learn, social competences, etc.) while using ICT techniques. 43% of teachers agree that ICT use in teaching and learning is essential to prepare students to live and work in the 21st century and 43% of teachers strongly agree For ICT to be fully exploited for teaching and learning radical changes in schools are needed

4. Hypothesis Testing:

H_0 – There is no significant growth in knowledge due to use of ICT techniques in learning.
H_1 – There is strong relation between using ICT and understanding of concepts by students while teaching is equipped with ICT.

Communication	Mathematics	Management	Business/ Commerce	Law	A/c	I.T	Life science
1	**2**	**3**	**2**	**1**	**2**	**0**	**1**
20	**17**	**38**	**41**	**10**	**27**	**32**	**13**

Anova: Single factor

Groups	*Count*	*Sum*	*Average*	*Variance*
Communication	2	21	10.5	180.5
Mathematics	2	19	9.5	112.5
Management	2	41	20.5	612.5
Business/ Commerce	2	43	21.5	760.5
Law	2	11	5.5	40.5
Accountancy	2	29	14.5	312.5
Information Technology	2	32	16	512
Life science	2	14	7	72

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	500.75	7	71.53571429	0.219856	0.0369653	3.500463855
Within Groups	2603	8	325.375			
Total	3103.75	15				

Interpretation:

If the p-value is less than 0.05, then the null hypothesis is rejected and it is proved that there is difference between the means and conclude that a significant difference does exist p value is 0.0369653 which shows that H_1 gets accepted. This shows that all categories of teachers are positively influenced by ICT techniques of teaching. There is strong relation between using ICT and understanding of concepts by students while teaching is equipped with ICT. There is significant growth in knowledge due to use of ICT techniques in learning.

4. Limitations of study:

The study is geographically limited. Geographical scope of study is Panvle city area where a sample of two township is considered that is Old Panvel and New Panvel from the Panvel taluka which has 177 villages under it. The scope limit is that the study analyze only the impact and attitude of teachers. Study doesn‘t do gender analysis and impact of ICT techniques gender wise of teachers, Hence study doesn‘t provide gender difference in attitude of using ICT techniques in teaching. Other areas like students, administration, non- teaching staff attitude is not considered. The sample limitation is that the sample is limited to 210 teachers, collected from seven colleges from Panvel and New Panvel. Samples of streams like Communication, Mathematics, Management, Business/ Commerce, Law, Accountancy, Information Technology, Life science other streams like engineering, architecture, diploma teachers etc... are not a part of sample. Hence 100% characteristics of teaching population is not covered.

5. Findings and conclusion:

It was found that When it was asked regarding ICT use during lessons has a positive impact on the following to teachers the response were very positively,

1. Students concentrate more on their learning due to ICT techniques.
2. Students try harder in what they are learning.
3. Students feel more autonomous in their learning (they can repeat exercises if needed, explore in more detail topics that they are interested in, etc.)
4. Students understand more easily what they learn Students remember more easily what they‘ve learnt.
5. ICT facilitates collaborative work between students ICT improves the class climate (students more engaged, less disturbing).

Conclusion: There is significant growth in knowledge due to use of ICT techniques in learning. There is strong relation between using ICT and understanding of concepts by students while teaching is equipped with ICT. Student‘s knowledge and skill is improved due to ICT techniques. But there are lot of drawbacks which teachers mentioned. For eg. Students will not develop reading habit and if reading is their then too books will be replaced by E book.

6. Recommendations:

1. Regular training and updating of skills of teachers and students are required to enhance application of ICT techniques.
2. There should be regular periodic study on ICT practices to find out the gap between the skill and the requirement to enhance effectiveness

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STUDY OF REQUIRED PARADIGM SHIFT IN HIGHER EDUCATION: NEED AND IT'S PREPAREDNESS

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Abstract

The Changing world expected rapid and qualitative change in education policy. India is one of the most populated nations in the world. All the economists in the world expect that India should be the world leader in Men, Money and Monopolistic Power. It is always quoted that the time of —Population Dividend" will give a boost to Indian economy and the status —Developed" will come closer to the nation. Primary, Secondary and Tertiary sectors in India are working in pace to make their speed faster India needs techno skilled, committed, learned, creative and honest man power. The manpower is trained by education sector. Does it need a change? This paper attempts to check the need of changes in the education sector, its prospectus, and analysis of current status and preparedness to paradigm shift in education.

Keywords*: Higher Education, Changing Higher Education, ICT in Higher Education, Future of Higher Education In India.*

Introduction:

Change is the only permanent thing in the world, the change converts in development when associated with change of mind set. The reform in education sector has only talked about but the actual revolution is yet to take place in India. The Economic growth need strong wings of human resource to make the flight sustainable. Indian education should be concentrated in such a way that it is the key factor of the further development of the nation. The development speed in education is unable to satisfy the need of the industry and students. Many students opt for other value added courses outside the regular curricular to become employable, due to it the value of regular higher education programs has deteriorated. It is always discussed, proposed and talked that the regular higher education programs should upgrade to the industrial requirement, but in fact still the higher education programs and its curriculum, industrial requirements, and students expectation has wide gap. The basic question arises that in spite of many discussions and proposals, why the syllabi and curriculum is not updated up to the expectation. What are the students' expectations from higher education? What are industrial expectations? and are the higher education institutes prepared for the same? This research paper concentrates on these issues.

Objectives of Study:

1. To study the students expectations from higher education
2. To study the industrial expectations from higher education
3. To study the preparedness of the higher education institutions
4. To study the direction of upcoming National Education Policy

Research Methodology:

The primary data is collected from Interviews of 10 students and 5 faculties and 4 industrial experts about expectations and preparedness for expected paradigm shift in higher education.

The secondary data is collected from internet research papers, National Education Policy draft and basic books on education and updates of education.

Convenient Random sampling method is used to select the samples. The data collected is analysed using simple statistical tools.

The required Paradigm Shift:

The technology, computers, internet, online social media, emails, ERP systems, Data base administration, Big data, are the key words of the industry, service sectors is dependent on technology. The teaching learning pedagogies need to be interesting and encouraging to learn the education is defined by many authors as, —The process of acquiring Knowledge and addition of value

in the body of knowledge". The change required is ultimately to inculcate the intuition towards updation and upgradation.

1. The use of technology in teaching learning process is required because the young generation is actively interested in all technological things.
2. Use of internet sources for teaching learning, assessment, and administrative processes
3. The change in leaching learning pedagogies in higher education
4. Involvement of students of Higher Education in research with faculties and students grading and evaluation should include such initiatives.
5. Industry interface in higher education in the form pf practical, research projects, assignments, case study and guidance sessions by industrial experts
6. Industrial research projects in education, inculcation of Professionalism Development Programs
7. Learning from experiences and organisation of events and programs at college
8. Change in faculty approach towards the higher education courses. And faculty development programs to create awareness about the changing world and technology.
9. The Development of education administration in systematic manner so as to control the overcrowded higher education system in India.
10. Fund raising methods in higher education which is dependant on government grants, it should be changed to students, industry funding for research projects and CSR funding.

These are some broad areas where the paradigm shift is expected. However the government always plan development by following systematic planning process. The National Education Policy is currently under construction first draft was published in 2016 but again the k. Kasturirangan committee is appointed to draft the policy again and they are expected to submit their draft till end of the December 2017. Union HRD Minister Prakash Javadekar on Sunday said the first draft of the new National Education Policy will come out by December end.

The policy is being prepared by a nine-member panel headed by former Indian Space Research Organisation (ISRO) Chairman K Kasturirangan. The Human Resource Development (HRD) Minister said the panel held its fifth meeting. "They have said that we can have the first draft of the policy by December end. It will be implemented as soon as possible after it has been debated (in the Parliament)," MHRD Minister Javadekar said during a press conference in Gandhinagar. It is certain that the new policy will serve the country for the next 20 years and will be more modern, research-oriented and will produce better citizens, he added. Before the panel was formed, suggestions were solicited from legislators, students, parents and other stakeholders for almost two and a half years.

The NEP 2017 has taken many things from NEP 2016 which was prepared by TSR Surbamaniyan Committee. The highlights will give us a direction to think about the policymakers' views and approach towards higher education.

The NEP 2016 is made public on mygov website the document is of forty three pages and concentrates on following points with strong stress on Inclusion of technology in the education system.

1. Skills in Education and Employability
    a. Skill development programmes in school and higher education system will be reoriented
    b. A detailed plan for the creation of skill schools for improving employment opportunities for secondary school students in special focus districts will be prepared.
    c. Joint certificates by the Sector Skill Council and the School/College authorities to help students take up wage-employment or start their own enterprise.
2. Use of ICT in Education

A concerted effort will be made to make ICT an integral part of education across all levels and domains of learning. Online maintenance of all records of a child from the time of admission till the time of leaving the school will be made mandatory. IT reporting systems will be a powerful tool to better school management and performance.

3. Self -Development through Comprehensive Education
    a. Physical education, yoga, games and sports, NCC, NSS, art education, Bal Sansad, covering local art, craft, literature and skills, and other co- scholastic activities will be made an integral part of the curriculum and daily routine in schools for the holistic development of children. Facilities for the above will be a pre-requisite to the recognition of schools.
    b. Funds will be earmarked by the government/ school management for all co-scholastic activities in schools.
4. Regulation In Higher Education
    a. An independent mechanism for administering the National Higher Education Fellowship Programme will be put in place.
    b. A Central Educational Statistics Agency (CESA) will be established as the central data collection, compilation and consolidation agency with high quality statistical expertise and management information system which will be used for predictive analysis, manpower planning and future course corrections.
5. Quality Assurance In Higher Education
    a. An expert committee will be constituted to study the systems of accreditation in place internationally. It will draw from the experiences of some of the best practices followed by countries having well performing systems and will suggest restructuring of NAAC and NAB as well as redefining methodologies, parameters and criteria. .
    b. Evaluation/ Accreditation details of each institution will be available to the general public through a dedicated website, to enable students and other stakeholders to make informed choices.
6. Open and Distance Learning & MOOCs
    a. In collaboration with Ministry of Skill Development & Entrepreneurship, will redefine itself to address the large potential demand for vocational education. The issues of management, monitoring and oversight of NIOS will be addressed appropriately.
    b. A quality assurance mechanism for accreditation of all universities/institutions offering ODL / MOOCs will be put in place to ensure quality, promote, innovation and reshape and modernise the ODL / MOOCs courses and programmes.
7. Internationalisation of Education
    a. Selected foreign universities, from the top 200 in the world, will be encouraged to establish their presence in India through collaboration with Indian universities.
    b. In order to increase acceptability of Indian students abroad and to attract international students, Indian HEIs will be encouraged to work towards internationalization of curricula aligned with international levels so as to make it globally compatible with best ranked institutions of the world.
    c. Internationalisation will be included as one of the components for allocating additional financial resources to government-funded HEIs.
8. Faculty Development in Higher Education
    a. A task force of experts will be set up to study the recruitment, promotion and retention procedures, followed by internationally renowned universities and institutions and suggest measures to promote intellectual and academic excellence in HEIs.

b. A national campaign will be launched to attract young talent into the teaching profession. In order to attract young talent into teaching profession, a career growth of research students, such as M.Phil & Ph.D scholars, will be created.
c. A mechanism of assessment of academic performance of faculty including peer review will be put in place so as to ensure academic accountability of public-funded institutions.

9. Research, Innovation and New Knowledge
   a. A clear reorientation of research agenda of National University of Educational Planning and Administration (NUEPA) will be undertaken to reflect actual issues on the ground.
   b. Steps will be taken to promote generation of new knowledge and their applications and introduction of these new domains into the curricula of higher education to consolidate and strengthen India‘s position as a soft power.
   c. In order to promote innovation, creativity and entrepreneurship, 100 more incubation centres will be established in HEIs over a period of next 5 years.
   d. International collaborations and networks will be promoted for developing human resources required to sustain new knowledge with special focus on inter-disciplinary research and studies.
10. Financing Education
   a. The government will take steps for reaching the long pending goal of raising the investment in education sector to at least 6% of GDP as a priority.
   b. Instead of setting up new institutions, which require huge investments, priority of the Government will be to expand the capacity of existing institutions.
   c. In order to encourage excellence and efficiency, performance-linked funding of higher education institutions will be implemented.

Data Analysis and finding from primary data

The interview conducted for students have given following results.

a. Students responded that college lectures are not at all interesting to them and they just go to college to meet friends
b. Students said it clearly that our faculties are not techno-savvy and not updated to the current market situations
c. Students join the college only to get the degree and join coaching classes to gain knowledge
d. Students told that we like such professor and attend their lectures who gives us updated knowledge and who are techno savvy
e. Students said that to become graduate we need to study for maximum 15 days then how people will give us job on the same. We need some value added skills to prove ourselves best to get the jobs.
f. The guest lectures organised are most of the faculties from other colleges which does not make any value addition to us
g. Many times we attend college programs as it is compulsory, otherwise it is least important or content oriented.
h. We want the faculties and institutes to use Apps, Web portals, online or YouTube case studies to teach us. Our faculties should watch the online case studies
i. The college should provide us latest technological courses and new methods of teaching learning
j. We want to opine in the class but the teacher talks and we listen the lecture and forget to opine then the concept could not get cleared and we lose the interest in the learning.

The interview conducted for Industrial Experts have given following results.

a. Higher education institutes does not produce final product, We should give them the credit to convert the raw material to a proceeded material but that is of no use for us as we cannot use it as it is in the companies.
b. Higher education should teach about big data, data analysis, soft skills, team building, professionalism development, and many other things other than curriculum which are required for job
c. Faculties should always update and upgrade their selves in terms of core knowledge of the subject content. They should read the latest development in their subjects on internet.
d. We will offer the internships to the students only if they are useful to us. And we would definitely invite faculties also to come and work in industries for few days to understand the process and systems in practice so that they can make the students more capable
e. Current syllabus is really out dated and very basic which is insufficient for a graduate to get a job.
f. We actually search any academician with a calibre to support us in core knowledge of the subject but unfortunately we haven‘t got any to suggest us something on the basis of scientific analysis to grow our business.
g. Collaboration with an institute is really to support the academicians and students to gain more practical knowledge. Indian professors does not have such level of knowledge to support us in our research and development department
h. The most depressive part of the is faculties in educational institutes does not have any industrial experience. I think if anybody want to teach in higher education he/she must have an experience in industry for at least 5 years.

The interview conducted for Higher Education have given following results.

a. Faculties have said that they cannot be techno savvy as students
b. Most of the higher education faculties are complaining about the college infrastructure and government policies and how the rural students will be affected due to upgradation of the syllabi.
c. Very few higher education faculties are from industry and ready to work in industry fro few years to gain actual experience.
d. Many faculties in higher education told that technology will lose human touch in education and hence it should not be mandatory part in education. It is felt that faculties are afraid that they will be replaced by technology in due course.
e. Many teachers are capable of being creative but they work for compliance in the education.
f. Students‘ feedback or student‘s results cannot be the measurement of the teachers‘ performances. How a student can decides about faculty performance?
g. Teachers‘ expects that the use of technology should be reduced and concentration on basics should be more in higher education. Continuous evaluation and autonomy to institute will not make much difference but the exam pattern should be change.
h. Many faculty said that the system of higher education and evaluation should be modified for the best assessment and output but they cannot tell exactly which type of modification or alteration should be done.
i. Few young professors really commented well and has clear idea about what should be done and hoe it should be altered but the change making authorities are of earlier generation.

Suggestions and Conclusion

1. Faculty training should be the continuous and annual process to update and upgrade the knowledge, motivate them, to nurture creativity among them. The refresher and orientation programs of UGC should be modified with the current market knowledge to update the

faculties. The true development in education will take place only if the faculties are motivated and trained properly.

2. Infrastructural facility of all education institutions should be compatible to develop such kind of student friendly environment. The required infrastructure is necessary for higher education units if the infrastructure facilities are inadequate the experience and learning process will hamper. The inclusion of CSR in this area is possible. Government should take such corrective measures and prepare the list of colleges and institutions, declare the list and invite the corporates to finance them under CSR.
3. The conditions to appoint a faculty should be revised and minimum 5 years industrial experience should be made mandatory. Industrial experience will make the faculties to understand the work culture system of work and professionalism to be included in education sector. This will also make the students learn the required approach in college.
4. Industrial experience should be counted in higher education appointments. Industry experienced people willing to join the education should be welcomed with red-carpet treatment to enlighten students towards goal.
5. All the faculties should be sent to industries for exchange programs or for learning the actual process and practices in industry. The faculties which are already appointed and has big span of service to be completed should be invited to serve industries for some period and gain the skills required.
6. The salary and increments of teaching staff should be linked with student progression and feedback. Remuneration and incentive plans are the most motivating factor and it should be attached with faculty performance in the college and institution.
7. Syllabus updation committees should include the industrial expert in equal number with academicians. Industrial requirements should be stresses upon and it will also increase the industry and academia linkage, the research projects from industry will flow towards the university and colleges.
8. Research projects should be invited from industries and faculties should work on it with the assistance of the students. This will enable the faculties to upgrade with academics and market requirements, industries will have more trusts on academics and students will get good exposure and experience of knowledge application.
9. The experience norms in education for appointment of principals and directors should be converted in to knowledge and exposure norms so that instead of experienced deserving people will lead the educational institutions.

Conclusion:

The expectation of students and industry are high but the institutional preparedness is low. Improving quality of faculty, change in basic mentality of students and faculties is the basic requirement of changing world. The change is only permanent thing in the world hence if the current system of higher education proves to be incapable to handle the changing expectations of students and industry they will be outdated and industry and students will search for alternative solutions for the education and skill development this will be the most depressing for higher education units. Hence it is a high time to revolve and upgrade.

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ASSESSING THE UTILITY OF BLENDED LEARNING: A CASE STUDY USING GOOGLE CLASS ROOM

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Abstract

Use of technology has profound impact on every aspect of modern life and higher education learning process is no exception. The purpose of this study is to assess the utility of introduction of technology mediated education on teaching and learning. The teachers and the learners of three undergraduate courses in an undergraduate college using first time Google Class Room, a web based education tool for mixed mode of learning, participated in the study. To measure utility, qualitative research methods are used and satisfaction level of students and perception / expectation of faculty are taken into consideration. The view point of respondents have been recorded by the end of a term after using the tool for all subjects of the courses for one full semester. The research design has been of explorative and descriptive studies at two different stages. A two pronged survey using Likert Scale Technique was conducted from all 20 faculty and 507 student users to evaluate their perspectives about integration of Google Class Room with conventional class room teaching methods. The results shows that teachers are well receptive to web enhanced teaching methods and feel that there are many advantages for both teachers and students from Google Class Room while the students are largely satisfied with the blended method of class room instruction supported with a digital medium for teaching, learning and evaluation.

Keywords: *eLearning, Google Class Room, web based technology, quality teaching and learning*

In teaching profession, the major constraint a teacher finds in a large class room with 100 to 120 students is to have one to one interaction and to give individual attention to every student. Usage of technology tools available online makes the task simpler by reducing teacher‘s workload in management and delivery of content, in formative assessment as well as in obtaining feedback. Technological inventions pose challenges to course delivery mechanism in Higher education such as to adapt to address changing expectations on the quality of learning experiences. With technology available in the classroom, young teachers come forward to integrate technology into their curriculum. The new emerging trend using Learning Management Systems with multiple teaching tools makes it possible for teachers to introduce a paperless class room into students‘ mobile phones, allows to schedule classes with short notice, posting the lesson plans and hosting the discussions, unearthing the inbuilt skills and evaluating student progress on these skills and so on. Techno savvy youngsters – both teachers and students - prefer to use such hands on tools which are topical and attractive resulting in ease of learning.

Genesis of the research problem: There is an upsurge in availability of web based Learning Management Software and other application programmes for electronic method of Teaching and Learning. One of the free web service programme is Google Class Room, introduced as a part of G Suite for education in 2014 and has been available from April 2017 to any personal Google user to connect the teacher and the taught inside as well as outside the class rooms. Google Class Room is easily accessible through mobile applications available for Android devices and hence is becoming popular among teachers and learners. Formal teaching methods are increasingly supported by Google Class Room for content availability and organization like sharing of study materials, power point presentations and video presentations, for formative assessments and for scheduling the calendar. Other Google Software Packages like Gmail, (for communication) Google Doc (with sheets and slides for writing) Google calendar (for scheduling) and Google drive (for allotting and evaluating assignments) are combined with Google class room to make the programme more effective. The service programme is also convenient to store a repository of teacher-created materials. The fast spread use of Google Class Room programme as supplementary to teach regular on-campus learning programmes in colleges of Mumbai University attracted attention to study through a case study of an

affiliated college. With this background, it was intended to study the following research problem statement:

_Wide spread use of online web service programme supplementing regular direct teaching programmes enables teachers to better organize their workflow and encourages active learning among students.'

Aims and objectives of the study: The purpose of this study is to examine the effects of web service programme named Google Classroom package in supplementing direct teaching of under graduate students in affiliated colleges of Mumbai University. Thus the main aim of this study is to investigate the effectiveness of Google Classroom program in teaching and learning of under graduate students. To attain this broad goal, the following specific objectives have been made:

1. To assess the effectiveness of eLearning application tools in supplementing formal proximate teaching
2. To evaluate teachers' perspective in designing and implementing delivery mechanism and evaluation techniques using Google class room.
3. To examine the students' satisfaction to supplementary learning using Google class room

Research Questions: In order to ascertain the objectives of this study, the following research questions were intended to be answered:

1. What motivates teachers to use Google class room?
2. To what extent usage of Google online package helps teachers to augment course delivery content and formal assessment?
3. Are teachers receptive to integrating technology based tools into the formal class room instruction mode?
4. What is the degree of dependence on / popularity of eLearning techniques among students?
5. What is student satisfaction level of teachers using Google Classroom to supplement their direct teaching?

Hypotheses: The study intends to prove the following hypotheses:

1. Teachers are receptive to web based teaching methods introduced along with conventional class room instructions.
2. Introduction of Google Class room eases workload of teachers and enables to have an organized workflow.
3. Students are better equipped to relearn course contents taught in class room.
4. Students are satisfied with the introduction of Google Class Room.

Literature Review:

The instructional methods in colleges have undergone change over the past years with the invent of technology enabled teaching methods. Integrating technology in teaching methods is emerging as a new pathway to engage young students in a class room. The term **_blended learning'** is generally applied to the practice of using both online and in person learning experiences when teaching students. Also called *hybrid learning* and *mixed-mode learning,* blended-learning experiences may vary widely in design and execution from school to school. (Glossary of Education reforms, 2013). Researches on blended learning reveal that _technology based instruction provides an opportunity for students to learn and practice in a visual and virtual environment' (Bonk, 2009; Davidson & Goldberg, 2009).

Google Classroom is a program for teachers to create a digital classroom for students to communicate with their teachers and peers (Phan, 2015). Google Classroom is considered as one of the best platforms out there for enhancing teachers' workflow. It is only three years old and the revised version with a set of powerful features has been added only in April 2017. _Within this short period of time…. Google Classroom is being widely endorsed within the education community. Classroom

helps teachers save time, keep classes organized, and improve communication with students. It is available to anyone with Google Apps for Education, a free suite of productivity tools including Gmail, Drive and Docs.'(2015)."Google Classroom's design purposefully simplifies the instructional interface and options used for delivering and tracking assignments; communication with the entire course or individuals is also simplified through announcements, email, and push notifications."(Janzen, M. 2014)

In a nutshell, reviewing related research articles portrays that few studies have been found regarding technology based instruction in under graduate courses especially the particular program, Google Classroom and more researches are needed to apply the same to specific higher education realm.

Methodology: The area of study is identified as a degree college where teachers have been using the tool for one full term. Period of study for computer assisted primary data collection has been during the period June 2017 to October 2017 from teachers and students who were users of the tool. To measure utility, qualitative research methods are used and satisfaction level of students and perception / expectation of faculty are taken into consideration. The view point of respondents has been recorded by the end of a term after using the tool for all subjects of the course for one full semester. To update the faculty to follow the technological changes, and to learn new technology and programs available online, a hands on workshop has also been arranged by the college by the start of the semester.

Research design: This study made use of two tiered research design of exploratory and conclusive / descriptive study. At the first stage, an exploratory study involving a qualitative investigation was used to explore and obtain clarity about the problem situation, to define and conceptualize the problem statement and to operationalize and define variables and constructs. At the Second stage, conclusive research was applied to develop both general and specific hypotheses of the likelihood of certain trends or outcomes and to prove the hypotheses. Descriptive study is used for identifying teachers' perception and students' satisfaction and behavior studies. Such a framework is expected to reveal areas that can be improved.

Data sources: For the fulfillment of the basic objectives, data for the study were collected from primary sources. The study was conducted in a Mumbai University affiliated college located in eastern suburb of Mumbai. A total of 20 teachers and 507 students responded for the research. Students from three under graduate courses viz... Bachelor of Management Studies, Bachelor of Mass Media and Bachelor of Information technology - participated in the survey. While the median age of teachers has been 35, students were all in the same age group. All of them had been quite friendly with net-browsing and technology and frequently using some social networks like Facebook, twitter, etc. All of them had Gmail account.

Survey responses and findings: All 20 teachers using Google class room during the referral period in the three courses responded to the survey whereas 53 percent of students out of a population of 960 of same age group from all three courses responded to the Student Satisfaction Survey. Two pronged survey has been used to get response from users. The study used multiple item agree-disagree five point Scale technique. Results show that both teachers and students had positive responses to the survey regarding their teaching and learning using Google Class room.

Teachers' perception Survey: There is an overwhelming response from faculty in favor of introduction of Google Class Room. At least for seven out of fourteen statements, there has been a unanimity in strongly agreeing effectiveness of Google class Room by all 20 faculty. All teachers across the age group ranging between 23 and 52, unanimously agree about Google class room as a perfect aid for interaction and collaborative learning, as a supplementary teaching method to direct class room teaching, giving way for flexibility, organizing formative assessment, great facilitator in information sharing and to augment scope and quality of learning. However mixed response is

received regarding elimination of plagiarism with 50 percent of teachers not certain about the same. Again favorable response has been obtained (95 percent) regarding help rendered to grade the students, evaluating assignments (90 percent). There is dissimilarity in teachers‘ response regarding Google class room substituting direct class room teaching. (45 percent agreeing and 45 percent could not definitely say) Teachers thus agree that Google class room can be widely used to supplement and not to substitute conventional teaching methods. In all, Teachers‘ Perception Survey holds good Hypotheses 1 and 2 of this study regarding teachers‘ receptiveness to technology based instruction and easing of their work load through organized work flow.

Student Satisfaction Survey: Similar to in positive student response to blended learning Very significant positive response has been received from the student respondents from three undergraduate courses who responded to the survey. While 42 percent of students find it very easy to use Google Class Room and consider it very useful by strongly agreeing the statements, another 38 percent agree the same. In short, 70 percent of the respondents are comfortable in using the tool. After using Google class room for one full semester, 17 percent had responded as can‘t say and the disagreeing group is very small. (<4 percent). Again around 70 percent of students have agreed that it is effective as a supplementary tool to class room teaching, 22 percent of respondents were indecisive. Further, only 54 percent students consider that Google Class room can‘t substitute class room teaching but around 38 percent could not say decisively and more than 80 percent uses Google Class Room for information sharing. Hence it can be conveniently deduced that the web service Programme through mobile devices is largely accepted in the class room. Most importantly, Google class room is considered very useful for formative Assessment. With regard to effectiveness of delivery, information sharing, tracking, completing and submitting assignments on time, relearning of class room contents, availability of study materials, dissemination of information and collaborative learning etc., more than 80 percent of the respondents agree that Google class Room makes their requirements easy and simpler. Thus, overall response has been positive and at the same time selected areas where students are uncertain, wider use of the package may prove helpful. Overall, the response of students about their satisfaction level to blended teaching is positive.

Hence it can be easily inferred that Hypotheses 3 and 4, viz. ‗Students are better equipped to relearn course contents taught in class room‘ and ‗Students are satisfied with the introduction of Google Class Room‘ is proved. It thus reveals that students are highly satisfied with the blended mode of teaching.

Conclusion and recommendations: Results of this study show that Google Class Room is welcomed by faculty and the learners into their class rooms. Teachers were satisfied with using Google Classroom in class because of its easy learning and with supplementary role Google class Room plays in teaching, learning and evaluation. Students have also been largely satisfied as it makes the learning process easy and interactive. However, extensive use of the same for other purposes like collaborative learning, eliminating plagiarism, using other features of Google package combined with Class Room etc. have to be further strengthened.

To sum up, Web based teaching and learning is well received by both teachers and students alike. Google Classroom may be considered as an effective supplementary program for resources in the conventional classroom for teachers and students. With a plethora of educational tools added in the online network every day, there is tremendous scope for future studies in this area. More studies are needed to verify the use of technology and its benefit to teachers and students.

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Appendix-1

Teachers‘ perception Survey Result

	Strongly agree	Agree	can't say	Disagree	Strongly disagree	Total
I often use ICT in a class	11 (55)	9 (45)	0 -	0 -	0 -	20 (100)
Google Classroom is very easy to use	12 (60)	8 (40)	0 -	0 -	0 -	20 (100)
E-Resource augments scope and quality of learning?	20 (100)	0	0	0	0	20 (100)
Google Class room is very helpful for information sharing	20 (100)	0	0	0	0	20 (100)
All the features of Google Classroom mostly used	6 (30)	12 (60)	2 (10)	0 -	0 -	20 (100)
I believe GC can‘t eliminate or substitute class room teaching	6 (30)	3 (15)	9 (45)	2 (10)	0 -	20 (100)
It‘s easy to organise Assignments & create folders	11 (55)	9 (45)	0 -	0 -	0 -	20 (100)
Easy to track submission dates/late submission or no submission	20 (100)	0 -	0 -	0 -	0 -	20 (100)
It‘s very easy to view and evaluate the assignments submitted by students	9 (45)	9 (45)	2 (10)	0 -	0 -	20 (100)
GC assignments reduce plagiarism	8 (40)	2 (10)	10 (50)	0	0	20 (100)
Collaborative learning IS possible by Google Classroom	20 (100)	0 -	0 -	0 -	0 -	20 (100)
GC is a perfect aid to augment classroom interaction	20 (100)	0	0	0	0	20 (100)
It is very helpful to grade students	5 (25)	14 (70)	1 (5)	0 -	0 -	20 (100)
There‘s lot of academic flexibility in using Google Classroom	20 (100)	0 -	0 -	0 -	0 -	20 (100)
It is very effective to use GC for Teaching & Learning to supplement classroom learning	20 (100)	0 -	0 -	0 -	0 -	20 (100)

*Figures in parenthesis denote percentage

Appendix – 2
Student Satisfaction Survey Result

	Strongly Agree	Agree	Can't Say	Disagree	Strongly Disagree	Total
Google Classroom is very easy to use	211 (41.62)	192 (37.87)	85 (16.77)	13 (2.56)	6 (1.18)	507 (100.00)
E-Resource augments scope and quality of learning	143 (28.21)	231 (45.56)	118 (23.27)	10 (1.97)	5 (0.99)	507 (100.00)
Google Class room is very helpful for information sharing	260 (51.28)	162 (31.95)	70 (13.81)	10 (1.97)	5 (0.99)	507 (100.00)
All the features of Google Classroom are mostly used	124 (24.46)	195 (38.46)	155 (30.57)	23 (4.54)	10 (1.97)	507 (100.00)
I believe Google Classroom can't eliminate or substitute class room teaching	136 (26.82)	138 (27.22)	192 (37.87)	28 (5.52)	13 (2.56)	507 (100.00)
It is easy to complete Assignments & submit on time	201 (39.64)	173 (34.12)	106 (20.91)	17 (3.35)	10 (1.97)	507 (100.00)
It is Easy to track submission dates	255 (50.30)	161 (31.76)	72 (14.20)	12 (2.37)	7 (1.38)	507 (100.00)
It is very easy to view & access notes & presentation	268 (52.86)	164 (32.35)	61 (12.03)	10 (1.97)	4 (0.79)	507 (100.00)
In Google Classroom study materials, PPT, Information & Official announcements are easily available.	278 (54.83)	147 (28.99)	65 (12.82)	13 (2.56)	4 (0.79)	507 (100.00)
Collaborative learning is possible by Google Classroom	165 (32.54)	192 (37.87)	126 (24.85)	18 (3.55)	6 (1.18)	507 (100.00)
Google Classroom is a perfect aid to augment classroom interaction	135 (26.63)	188 (37.08)	147 (28.99)	26 (5.13)	11 (2.17)	507 (100.00)
It is an interactive platform to clarify the doubts	115 (22.68)	182 (35.90)	149 (29.39)	44 (8.68)	17 (3.35)	507 (100.00)
Google Classroom is very helpful for students	213 (42.01)	191 (37.67)	87 (17.16)	10 (1.97)	6 (1.18)	507 (100.00)
It is very effective to use Google Classroom for Teaching & Learning to supplement classroom learning	169 (33.33)	201 (39.64)	112 (22.09)	21 (4.14)	4 (0.79)	507 (100.00)

Figures in parenthesis denote percentage

VIRTUAL MOBILITY: TRANSFORMING ADVANCE LEARNING TO NEW LEVEL IN ICT TEACHING AND LEARNING

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Abstract

There is a necessity to maintain competitive abilities that have emerged due to extraordinarily rapid development of information communication technologies (ICT) in the entire world. Recognition of virtual mobility, accreditation of study outcomes acquired by virtual mobility activities, implementation of organizational and administrative structures are some of the proofs that universities have become open and flexible. This means that those universities acknowledges face-to-face academic learning as well as creates land of knowledge. Thus, building bridges between various cultures and diverse academic world. Hence, the aim here is to analyze the virtual mobility and define its characteristics from educational point of view in order to prepare an international virtual learning course in new future for the Indian classroom.

Keywords*: information communication technologies (ICTs), virtual mobility, diverse academic, virtual learning, education.*

Introduction: Virtual mobility is rather a new phenomenon and has been influenced by the development of ICT very much. "**Virtual mobility**" concept consists of the word "virtual" that is referred to ICT and the word "mobility" that means movement. Although from the first sight it might not be seen as related with education, but as the purpose of physical mobility can be academic experience, the same relations can be drawn here with virtual mobility.

This study focuses on the educational perspective of the virtual mobility concept, but the concept analysis is discussed from different approaches of the phenomenon.

Virtual mobility concept from different perspectives:

1. "The collaborative communication between a faculty member and his/her counterpart(s) mediated by a computer. More often, these meetings will be interactive and take place across national borders and across time zones" by S. Van de Bunt-Kokhuis (1996, 2001).
2. "Virtual mobility in terms of an emerging form of internationalization where students follow courses offered by institutions abroad and interact with students and teachers, libraries and databases in other countries. Also the use of ICT as expanding the possibilities for cooperation and competition between institutions, and providing students and academic teachers that are not able to travel extensively with opportunities to benefit from internationalization." by M. van Wende (1998).
3. Virtual mobility is defined as a situation within university which implies a "possibility to attend classes, seminars and other events held in a place located anywhere in the world; the possibility to access reference materials and contents at a distance, by using ICT-based solutions; the possibility to communicate with other people located anywhere" by HUMANITIES project (1995)
4. In the HUMANITIES project, "virtual mobility is more specifically constituted of the following elements:
    - Transnational lectures and/or learning materials.
    - Cross-border recruitment of students.
    - Intensity of communication flows.
    - International accreditation of achievements.

- Multilingualism.
- Complementarity between virtual mobility activities, traditional lectures, and physical mobility.
- International recognition and accreditation of study achievements" (Spot+ project team, 2001, p. 12).

Virtual Mobility Tools

To analyze and discuss various information and communication tools (ICT) that could be used and applied for learning in a virtual mobility case. Virtual mobility tools as interactive communication tools in general are often categorized into two categories:

1. **Synchronous tools**
2. **Asynchronous tools**

This categorization is not considered to be exhaustive but contains the main tools used in this context. According to eds. Op de Beeck et al (2008), we classify the tools in the following categories:

Reflective tools	Portfolio, Weblog
Collaborative tools	Wiki, Blog, Discussion Forum.
Communication tools	Chat, E-Mail, Video-Conferencing, Web-Conference.
Social networking tools	Social Networking Based on Personal Web Pages, Media Sharing, Social Bookmarking
Learning platform	Moodle-LMS & CMS, WebCT Blackboard

Research Methodology

The Research paper uses secondary data available in journals, research papers and websites.

Indian teaching and learning within classroom structure:

Education has always been accorded an honoured place in the Indian society. The recommendations of the Education Commission (1964-66) marked a significant step in the history of education post-Independence. Since then there has been a considerable expansion in the educational facilities all over the country at all levels. However, it is in the last few years that education has been the prime focus in India. The essential driver has been the shortage or lack of skilled workers in several sectors of the economy due to a weak higher education system. It is difficult to sustain the growth momentum of the country and maintain competitiveness unless problems with higher education are fixed. To address the issue, the Government of India has taken serious steps in the Eleventh Five Year Plan to increase opportunities in higher education.

India recognised the importance of ICT (interactive classroom technique) in education as early as 1984-85 when the **Computer Literacy And Studies in Schools** (CLASS) Project was initially introduced as a pilot with the introduction of BBC micro-computers. A total of 12,000 such computers were received and distributed to secondary and senior secondary schools through State governments. The project was subsequently adopted as a centrally-sponsored scheme during the 8th Plan (1993-98). The budget for this programme has been substantially increased in the last 10 years and implemented via the education departments of the State governments and the SSA (Sarva Shiksha Abhiyan) chapters in States.

Some tools used in Indian Classrooms:

- **Projectors with interactive whiteboards**

The new age teaching through interactive technology is an initiative by the government to incorporate interactive classroom technique in a teaching scenario. In recent years the blackboard has given way to the pairing of short throw projectors with interactive whiteboards, allowing the group interactivity

of the blackboard to be merged with the content of the PC to form a powerful learning and teaching platform.

- **Interactive classrooms – ICT enabled classrooms**

Interactive classrooms offer tremendous potential for improving the learning process. It is a complete technology-enabled classroom solution that revolutionizes teaching and learning of subjects like mathematics, science, social sciences and English. It allows the teacher to not only make the teaching process interactive but also engaging by using visual means which enables them to create question papers and analyse students' performance.

- **Virtual Science Lab**

Furthermore, it gives the teacher the flexibility of bringing a virtual science lab right into the classroom. Lesson plans may be easily captured and shared online enhancing the interaction with students and engaging them with a visual component to the intellectual stimulus. This helps the students of higher classes to firstly get motivated, logically think, collate and learn with interest.

Virtual Mobility is relatively low in India, some of the public documents such as the national knowledge commission encourage mobility of students and staff within and outside the country (National Knowledge Commission, 2006). The 10th five year plan emphasized on improving the mobility of students and staff and allocated additional funds for the same (Planning Commission, 2006).

Virtual Mobility has been often associated with brain drain and co-modification of education. It is viewed that most Indian students who leave the country for study abroad seldom return to the country. The presence of foreign universities in India is often attached to profit making and as a threat and competition to Indian universities. Yet around 150 thousands of Indian students are studying abroad and several foreign universities are already operating in India through twining, study exchanges and various other forms of partnership. Many private as well as public institutions have signed memorandum of understanding (MOU) with foreign universities.

Western teaching and learning process:

Internationalization Through Technology

- **American Council of Education** (ACE) has promoted the use of technology to help students acquire global competencies: the attitudes, skills, and knowledge to live and work in a multicultural and interconnected world.

  The experience of traveling and studying abroad can be transformative, but less than 10 percent of four-year undergraduates in the United States have that opportunity (Institute of Inter-national Education 2015)

  The table below indicates some of the other ways institutions are using technology to advance internationalization.

"Which aspects of internationalization are effectively served by technology at your institution?"	
Faculty workshops that include a focus on how to use technology to enhance the international dimension of their courses	29%
Education abroad (virtual orientation sessions, online advising, study abroad student blogs, etc.)	27%
Internationalizing curriculum and instruction at home campus (guest lectures via video conferencing, e-portfolios to assess international learning outcomes, etc.)	20%
Co-curricular activities at home campus (technology-enabled learning and social networking opportunities for student cultural exchanges, etc.)	19%
Global delivery of for-credit courses to non-U.S. students outside the United States	13%

Fig.1 According to ACE, Institute of Inter-national Education 2015

- **Erasmus Student Network** (ESN) is a Europe-wide student organisation. Its goal is to support and develop student exchange on a local, national and international level. It is composed of around 13,500 members in over 530 local sections in 40 countries in Higher Education Institutions, including universities, polytechnics, and university colleges. The network offers its services to around 160,000 international students.

  ESN facilitates the social and personal integration of international students. The local ESN sections offer help, guidance and valuable information to both exchange students and students doing a full degree abroad. ESN provides information about academic exchange programmes and student mobility in general.

According to World Economic Survey, The e-learning market was worth an enormous $166.5 billion. It's been estimated that this will grow to $255 billion by 2017. Its growing financial value is matched only by the swelling numbers of students choosing to follow an online course.

In the latest Global Shapers Survey of 25,000 young people from across the world, 77.84% of respondents reported having taken online courses in the past.

Fig 2. According to World Economic Survey, Oct 2017

Introduction of Virtual mobility in Indian classroom:

To better understand Virtual Mobility, it would be worth mentioning the challenges and opportunities for cross-border education listed by UNESCO and OECD. There are both opportunities and challenges for cross border education. The opportunities are the increased supply of higher education, greater access for students, support for the knowledge economy, development of joint degrees, fusion or hybridization of cultures, growing comparability of qualifications, increasing role for the market-based approach, economic benefits for education providers, and diversification and generation of new academic environments.

The challenges include concern about quality of provision, inequality of access leading to a two-tier system, the growing problem of physical and virtual brain drain on the developed country-developing country axis but also on other routes, homogenization of culture, weakening role of the state in establishing national policy objectives, growth in market-oriented programmes such as business and information technology, and decline in some liberal arts and pure science disciplines.

In higher education too, the blended approach holds promise. India is the second largest country of origin for students taking **MOOCs** (massive open online courses, that bring world-class education remotely to millions) offered by **Coursera** and **edX**. The problem with MOOCs is few students stick with them: globally only 7% to 10% of students complete an MOOC class. Lack of interaction with peers, teachers, and facilitators is a major reason why. In response, assisted or facilitated MOOC models are emerging, in which students are required to listen to lectures online, but then attend classes, where professors use face-to-face time to discuss the material and work on problems. In some universities, **HOOCs**, or hybrid open online courses, allow online students to listen in on campus-based seminars

Fig 3. According to authors of McKinsey Global Institute

In Virtual mobility, increased global visibility by reaching new target groups in an international context can be achieved.

Conclusion:

This study is defined as an activity or a form of learning, research and communication and collaboration, based on the following characteristics:

- cooperation of at least 2 higher education institutions;
- virtual components through an ICT supported learning environment;
- collaboration of people from different background and cultures working and studying together, creating a virtual community;
- having a clear goal and clearly defined learning outcomes;
- having, as its main purpose, the exchange of knowledge and improvement of intercultural competences;
- as a result of which the participants may obtain ECTS credits and/or its academic recognition will be assumed by the home university;
- providing visibility of university in higher education area, capitalization of educational process;
- leading to the integration of ICT into their mainstream academic and business processes.
- encourages institutions to adapt and further develop their pedagogical models: change of content delivery and the change of learning tools require changes in pedagogy and didactical models (Bijnens, H.; Op de Beeck, I., 2006).
- provides an international dimension to those learners who, for different reasons, are not able or willing to go abroad. In that context, ICT can be used for ―electronic twinning" and for virtual platforms, for teachers, other ―multipliers", interested individuals, interactive communities, open source initiatives, etc.
- However, there is another side of the coin wherein access to ICT is still limited to many places in the country because of lack of physical infrastructure, economic constraints such as extreme poverty; lack of educational limitations such as illiteracy and lack of relevant content in the local language. Ensuring strategies to combat these obstacles will allow us to explore the true potential of ICT in near future.

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EFFECTS OF ICT ON STUDENT TEACHER RELATIONSHIP & CLASSROOM ENVIRONMENT

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Abstract

In the 21st century, all of us in the educational system the policy makers, the teachers and the students are grappling with profound changes in the way education is imparted and received. With the advent of ICT, there has been a dynamic shift in the relationship between teacher & student. There is a need to study this change to find how it affects learning, and finding the way forward in terms of practical implementation in education. We have studied responses from 40 students for this study. 20 current students & 20 who have completed their education. We have interviewed 10 teachers currently in the system by way of a questionnaire to gauge their feeling and beliefs on the changes of student teacher relationship after introduction of ICT. Research has shown that though the student teacher relationship has undergone a change but students and teachers both overwhelmingly feel that blended learning is the way forward.

Keywords: *Student Teacher Relationship, Information & Communication Technologies, Blended learning, Social constructivism*

Goals of this study

The overall focus of this study was on the effect of ICT on the Student Teacher relationship. I wanted to investigate the topic widely from different perspectives, of teachers and that of students.

I had the privilege to observe several teachers & students in their everyday life in the classrooms as they were implementing the pedagogical practices and technologies. Besides the data collected on observations, my research consists of statistically analyzed surveys which are conducted in order to find out the teacher & student‘s relationship before ICT was implemented into our educational system as compared to now the change in the attitude of students and how easy was it for them to adapt to the concept of ICT and Blended learning.

Introduction

Everyone in the educational field has aspired for a change in the existing system. Now with the advent of ICT the entire way we look & execute our education is undergoing a major overhaul. At this stage it becomes imperative to find how the change is affecting learning.

Why Study the Student Teacher Relationship?

The relationship that students develop with their teachers is very much essential for their academic growth. Marzano (2003) studied the practices of effective teachers and determined that ―an effective teacher-student relationship may be the keystone that allows the other aspects to work well”. Nothing can replace a teacher, a positive relationship with the teacher would help the student work independently cause, he knows when things go wrong the only person to guide the student and help him find his problem is the teacher. Downey (2008) writes that ―teachers need to know how their everyday works in classrooms can be infused with interactions and instructional strategies that research has shown can make a positive difference in the lives of students who are at risk of academic failure” Not the traditional one way communication really works though. But nor does a complete independent student work as well. What‘s important here is that one to one interaction & exchange of thoughts that help the learning process. Mohrman, Tenkasi, & Mohrman, (2003) assert ―lasting change does not result from plans, blueprints, and events; rather change occurs through interaction of participants”.

What is Social Constructivism?

Knowledge is something that is socially constructed. Individuals need to create meaningful learning through interactions with others. Hallinan (2008) writes ―Learning is a process that involves

cognitive and social psychological dimensions, and both processes should be considered if academic achievement is to be maximized".

In a constructivist classroom environment the student is urged to give in his inputs, and no more does a teacher keep giving out information for students to merely just accept. "Constructivist teachers do not take the role of the "sage on the stage." Instead, teachers act as a "guide on the side" providing students with opportunities to test the adequacy of their current understandings" (Open Education Resources of UCD Teaching and Learning, University College Dublin).

Hence we understand the fact that it's imperative for any learner to have a social dimension to his learning process.

Information & Communication technology

ICT in Education means "Teaching and Learning with ICT". Educational ICT tools can be divided into 3 categories: Input source (visualizer, PC, tablet, student response system), Output source(Projector, interactive whiteboard, monitor) and Others (digital camera, digital recorder etc).Worldwide research has shown that ICT can lead to improved student learning and better teaching methods.

(Published in: Educational Media (ICEM), 2013 IEEE 63rd Annual Conference International Council) "Can ICT be merely viewed as an all-round education tool, or there is more to its application? "Educational tools or devices are objects, materials, instruments and technological equipment, facilitating the realization of pedagogical goals and vigorously promoting the school-based learning process, specific knowledge acquisition efforts and the direct (in some cases indirect) familiarization with reality via their capability of transmitting, recording, and storing information in an effective way."

ICT cannot be alone considered as an educational tool. A lot of researchers have to say that technology could affect the student teacher relationship.

(British council – by Karen Wilkins) "There is a feeling that future relationships will become more distant and less personal. One learner described the relationship between lecturers and students as more 'indirect'; a teacher reported that she felt technology was a 'barrier'; a university lecturer felt that too many slides on a PowerPoint presentation would not only 'get in the way' of the learning but also the rapport. An online learner and teacher described the experience of e-learning as being 'detached' from the course."

Hence, what comes into picture to catch up with the new digital era is "Blended learning".

Blended Learning

We learn that a student teacher relationship is very important for any learner and the idea that web & technology alone cannot replace the social psychological dimensions essential for a learning process. Hence, teachers in our education system positively adapting to the changing digital classroom environment find it imperative to integrate the web-based approach along with their traditional teaching pattern. Blended teaching is something most of our university teachers have adapted to. Which we shall learn from our further research analysis .In 2003, the Australian National Training Authority (ANTA) described blended learning in Australia as the integrated combination of traditional learning with web-based online approaches"

"The concept of blended learning is rooted in the idea that learning is not just a one-time event—learning is a continuous process. Blending provides various benefits over using any single learning delivery medium alone." Singh (2003)

Research Study

A Cohort analysis is undertaken for understanding the student teacher relationship and to observe how it changed with the promotion of ICT into our education system and how strong do the students find their bond with their teachers and also to understand how teachers and students have adapted to

the concept of blended learning, we designed 3 questionnaires. For the teachers, for the students currently studying with the help of ICT and for the Students who have passed out of College before ICT was introduced.

Comparison between the answers of the cohorts (current students and the ex-students) is made to understand the change in student behaviour and perspective.{ The Results are shown after the reference section of the paper.}

Half the respondents from ex-students say that their relationship with their teacher was strong, though more students from the current batches believe that they share a very casual relationship with their teachers.

70% of the present teachers feel that the class environment is liberal whereas more ex-students believe that class environment was instructive when they studied.

The majority of ex-students have said that they unquestioningly accepted what was explained by teachers, whereas the current students have said that they questioned (20%) counterchecked (30%) & argued (20%) over what was taught to them.

An overwhelming majority of students of both groups have believed that they would require teachers help in adapting to e-learning.

Both students believe that emotional connect with teachers was better earlier & has decreased now.

The Conclusion

After detailed cluster analysis, we have found that the students as well as the teachers found the relationship between them much stronger before the implementation of ICT than what it is now. But the other side of the coin states that students find the class environment much more liberal now than before, as they are open to question, they also counter check & put forward their perspectives very boldly, all credit to the tech power that they have. The web world is too wide & swift in answering anything they wish to know more about. This not only helps them gain more knowledge than received from the 4 walls of the classroom but also makes them very confident in putting forward what they feel is supporting their views as compared to the students earlier who unquestioningly accepted what was delivered.

Very strongly is the idea of blended learning supported where students second the idea of e-learning not being the only forward for a strong learning process & that the presence of a teacher i.e. face to face interaction along with e-learning would keep them moving forward with the fast growing digital era with a lot more confidence with someone being there to guide them right.

Also the fact is proven that emotional connect with the teacher was much better before & that technology is surely a barrier& has deteriorated the emotional connect over time where students don‘t completely depend on a teacher but can easily find an alternative in the absence.

The teachers find it easy to adapt to the new digital classroom concept. They also feel that they are better connected to students now. They prefer this mode to explain concepts and firmly believe that it is a better tool for students for understanding as well as retaining information. They believe that ICT has made classroom learning more effective and overwhelmingly support Blended Learning.

Thus we conclude that the right way to go ahead is to empower our students with the best of both worlds, the latest in technology along with well trained individuals to guide them forward to achieve the best of themselves

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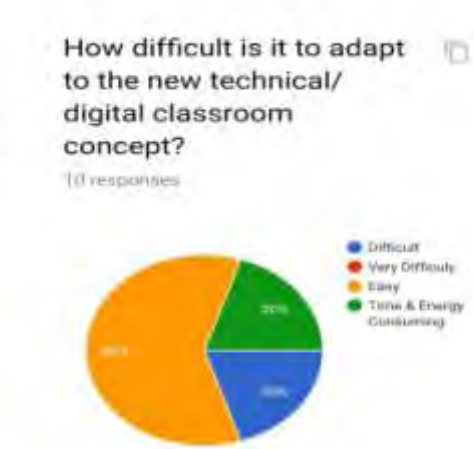
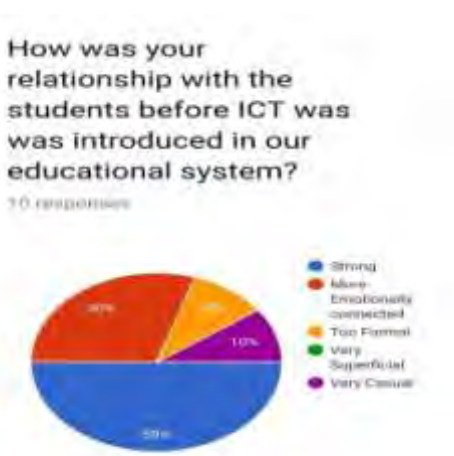
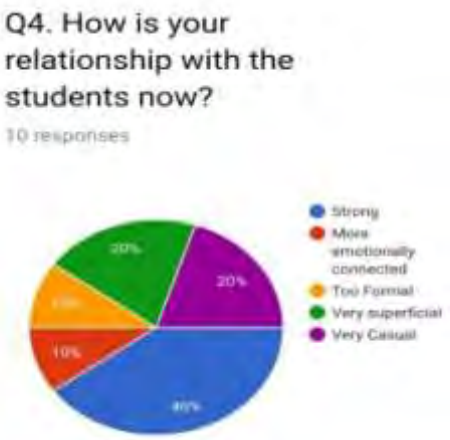
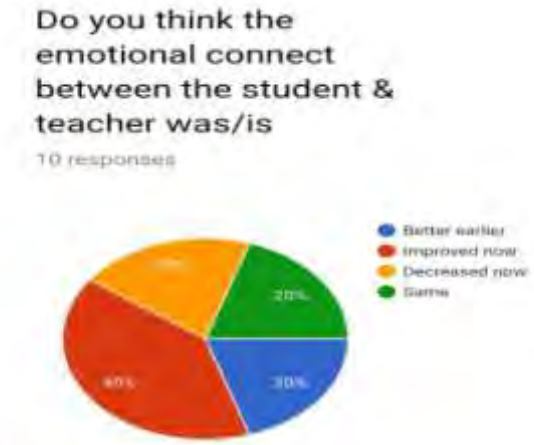
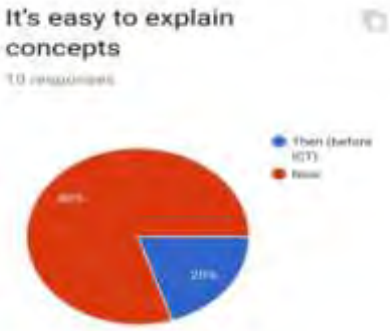
Teacher's Survey results :

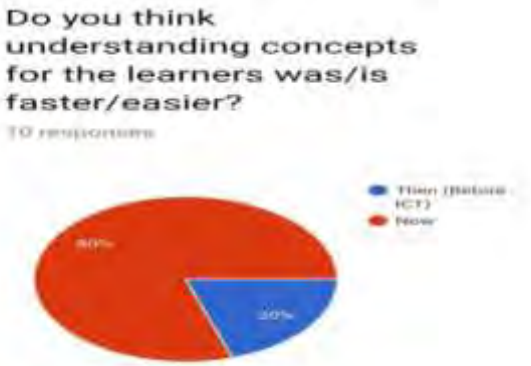




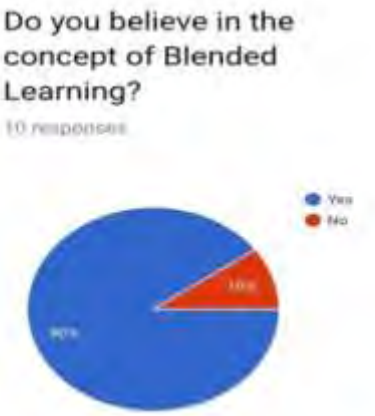


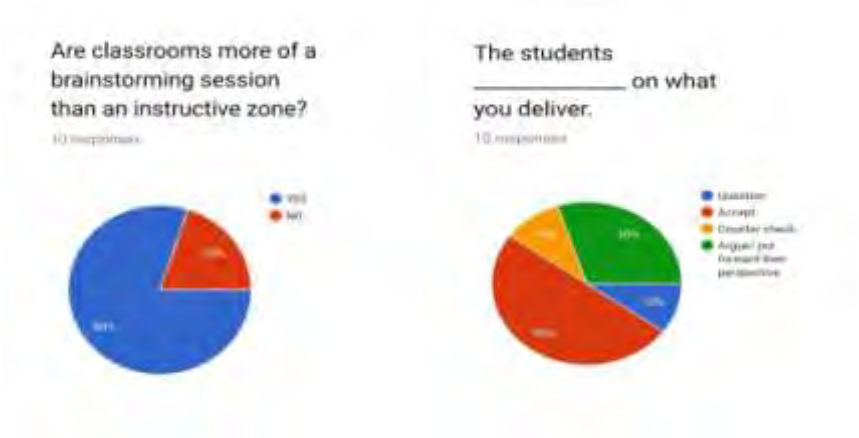

Do you think the emotional connect between the student & teacher was/is
10 responses
Better earlier
Improved now
Decreased now
Same
20%
40%
30%


It's easy to explain concepts
10 responses
Then (before ICT)
Now
80%
20%

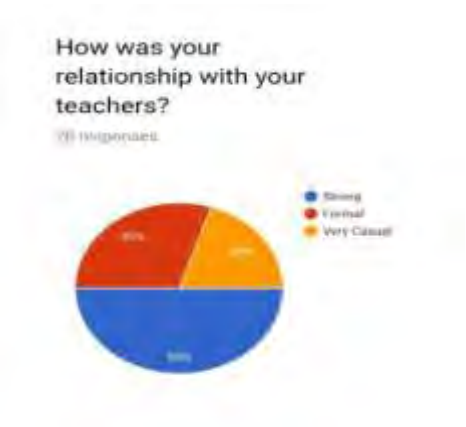

Do you think understanding concepts for the learners was/is faster/easier?
10 responses
Then (Before ICT)
Now
80%
20%

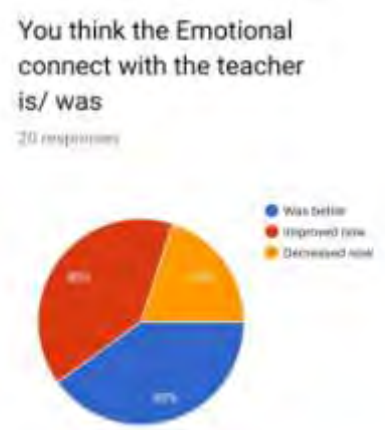

Is it easy for students to retain what they have learnt?
10 responses
Then (Before ICT)
Now
70%
30%

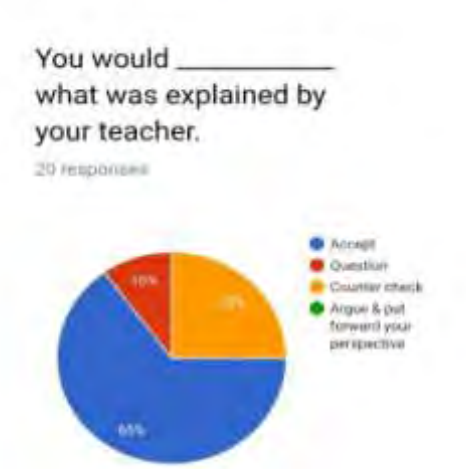

Do you believe in the concept of Blended Learning?
10 responses
Yes
No
90%
10%

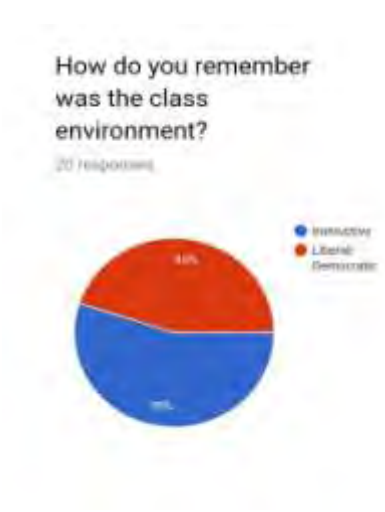


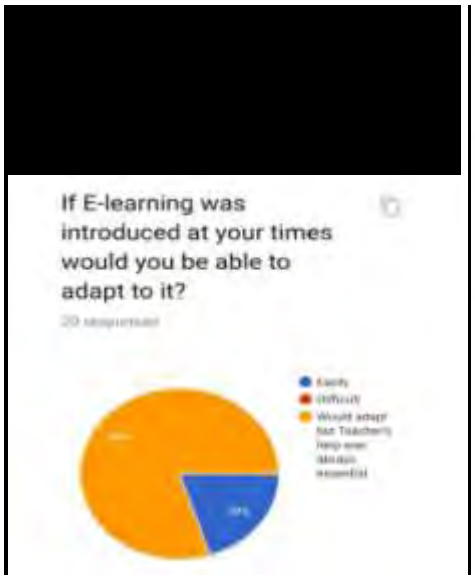
The above mentioned are the results of the teacher‘s survey. Now we shall see the results of the ***ex-student’s survey.***

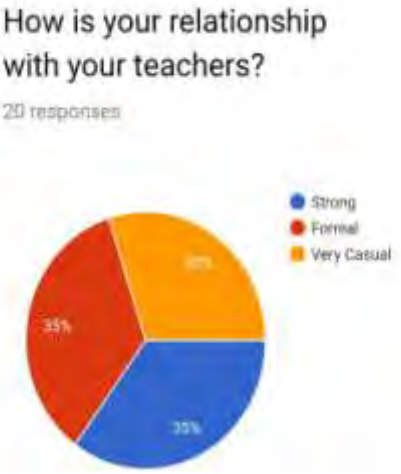








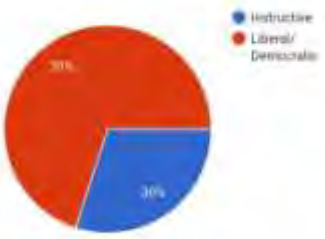




Now we shall study Student's Survey

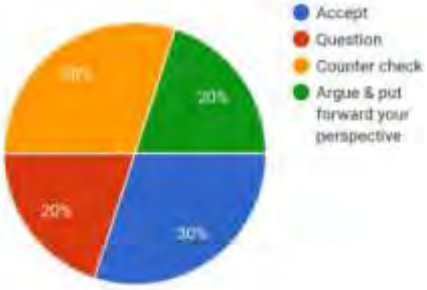
How do you feel is the class environment?

20 responses



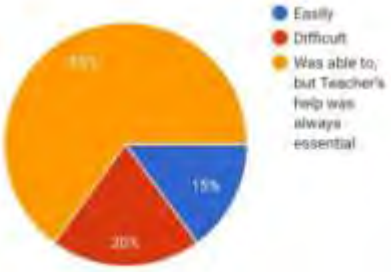
You _____ what is explained by your teacher.

20 responses



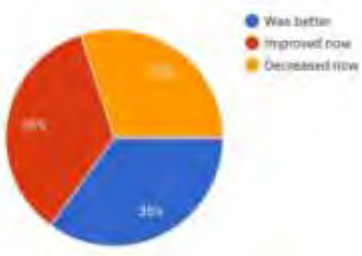
When E-learning was introduced, were you able to adapt to it?

20 responses



You think the Emotional connect with the teacher is/ was

20 responses



ARSENIC PREVALENCE AND ITS HEALTH IMPACTS ON HUMANS LIVING IN VILLAGES AND HOUSING SOCIETIES OF ULHASNAGAR AND SURROUNDING CITIES: A TECHNOLOGY FACILITATED PUBLIC AWARENESS CRUSADE

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Abstract

The primary aim of present study was to spread awareness about arsenic and its related toxicity effects among the residents of various Housing Societies and Villages of Ulhasnagar and its surrounding cities by using modern technologies. The study also aimed to detect the presence of arsenic in waters especially the borewell water collected from the Housing Societies and Villages. Arsenic is a well known toxicant of the nature. Arsenic is present in earth's crust as insoluble inorganic arsenic pyrites but the use of modern technologies like submersibles and excessive use of ground water are acting as catalysts and are provoking this dormant arsenic to come out and contaminate our surroundings including the surface waters. In humans, arsenic enters mainly via drinking water and food stuffs contaminated with the arsenic. Arsenic, when enters into human body combines with organic constituents and form several metabolites which, in turn, disturb the normal functioning of tissues and/or organs leading to serious diseases like cancer. The borewell water from Housing Societies and Villages was collected and analyzed for arsenic using Arsenic Detection Kit procured from Prerna Laboratory, Pune. Colour change in any of these water samples was not significant. This indicated that arsenic was not present and if present it was below the 10 ppb, the maximum permissible limit prescribed by World Health Organization (WHO) for the drinking water. The residents were told about arsenic prevalence and its effects with the help of sketches, photo cards and schematic diagrams.

Keywords*: arsenic, awareness, toxicity, borewell water*

Introduction

Arsenic (As), popularly known as ―SOMAL" in local Marathi language is a naturally occurring toxicant of the environment (Irwin, 1997). In environment, arsenic exists in two forms i.e. organic and inorganic. Arsenic is present in plenty as insoluble arsenic pyrites in the earth's crust. The day to day decrease in ground water level due to over consumption and decrease in annual rain fall has increased the risk of arsenic manyfold. In most of the countries including the India where about 5 million human population is at risk of arsenic poisoning, the arsenic in ground water ranges from 1-5000 µg/L (as per the WHO guidelines, maximum permissible limit of arsenic in drinking water is 10 µg/L). The severity of arsenic poisoning in humans has made it today's top priority water quality issue.

In India, many states are suffering from arsenic menace. The prevalence of arsenic and its derivates was more in lower Ganga basins but low rain fall and hence more dependency on ground water has increased the chances of occurrence of arsenic in upper Ganga basins also. Although the knowledge on arsenic contamination in Maharashtra State is meagre, the arsenic prevalence in this region cannot be ignored absolutely. The main reason behind this is that, the state is suffering from huge water scarcity due to low annual rainfall and people are going to be dependent more and more on ground water to sustain their life. The Ulhasnagar and surrounding cities like Kalyan, Ambarnath and Badlapur are located in the range of 60-70 km away from the Mumbai, the financial capital of the country and support many manufacturing industries that discharge the effluents directly into the environment.

Apart from exposure to arsenic via drinking water, humans are also exposed via food grains, vegetables, etc where the irrigation was done with arsenic contaminated water. The use of arsenic

containing pesticides in the croplands is also a major concern. The arsenic containing pesticides and other arsenic containing chemicals which are released from the industries ultimately reach to aquatic reservoirs where arsenicals become available to aquatic flora and fauna including the fishes causing toxicity (Singh and Banerjee 2008abc; Singh and Banerjee 2009, Singh and Banerjee 2014).

Arsenic is very much toxic and accumulative i.e. it accumulates in certain tissues/organs like hair, nail, skin etc. It is carcinogenic and has been categorized as class 1 carcinogen by International Agency for Research on Cancer (IARC). The chronic arsenic poisoning (i.e. poisoning due to prolonged ingestion of arsenic through drinking water) leads to several diseases in skin, gastrointestinal system, cardiovascular system, neurological system, respiratory system and endocrine system in humans. In some studies, it has been revealed that the chronic arsenic poisoning also reduces intellectual function in children and increases the possibilities of diabetes and high blood pressure in adults. In certain circumstances, the people suffering from arsenic poisoning are very depressed leading to unfortunate events like separation, divorce and committing suicides.

The researchers are making efforts to find technical solutions of the public health problems caused by arsenic. Many biomarkers have been developed to examine the presence of arsenic in water including the surface water. But today there is indeed a need to start some education programmes for the people of all ages of society so that they can easily diagnose and understand the problems due to arsenic and hence can minimize its social and health impacts. Keeping all these in mind, an effort was made in this direction by the students of Science Faculty of R. K. Talreja College, Ulhasnagar under ―Best Practices of the College", one of the requirements of National Assessment and Accreditation Council (NAAC), Bangalore, India. The present effort also covers the following objectives-

a) To encourage students for the research.
b) To make the residents and the students more sensitive towards societal and environmental issues.
c) To make them (residents and the students) more aware about arsenic and its ill effects.

2. Materials and Methods

Villages/Societies located within a periphery of 15 km from the Ulhasnagar City were selected for arsenic prevalence and to launch the awareness programme. Science Association of the College helped in selecting the students on the basis of scientific knowledge and interest. Total 40 science students were sorted out to achieve the task. The students were first addressed with the issues related with arsenic and its toxicity in the humans using power point presentation (PPT) mode. The students were given live demonstration on handling of sample bottles, sampling of water and storage of sample water in the laboratory. Some of the students (about ten) were given training cum hands on practice on use of ARSENIC TESTING KIT (PRERANA LABORATORY, PUNE, INDIA.) and standard protocol supplied with the Kit. The validity of kit was tested using standard solution (in the range of 10 ppb to 1000 ppb) of disodium arsenate heptahydrate ($Na_2HAsO_4.7H_2O$) (S. D. Fine-chem. Ltd. Mumbai, India).

To achieve the goal of arsenic testing and spreading awareness, the entire programme was categorized into two stages. In Stage 1, the students were well equipped with basic knowledge about the arsenic and its severity through the posters, sketches and power point presentation (Figure 3).

In the next Stage, the students were divided in groups of 5 -10 depending on how much they (students) are comfortable in locating the Villages and Housing Societies in the Cities. Each group was accompanied by a teaching and/or a non-teaching staff member to provide necessary guidance, if required by the students during collection of water samples (preferably borewell water) from Villages and Societies of Ulhasnagar, Ambernath, Kalyan and Badlapur regions where the arsenic prevalence was expected (Table 1). The water samples were collected in plastic bottles, sealed and labelled properly. The preference for analysing was given to those water samples that were having some

colour and odour. The entire task of testing of water samples was completed in Biology Laboratory, Faculty of Science, R. K. Talreja College, Ulhasnagar-3.

The qualitative testing of water for arsenic was done using an ARSENIC TESTING KIT (Prerana Laboratory, Pune, India). The method which was followed can be briefly described as:

a) 10 ml of water sample was taken in a reaction tube using a syringe.
b) 1 quarter spoon reagent Arsenic-1 was added to the reaction tube, swirled and kept waiting for one minute.
c) 1 flat spoonful reagent Arsenic- 2 was added to the reaction tube and swirled.
d) 1 flat spoonful reagent Arsenic-3 was added to reaction tube, a test strip was kept in the place provided in the tube and the cap was tightly fitted to check leakages of arsine gas if any from the tube.
e) Now mixture in reaction tube was swirled and mixed vigorously and entire set was kept at room temperature for 10 minutes.
f) Test strip was removed carefully from the reaction tube and compared with standard colour chart.

3. Results and discussion

Arsenic is well known for its severe effects on humans (Claudia Hopenhyan 2006; Singh et al. 2007; Khaja et al. 2015). The severity, however, depends upon arsenic intake i.e. whether it is acute or chronic. The chronic exposure through drinking water and other arsenic contaminated food materials leads to several diseases including diabetes and myocardial infarction in the humans. It is very difficult for the common people to know whether they have been exposed to arsenic and the same (arsenic) is present in their surroundings. The present work has such objectives and is perhaps first of its kind in the country and especially in the region where the study was conducted. Thus, the present work will not only help to know and create awareness about the arsenic but also will be helpful for local bodies (Government and Non-Government) in finding such sites in the regions and making strategies/policies to resolve the problems. In first attempt, the students of the Science Faculty of the College were given the knowledge on arsenic prevalence in the region and human health effects. This incorporated several innovative means/technologies including the sketches, models, charts, photographs and Power Point Mode (Figures 1, 2, 3). Simultaneously water samples were also collected by the students with the permission of concerned people and were analyzed for arsenic presence using the kit. The results are summarized in Figures 5 and 6. The colour pattern was matched with standard chart given by the laboratory. Significant changes in colour was not observed in any of sample water indicating that the arsenic was either absent or present in smaller quantity i.e. below 10 parts per billions (10 ppb) (sensitivity of kit ranges between 10-1000 ppb).

The most important and remarkable thing is that, the approach was fully scientific and mediated with technologies including internet-enabled smartphones. The students and residents were very keen towards understanding of each and every facts related to arsenic contamination and its ill effects.

4. Conclusion

The water collected from borewells of Ulhasnagar and its surrounding regions was free of arsenic and hence indicates its portability as safe water. The present project will help the people in having basic knowledge on arsenic and its health hazards and in creating awareness among them. The project will also help the local governing bodies in making strategies/policies related to environmental issues.

5. Acknowledgement

First and foremost, we express our sincere thanks to the Principal Dr. (Mrs) Lalithambal Natarajan for giving official permission, financial support and necessary infrastructure to complete this notable task as a part of best practices of the college.

The authors are also indebted to Dr. Geetha Menon, Chairperson of Science Association for the assistance provided during completion of the project.

The authors are thankful to our T. Y. B. Sc Students, Mr. Gautam Bagul and Suraj Kewat for making sketches on arsenic toxicity on humans.

The assistance from the Societies/Secretaries of Societies, Students of the College and Non-teaching Staff members is fully acknowledged.

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Singh, A. K. and Banerjee, T. K. (2008c). Arsenic-induced biochemical alterations in the respiratory organs (gills, ABOs and skin) of the walking catfish Clarias batrachus Linnaeus. Biological Research 41: 341-350.

Singh, A. K. and Banerjee, T. K. (2009). A study on carbohydrate moieties of the gills and airbreathing organs of the walking catfish Clarias batrachus (Linn.) following exposure to arsenic. Toxicological and Environmental Chemistry. 91: 43-52.

Singh, A. K. and Banerjee, T. K. (2014). Histopathological and histochemical study on gills of the freshwater walking catfish Clarias batrachus (Linn.) following exposure and withdrawal of arsenic stress. Int. J. Int sci. Inn. Tech. Sec. A, 3 (4): 12-19.

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Table 1: List of Villages and Housing Societies selected for water sampling and awareness campaign.

City or Town	Ulhasnagar	Ambernath	Kalyan	Badalapur
Site 1	Bhatia Chowk	Old Village	Radhe Krishna, Chetna	Bhimnagar, Belivali
Site 2	Section 28 Chaal No. 1	Juru Kripa Nagar	Ramnagar	Belivali Bore Well
Site 3	Section 28 Chaal No. 3	Anand Upwan	Chinchpada	Savre Gaon
Site 4	Section 28 Chaal No. 5	Jalsa garden	Rachna Park, Chakkinaka	-
Site 5	Section 28 Punam Hotel	Rock Ford	Piswali	-
Site 6	Section 28 Chaal No. 10	Sadashivpuram	Meghdoot Apt.	-
Site 7	Varap-Anusaya Nagar	Amberates	Sunrise Galaxy	-
Site 8	Hanuman Nagar	Kansai Plot No.7	Tree House, Shree Ganesh	-
Site 9	R. K.Talreja College	Green City	Everest Tower	-
Site 10	Goal Maidan	Kansai Gaon	Shrey Palace	-
Site 11	-	Vardaman Homes	Riddhi CHS	-
Site 12	-	Kansai Gaon, Ganpati Mandir	Lourdes High School	-
Site 13	-	Kansai Gaon, Omkar Darshan	Vernon Church	-
Site 14	-	Kansai Gao, Shivsagar	Om Ganesh Society	-
Site 15	-	Cholekarpada, Palegaon	Rani Mansion	-

Figure 1: Students collecting water sample Ambernath region. Note Mr. Govind Joshi, Lab. Assistant giving necessary tips to students while collecting sample water.

Figure 2a: Students performing arsenic testing in water samples collected from different Villages/Societies.

Figure 2b: A First Year B. Sc. Student estimating arsenic in water samples collected from different Societies/Villages using arsenic kit.

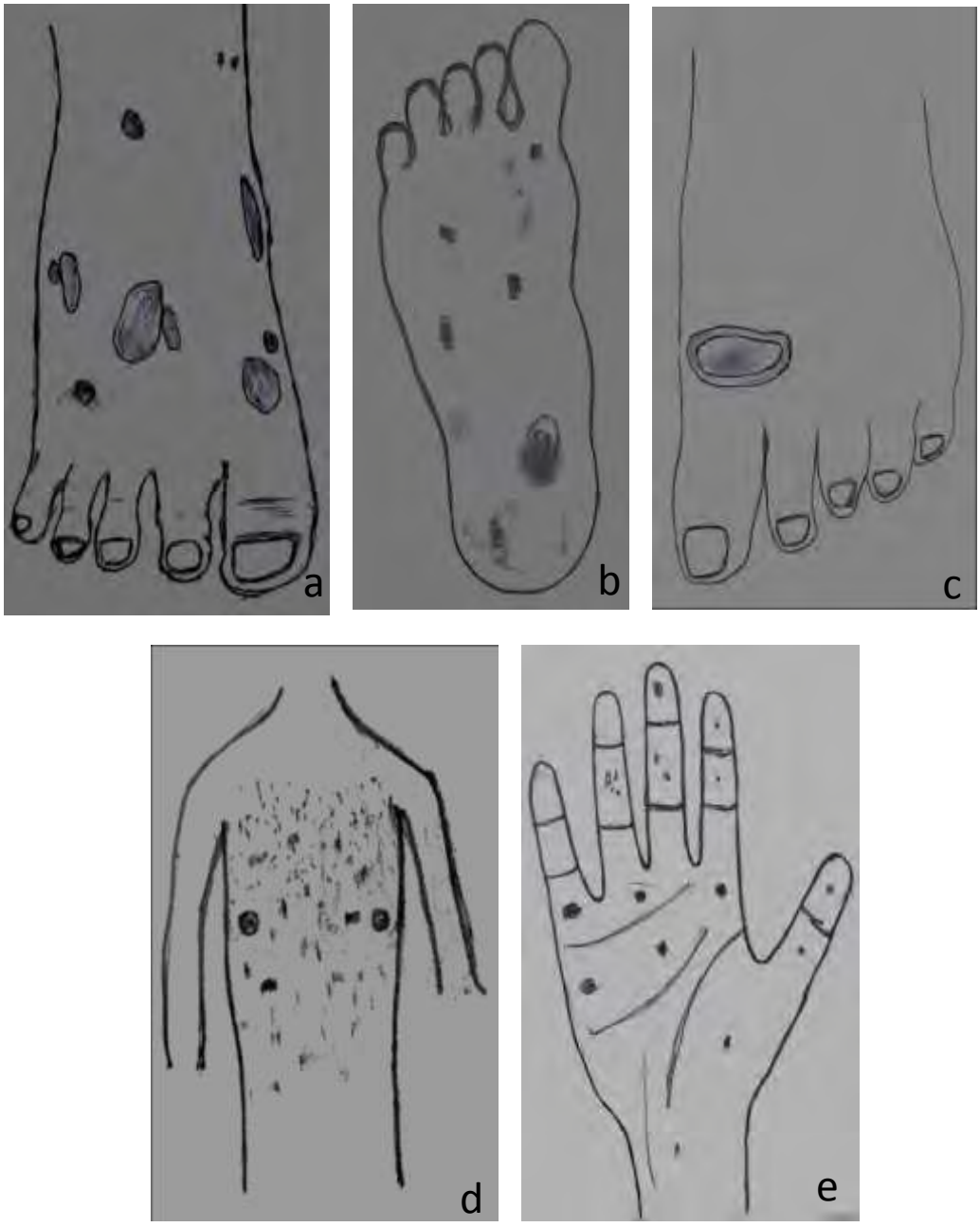

Figure 3: Sketches (a-e) showed varying degree of skin pigmentation and hyperkeratosis. Note the photographs were used to illustrate ell effects due to long term exposure to arsenic.

Figure 4: Photographs showing the comparison of colour change of water samples collected from various Villages/Societies with that of standard colour chart provided along with the Kit. Note that no colour change was observed indicating arsenic in these water samples is absent and if present, it is below 10 ppb (safe level as per WHO guide-lines)

Figure 5: Photographs showing the comparison of colour change of water samples collected from various Villages/Societies with that of standard colour chart provided along with the Kit. Note that no colour change was observed indicating arsenic in these water samples is absent and if present, it is below 10 ppb (safe level as per WHO guide-lines)

THE ROLE OF SKILL DEVELOPMENT FOR TEACHERS FOR QUALITY EDUCATION

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Abstract

Higher Education is critical for India's aspirations to emerge as a major player in the global knowledge economy. Despite the tremendous growth witnessed in the higher education in India, there are several challenges faced for providing quality education in India. The biggest challenge facing the higher education is the problem of improving quality of teaching in higher education. The success of any education system depends on the quality of teachers. Teachers play crucial role in the development of the education system as a whole and also in imparting and maintaining the standards of higher education. This would call for continuous upgrading the skill development of the teachers. The purpose of skill development among teachers is to enhance knowledge creation, openness, collaboration and developing competencies and capabilities. In SIES(Nerul) , various initiatives have been taken to enhance the skill development of teacher to improve the overall quality of education.

Keywords: Higher Education, Quality, Skill Development

1. INTRODUCTION TO HIGHER EDUCATION

Higher Education is critical for India's aspirations to emerge as a major player in the global knowledge economy. The global competitiveness of Indian economy will depend on quality of human capital with their acquired skills and training.

A country's endowment of its traditional factors of production-land, labour and capital determine its economic strength and therefore its comparative advantage. Labour and particularly the quality of labour has become the key determinant for the competitiveness of a country. New theories of economic growth have emphasized a greater role for human capital in a country economic development. Economist regard expenditures on education, training, medical care as investment in human capital. They are called human capital because people cannot be separated from their knowledge and skills. Economic growth closely depends on the synergies between new knowledge and human capital which is why large improvements in education have helped advanced countries to achieve significant economic growth.

India today is the largest contributor to the global workforce. The median age of India's 1.5 billion strong population is a mere 32; a good ten years lower than most other nations in the country. Indian economy has emerged as the third largest economy - an achievement underpinned by its unique demographic advantage, its skilled labour force. Indian education system has been instrumental in achieving this. Over the last two decades, the higher education system in India has witnessed tremendous transformation. Large scale reforms have been introduced to improve the accessibility of education to all.

Higher education contributes to social and economic development through four major channels. The formation of human capital (primarily through teaching); the building of knowledge base (primarily research and knowledge development); the dissemination and use of knowledge (primarily through interactions with knowledge users); and the maintenance of knowledge (transmission of knowledge).

The importance of higher education has been clearly expressed by our First Prime Minister, Mr. Jawaharlal Nehru in the following words: ―AUniversity stands for humanism, for tolerance, for reason , for the adventure of the ideas and for the search of truth. It stands for the onward march of human race towards even higher objectives. If the universities discharge their duties adequately, then it is well within the nation and the people".

The Kothari Commission (1966) has listed the following role of higher education institutions in modern societies:

a) To seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth, and to interpret old knowledge and beliefs in light of new needs and discoveries.
b) To provide the right kind of leadership in all walks of life, to identify gifted youth and to help them develop their potential to the full by cultivating physical fitness, developing the powers of the mind and cultivating right interests , attitudes and morals and intellectual values;
c) To provide the society with competent men and women trained in agriculture, arts, medicine, science and technology and various other professionals who will also be cultivated individuals imbibed with a sense of social purpose.
d) To strive to promote equality and social justice , and to reduce social and cultural differences through differences of education; and
e) To foster in the teachers and students and through them in the society generally , the attitudes and values needed for developing the _good life‘ in individuals and society.

2. HIGHER EDUCATION IN INDIA

The education system in India is divided into a differentiated academic system with a three-tiered structure comprising highly selective elite research universities at the top, comprehensive universities and specialized institutions in the middle, and an array of highly-accessible and high-quality colleges at the bottom. While the first tier caters exclusively to furthering India‘s intellectual capital, the other two focus on delivering economic and social value respectively.

Top-tier research universities are centres of excellence for the creation of new knowledge, set up with the vision to emerge as national and international leaders in research and innovation. They enrol a selective set of talented, research-oriented students to be taught by stellar faculty.

These universities have helped to broaden the scope of India‘s research capabilities for creating new knowledge that is relevant for India in the new world. For example, Indian universities are at the forefront of research in bioscience, environment and climate change, inclusive development and leadership. The second tier of India‘s higher education consists of industry-aligned professional institutions has seen the greatest growth over the last two decades. Focused on quality teaching and producing highly employable graduates, these institutions are a passport to white-collar jobs in a knowledge economy. They not only impart knowledge and technical know-how but also produce well-rounded industry leaders in the field of technology, engineering and management. Student learning outcomes are centre stage to this model. The last tier of broad-based highly-accessible universities is designed to expand the reach of higher education to all eligible and deserving students in the country. They offer a wide range of courses aimed at providing a holistic education to India‘s masses, and play a major role in promoting equity and access. Their distinguishing characteristic is a varied student population with significant regional and linguistic diversity and a balanced gender profile.

3. NEED FOR QUALITY IN HIGHER EDUCATION

Despite these developments, the Indian education system faces several challenges. The biggest challenge facing the higher education is the problem of improving quality of teaching in higher education. The success of any education system depends on the quality of teachers. Teachers play a very significant role in the development of society. Thus the quality of higher education depends upon who impart it. Teachers are the most important component of any education system. Teachers play crucial role in the development of the education system as a whole and also in imparting and maintaining the standards of higher education. Teachers play an important role in making quality education and in shaping the future and destiny of a nation.

There is a need for fostering quality teaching essentially for the following reasons.

1) To respond to the growing demand for meaningful and relevant teaching. Students as well as educational institutions want to ensure that their education will lead to gainful employment and will equip them with the skills needed to evolve professionally over a lifetime.
2) To demonstrate that they are reliable providers of good quality higher education, while operating in a complex setting with multiple stakeholders.
3) To balance performance on teaching and learning achievements along with research performance ,
4) To increase the efficiency of the teaching and learning process.

According to OECD, quality teaching includes initiatives that help teachers to achieve their mission, encouraging them to innovate and to support improvements to student learning and adopt a learner oriented focus. Support for improving teaching quality can be provided through various initiatives like creating a centre for teaching and learning development, professional development activities, support to innovative pedagogy and improving learning environment.

4. SKILL DEVELOPMENT AMONG TEACHERS

Teachers are the most important component of the higher education system. Academic development of teachers is crucial and necessary for the success of the higher education system because the teachers are the catalyst for all round development of students. Teachers play a significant role not only in improving the quality of higher education but also maintaining it. The professional competency of teachers has to be such a high level so as to impart quality knowledge to the students. This would call for continuous upgrading the professional development of the teachers. High quality professional development within the profession in order to keep in touch with new findings in their subjects and to obtain continuous support for the improvement of their teaching. Teachers need continuous self development to generate knowledge that goes to contribute towards inculcating higher professional competency among students. It is linked with

a) Quality of research
b) Participation in national and International seminars
c) Faculty exchange programs
d) Up gradations of qualifications
e) Exposure to recent developments
f) Collaborating with fellow researchers in other higher education institutions.

If a higher education institution have to develop then, its teachers individuals and collectively must increase their capacity to produce results they really care about. The levels of performance and improvement needed require lots of learning. An institution that encouragers learning among its teachers and promotes exchange of information between them, produces a very flexible institution, where all will accept and adapt to new ideas and changes accruing in the environment.

The purpose of skill development among teachers is the following:

1) Knowledge creation: The institution is a system for generating knowledge and teachers are an integral part of that process.
2) Openness: It helps to introduce new ideas and practices in teaching learning process. Teachers with the necessary skill enhancement would be more open to adopting new teaching tools.
3) Collaboration: It will help to create an environment where teachers will collaborate and learn from each other.
4) Development: Skill development provides opportunities for developing competencies and capabilities.

5. SKILL DEVELOPMET INITIATIVES IN SIES (NERUL) COLLEGE OF ARTS, SCIENCE AND COMMERCE

SIES (Nerul) established in 1998 provides wide range of courses from commerce, management, mass media to information technology. Taking its motto ‗Rise with education' as its inspiration, the College strives to provide quality education to the students of Navi Mumbai. The teachers are appointed to provide good education to the students. However, one of the challenges that is faced by the institution is the skill upgration of teachers. There is a need for skill development of teachers that responds to the educational goals of the institution of providing quality education. For enhancing the skills of teachers, following initiatives have been undertaken by the management and the college.

1) SIES Central Training Department: The management of SIES has initiated this department for providing skill development training to the faculties across all SIES institutes. The department at the beginning of the academic year takes feedback from faculties and identifies certain topics for discussion. Experts from the industry, academia, research scholars, and professors from international intuitions are invited to deliver lectures on the chosen topics. For skill development of teaching and nonteaching staff, one day workshops are also conducted. There are also programs conducted for students. Wide range of topics including training on SPSS, Tally and Microsoft Excel has been conducted. The department also releases E-Newsletter known as ADHIGAM at the end of very semester where SIES faculties contribute articles on higher education and their experiences in classrooms adopting new teaching methodologies.
2) Faculty development program: In SIES (Nerul) , several faculty development programs have been organised for skill development of teachers. These programs are organised by inviting experts from my management institute and also from industry. The college has organised one day workshops on SPSS, Minor research projects, Advanced Excel, JAVA Technologies Cloud computing etc. For teachers in information technology, seminars on Cloud computing, Advanced excel in collaboration with Microsoft and NIIT has been organised.
3) Non-teaching staff: The College also arranges workshops for skill development of non teaching staff. There has been training sessions organised for them in topics like Tally, Advanced EXCEL. There are also other sessions that are planned in the future based on the feedback received from them.

6. CONCLUSION

Emerging Indian economy and the new social order demand a changing trend in traditional education. In order to meet the needs and aspirations of the people in emerging society, educations need to be remodelled and reorganized. Instead of focussing on quantity of education, there has to be greater emphasis on quality of education Aims, content and process of education should be tailored to meet the needs of the emerging economy.

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The Kothari Commision 1966

USE OF TECHNOLOGY IN TEACHING: WITH SPECIFIC REFERENCE TO INTERNET

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The effective use of technology in Education has changed the face of education and it has created more educational opportunities. Both teachers and students have benefited from various educational technologies, teachers have learned how to integrate technology in their classrooms and students are getting more interested in learning with technology. The use of technology in education has removed educational boundaries, both students and teachers can collaborate in real time using advanced educational technologies. Technology has helped in the growth of mobile learning and long distance learning. The use of internet technology has enabled teachers to reach students across boarders and also students from developing countries have used internet technology to subscribe for advanced educational courses. Many universities and colleges have embraced online education by creating virtual classrooms. Online education is flexible and affordable, students can attend classrooms during their free time, and they can also have a chance to interact with other students virtually.

Recent advancements in educational technologies have yielded positive results in our education sector. This new educational technology is supporting both teaching and learning processes, technology has digitized classrooms through digital learning tools like, computers, iPads, smartphones, smart digital white boards; it has expanded course offerings, it has increased student‘s engagement and motivation towards learning.

This paper is an attempt made to understand whether the technology is really used by college teachers in teaching, whether resources are available to enhance the quality of teaching, whether it is important to use technology in classrooms and what are the barriers in the same.

Objectives of the study:

The study is intended to achieve the following objectives:

1) To understand the role of technology in teaching-learning.
2) To overview usage of internet by college teachers.
3) To study the barriers in adopting latest technology in teaching learning.
4) To evaluate the pros and cons of technology in teaching.

Research methodology:

Primary Data was collected by designing an open ended questionnaire and responses were collected by Google Forms from 50 degree college teachers in Mumbai. Random sampling method is adopted.

Secondary data was collected by referring Research papers, Books, Journals and internet.

Scope of study:

The study aims at understanding the usage of internet and technology in preparation of lecture notes and other teaching aid, frequency of usage, purpose of usage and also impact of using internet in teaching-learning taking into consideration degree college teacher‘s perspective.

Limitations of the Study:

1) Due to time constraint the study is made only for degree college teachers and ignores student‘s perspective.
2) Only 50 teachers are taken for the study
3) Basic statistical tools like percentage method are applied.
4) The responses may be biased.

INTRODUCTION

Computers and the Internet are a great resource for classroom teachers. Teachers can find suggestions, lesson plans, practical support, information, and materials through the Internet. In fact, using a computer can make a teacher's life easier and more efficient. The website provides an extensive list of Internet links designed to help teachers of reading and writing. This list of links covers most of the types of websites discussed below. Here are some of the many ways in which teachers can make computer and Internet technology work for them.

One particularly practical feature of many of the new teacher websites currently available on the Internet is the provision of ready-made lesson plans and suggested activities on a broad array of topics. Bulletin boards allow teachers from all over the world to share their best lesson plans and suggestions with each other. Of course, when you are considering using someone else's lesson plan or suggestion, it is important to read through it and think about whether it will work for your students. Books and materials for teachers and students can also be located and purchased online, saving teachers the time used to send away for catalogues or go to the teacher store. Make sure to be careful that you make purchases online only with well-known companies through secure connections.

All members of the education field can easily communicate with each other through these forums. Teachers who want to know how someone else handled a situation, where to go to get some particular resource, what the latest news is on a particular subject, how to help a child with a specific type of need, or any other education-related question can find colleagues to talk.

Of course, the websites for these organizations are not the only source for finding research and information. A variety of other websites provide research on any topic about which a teacher might be interested. Search engines can be particularly helpful to teachers in finding almost any kind of information on the Internet.

One particularly exciting feature of going online is the ability to e-mail anyone in the world. Teachers and students worldwide are beginning to use this ability to talk to each other. They can even do projects together and help each other learn about their different cultures. E-mailing back and forth with another classroom also provides excellent opportunities for students to practice writing skills for a real-life purpose. Word processing can be used before documents are pasted into e-mails, so that students not only practice this essential skill of word processing but also can edit much more easily to produce a well-crafted piece of writing.

ADVANTAGES OF TECHNOLOGY IN EDUCATION:

1. Technology Unlocks Educational Boundaries:
2. Technology Simplifies Access to Educational Resources:
3. Technology Motivates Students:
4. Technology Improves Students Writing and Learning Skills:
5. Technology makes subjects easy to learn
6. Promotes Individual Learning
7. Supports Differentiated Instructions
8. Increases Collaboration between Teachers and Students.

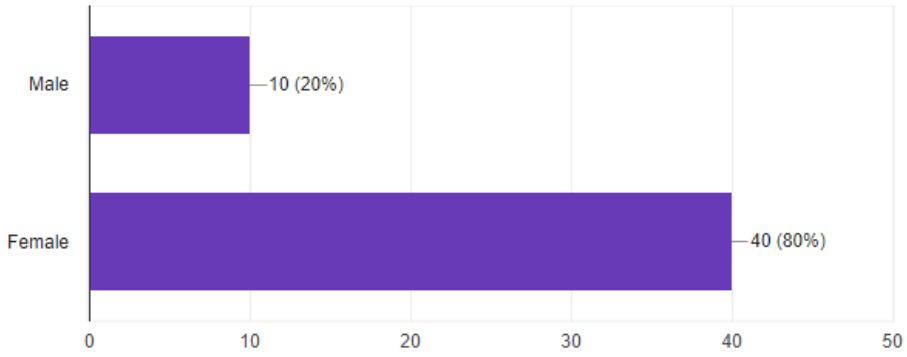
DISADVANTAGES OF TECHNOLOGY IN EDUCATION

1. **Immense expenditures**
2. **Insufficient methods of teaching**
3. **Transforming learners into inefficient learners**
4. **Misguided by the wrong information**
5. **Major source of distractions**
6. **Increase rate of cyber bullying**
7. **Makes learners disconnected from the real world**

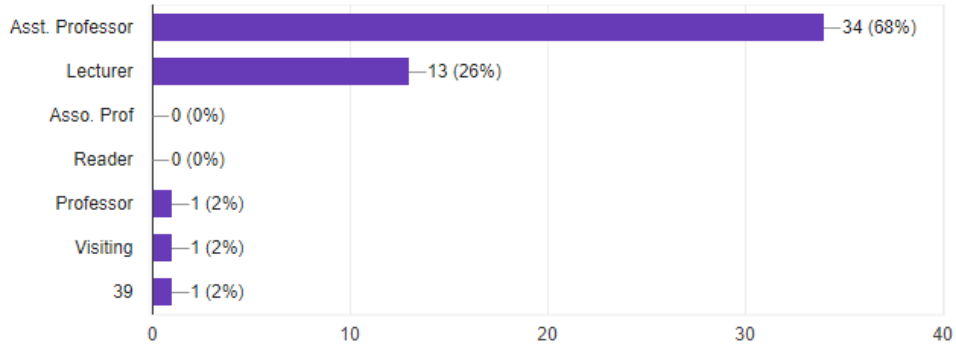
8. **Major challenges for teachers**
9. **Replacing books with e-books**

Data Analysis and Interpretation:

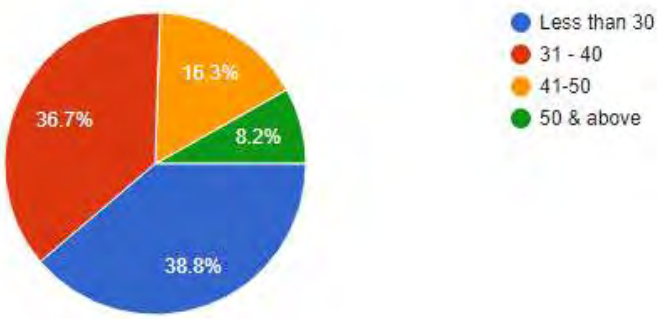
Gender



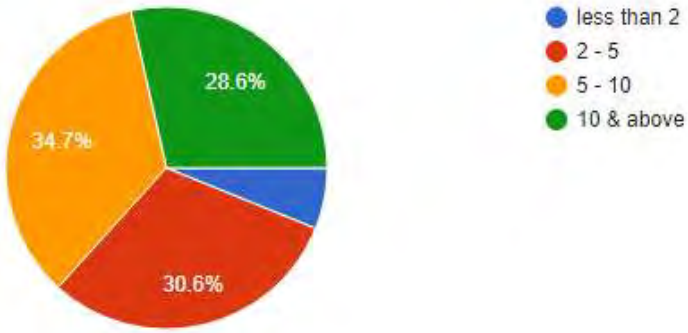
Designation



Age

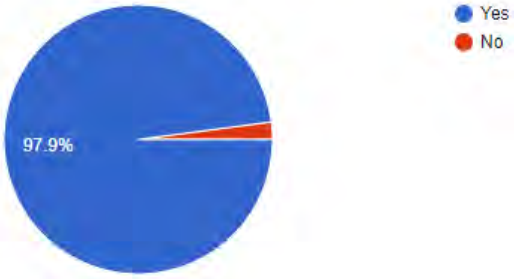


Experience in Years



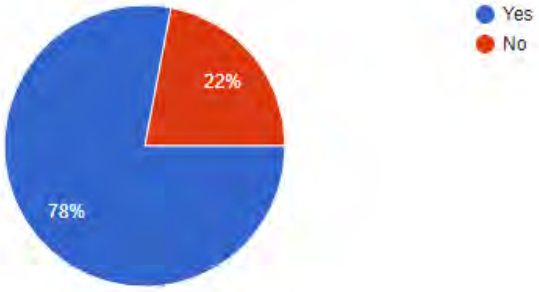
Do you access Internet for academic purpose?

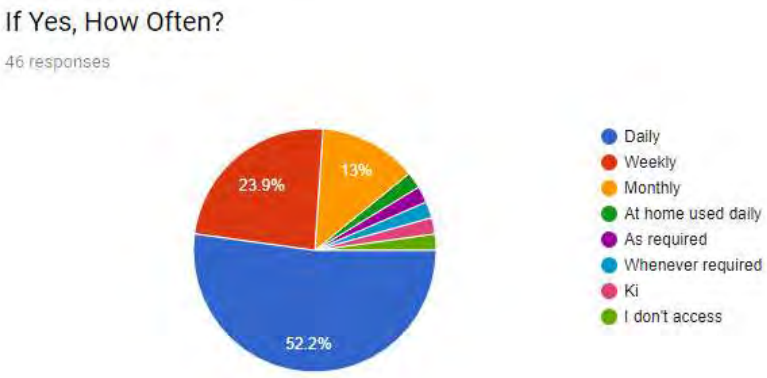
48 responses

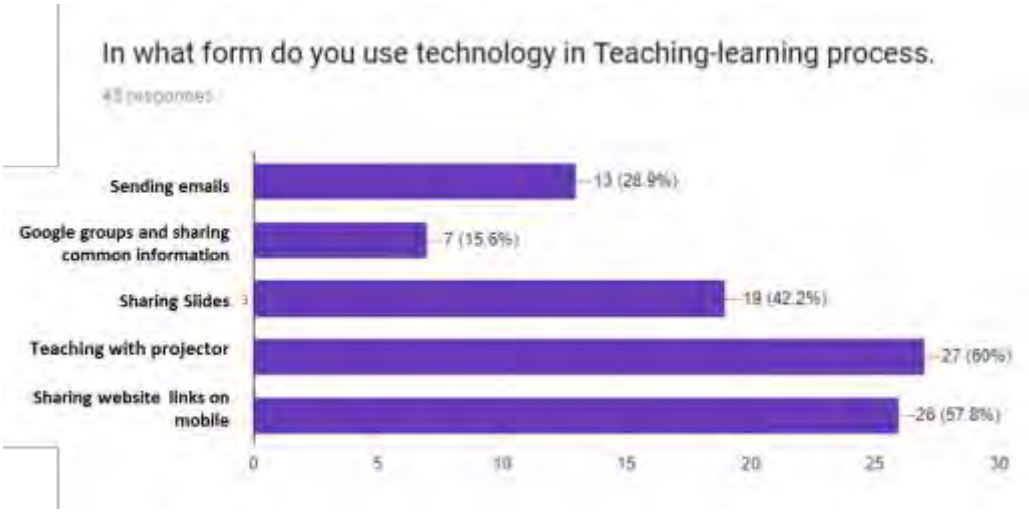


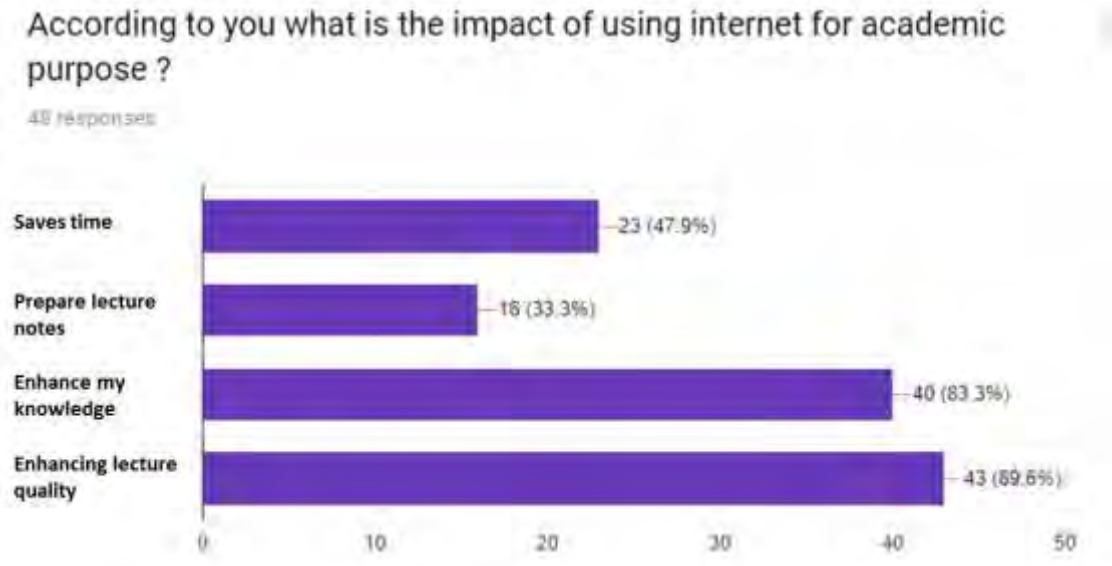
Do you access internet in college

50 responses



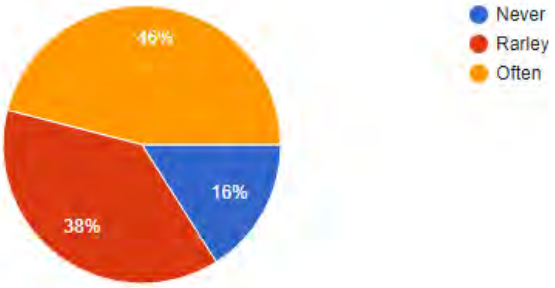

If Yes, How Often?
46 responses
23.9%
13%
52.2%
Daily
Weekly
Monthly
At home used daily
As required
Whenever required
Ki
I don't access


In what form do you use technology in Teaching-learning process.
Sending emails
13 (28.9%)
Google groups and sharing common information
7 (15.6%)
Sharing Slides
19 (42.2%)
Teaching with projector
27 (60%)
Sharing website links on mobile
26 (57.8%)
0
5
10
15
20
25
30


According to you what is the impact of using internet for academic purpose ?
Saves time
23 (47.9%)
Prepare lecture notes
16 (33.3%)
Enhance my knowledge
40 (83.3%)
Enhancing lecture quality
43 (89.6%)
0
10
20
30
40
50

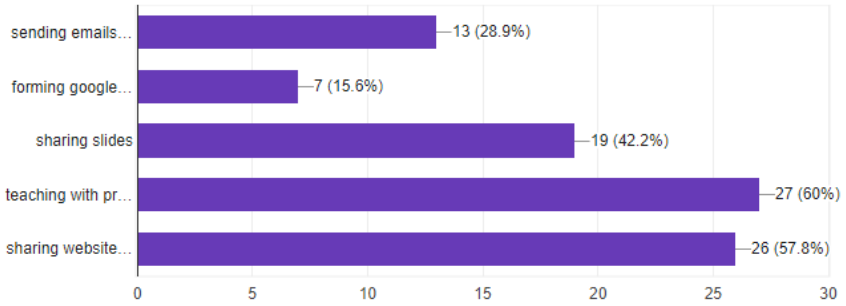
How often do you use technology for teaching in class ?

50 responses



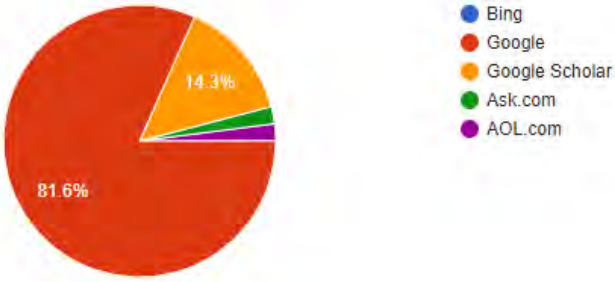
In what form do you use technology in Teaching-learning process.

45 responses



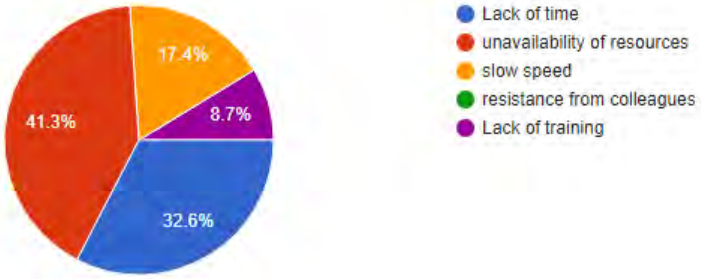
Which search engine do you often use

49 responses



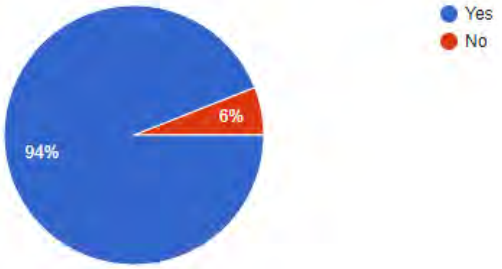
Do you face any of the following problems in use of technology in teaching

46 responses



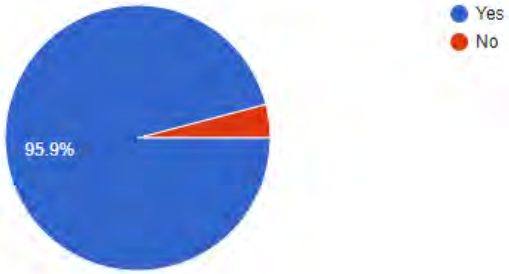
Do you encourage your students to effectively use internet in learning ?

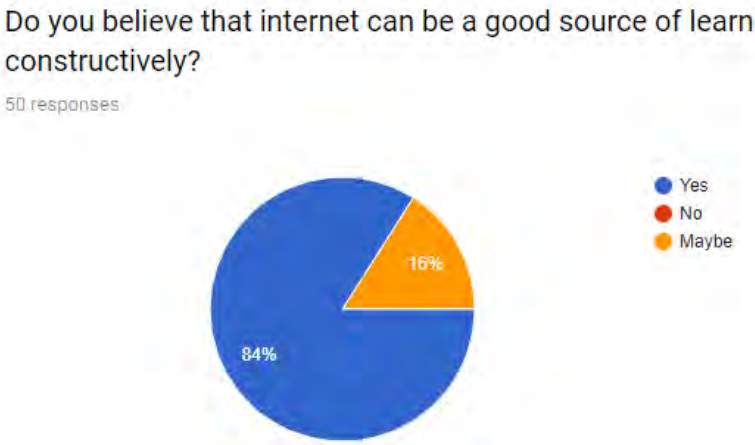
50 responses



Do you feel that colleges should encourage use of technology for teaching and learning?

49 responses





Findings of the study:

- 97.9% of respondents use internet for academic purpose.
- 78% of respondents use internet in college.
- 52% of respondents access internet daily
- 84.1%of respondents use internet for email, 70.5% for updating knowledge, 63% for preparing notes, 72% of respondents access for getting practical examples and 54.5% for research work.(respondents were told to select more than one option)
- 46% of respondents often use technology in teaching.
- 60% of the respondents use projector as a teaching aid.
- 57.3% of the respondents share links to the students.
- 32.6 % of respondents could not use internet due to lack of time whereas 41.3% face the problem of unavailability of resources
- 95.5% of respondents reviewed that colleges should encourage the use of internet by teachers as a teaching learning aid.

Suggestions:

- Internet is good source of teaching and learning.
- There is much more in technology than merely an Internet. We have numerous mobile Apps for classroom interactions and discussion and even there are apps to manage the educational system which saves lot of time, but we rarely use. Even Smart black boards are catching attention in the west.
- Unnecessary overuse and over dependence on internet becomes helpless in its absence
- Use of internet makes the teaching learning process more impactful and interesting.
- Internet helps you to know about what's happening new in the corporate world as well as globally. Using live examples helps the students in grasping theoretical concepts better. It also makes the lecture interesting.
- Colleges should make it accessible for all faculties.
- There should be Provision projectors to teaching faculty to enhance the quality of teaching.
- Encourage teachers to learn latest technology in all fields.

Conclusion:

Internet should be used by all teachers as it is boon for teachers as referring to official government and reliable website can help to update information/knowledge which will be helpful in teaching. The typing time can be saved if used for the purpose of preparing notes. Sharing links and

slides can be effective way of enhancing knowledge. However the authenticity of the data should be verified instead of blindly trusting any data to be accurate.

The need of an hour is teachers should be encouraged to do presentation, research work, prepare case studies, PPTs etc. In an era of digitalisation, teachers should be given training to have better exposure to use of technology.

Lack of infrastructure and resistance is primary reason for low usage of technology

Use of technology should be made mandatory and colleges should provide the necessary technology for the usage of Internet for teaching purpose.

Majority of the students are not even aware of Fundamentals of this type of teaching. Inspite of digital means available, older method of teaching create one to one contact between students and teachers. Physical presence of Teachers create better atmosphere. Live lectures are far better than video lectures.

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HEUTAGOGY BASED E-TRAINING MODEL FOR DIGITAL SKILL DEVELOPMENT OF TEACHERS

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Abstract

Multimedia, Internet, Digital Network etc. technologies have expanded in community at large to a large extent. This situation has changed social and cultural positions and environment to a great extent worldwide. This situation has necessitated changes in educational systems, methods and techniques. Integrating ICT in the classroom teaching is a need of an hour. Therefore, teachers are required to be trained. To make use of available treasure of OER and to inculcate the culture of life-long learning among teachers, it is essential to include heutagogy in teachers-training. This paper suggest a Heutagogy based e-training model for teachers for their digital skill development. It ensures the comprehensive evaluation of training proposed by Kilpatrik. It also suggests ways of applying, sharing and collaborating gained knowledge and skills in the real field.

Keywords*: Heutagogy, e-Training, digital skills*

Heutagogy

Heutagogy has been called a ―meta-centric" theory that takes advantage of the key affordances of Internet; it is also a pedagogical approach that could be applied to emerging technologies in distance education, as well as serve as a framework for digital age teaching and learning (Anderson, 2010, p. 33; Wheeler, 2011).

Self-Determined Learning

Heutagogy is study of self-determined learning, reflection on what is learned and how, assessing own development, developing competencies and capabilities. In heutagogical approach, trainers are as guides.

―Heutagogy is the study of self-determined learning and applies a holistic approach to developing learner capabilities, with learning as an active and proactive process, the learner serving ―as the major agent in their own learning, which occurs, as a result of personal experiences". (Hase & Kenyon, 2007. P.112)

In self-determined learning, it is important that learners acquire both competencies and capabilities (Stephenson, 1994 as cited in McAuliffe et al., 2008, p. 3; Hase & Kenyon, 2000, 2007). Competency can be understood as proven ability in acquiring knowledge and skills, while capability is characterized by learner confidence in his or her competency and, as a result, the ability ―to take appropriate and effective action to formulate and solve problems in both familiar and unfamiliar and changing settings" (Cairns, 2000, p. 1, as cited in Gardner, Hase, Gardner, Dunn, & Carryer, 2007, p. 252).

Need

A heutagogical learning environment facilitates development of capable learners and emphasizes both the development of learner competencies as well as development of the learner's capability and capacity to learn (Ashton & Newman, 2006; Bhoryrub, Hurley, Neilson, Ramsay, & Smith, 2010; Hase & Kenyon, 2000).

In heutagogy the instructor facilitates the learning process by providing guidance and resources, but fully relinquishes ownership of the learning path and process to the learner, who negotiates learning and determines what will be learned and how it will be learned (Hase & Kenyon, 2000; Eberle, 2009). In this Heutagogy based e-training, the trainees will negotiates training, and determine which skills will be developed and how it will be developed.

Significance:

Most of the existing training modules which are prepared by following either pedagogical approach or andragogical approach is not sufficient.

Pedagogical, even andragogical, educational methods are not sufficient in today's techno era and a more self-directed and self-determined approach is needed, one in which the learner reflects upon what is learned and how it is learned and in which educators teach learners how to teach themselves (Peters, 2001, 2004; Kamenetz, 2010).

There are various online courses available for teachers either in the form of MOOCs or in other forms. Even there is a treasure of information and resources available for the self -study or self-progress of the teachers for improving their own digital competencies. Large number of research is done on the development of such training programme.

Equally there is a large number of research done to check effectiveness of these training program or traditional training program.

But very few researches are done to check the simultaneous progress of the teachers when they are taking training. There is little focus on the fact whether they could implement what they learnt;

whether they could apply the skills they learnt. There should be continuous support given on this aspect.

Heutagogy based e-Training model for the digital skill development

Figure 1

Phase I

Learning by objectives

During this phase trainees and trainers will work together to identify training needs and training outcome. What does the trainer want to achieve? What should be result of the learning experiences? (training outcome). In addition, what skills they want to develop? Next, the trainees and trainers negotiate the assessment process. How will the learning be assessed? At the end of this part of the process, the areas of training, objectives are agreed upon. This is fruitful and effective if these decision are taken on the basis of need and interest of the last beneficiaries i.e.students of trainee for whom they are going to implement it. Trainees should provide all inputs to decide the objectives of the training.

Phase II

Dick (2013) identifies three universal aspects: challenge, autonomy, and support. Teacher need to create, ―Achallenging, achievable and worthwhile task, providing participants with as much autonomy as possible, and engendering support based on strong and collaboarative relationships." (Dick 2013, p.52). Once the trainees and trainer have reached agreement on the design for the learning, the trainees will decide upon the study material to use, modes of instructions out of various options provided to them.

During this process, trainers will provide ongoing, constructive feedback and provide opportunities for learners to self-reflect on application and share the knowledge.

During this phase, parallel learning goes on. At one side, the trainee is taking training in online mode from trainer. On the other side, the trainee is analyzing, planning, implementing and modifying his/her own instructional practices as per the development of training. Not only digital skill is developed through training, but also, simultaneously, learnt skills are developed in the field giving further input to reflect. Further the trainee can solve his/her problems in realistic world while taking training.

The following are the steps through which teacher-trainee goes through in his/her practical field.

Analyse the need and understand the context:
The working environment is unique for each trainee. Students, their background, their technical skill, and availability of resources are different. Accordingly, trainees will analyse the need. It also includes analyzing their own technical skill level.

Planning:
While taking training, trainees, on the other hand, will plan for the implementation. They will take care of prerequisite for implementing. For example, if trainee is learning about blog, plans to use blog in teaching. plans about type of blog, subject and area to be included, objectives of preparing blog, designing the blog and so on.

Implementing:
Trainee will implement the learnt product or process in the classroom teaching. For example, if the trainee has learnt to use video conferencing, the trainee will arrange a lecture through video conferencing for his/her own students. Or, if the trainee has learnt concept mapping using software, he/she will use it in his/her classroom teaching.

Modifying practices:
While implementing the learnt product or process in the classroom, they will the trainees may face some problems, but at times will gain some insight. These all reflections should be shared with peer. It leads to continuous learning. They learn from others too. Sharing and collaboration helps them in solving their problem. Accordingly, they modify their instructions.

Following are the steps through which a trainee goes through in online set up

Gain Information: During this phase, the trainer provides demonstrations along with relevant Open Educational Resources (OERs), various repositories according to the need of the topic etc..

Process Information:
Simultanously, the trainees should be given the freedom and opportunity to explore the path and sources of knowledge on their journey. They need to be able to develop and test hypothesis, and ask and answer questions. The learner will go through the various webpages provided by teacher, and the overflowing information in different web resources has to be structured through systematic enquiry. The trainees can do it on WebQuest. WebQuest enhances learners‘ motivation in class; serves as an alternative evaluation tool of students‘ learning; make the teachers understand about the students‘ degree of acquisition of information, analysis and synthesis of the information. WebQuest inspires users to see richer thematic relationships to contribute to the real world of learning, and to reflect on their own metacognitive processes.

Organize & Structure Information:
The trainees organize and structure information they gained through mind mapping technique. They also prepare graphic organizers to display their learning.

Apply & Create: The creation is the highest level of cognitive development in which the trainees create learning resources in various forms. They can create, as per their need and interest and showcase through blog, e-portfolios and wiki, wherein their reflection is the continuous process thoughout the journey of learning.

Share, Discuss & Collaborate: The trainees has access to various platform of discussion forum, or, video conferencing as per the need. They will share and discuss about their expeirences, difficulties and problems faced while implementing ICT in classroom. They reflect their process of learning and possibly they collaborate to create a learning outcome.

Phase III

The teachers will be evaluated based on questionnaire to check their achieved digital skill level. Even their job performances can be evaluated through questionnaire or observations. Their computer self-efficacy also can be studied to understand their achievement. On the other hand, students should be evaluated to know the impact of using digital integration in the classroom which is the result of training. Students will be evaluated based on their understanding of their concept through questionnaire, examination score and their attitude through attitude scale.

Kilpatrik's model of evaluation of training is standard for evaluating effectiveness of training. The e-training ensures all four levels of Kilpatrik model.

Level 1 Evaluation – Reaction

In this level, it is evaluated if trainee liked a particular training, if he enjoyed the trainng, if they found the material in the program useful for their work. As this training uses Heutagogical approach, trainee is self motivated, self determined. Trainee decides the learning output as per his/her need and interest and effectiveness.

Level 2 Evaluation – Learning

This level evaluates the level of knowledge acquired, skill, attitude, confidene and commitment based on their participation in the training. This would be evaluated through questionnaire.

Level 3 Evaluation – Behavior

The degree to which participants apply what they learned during training when they are back on the job. This level analyzes the difference in the participant's behavior at work after completing the program. In this model, as trainee not only apply their skill and knowledge but also share their experiences. The sharing and collaboration itself is sufficient to guage their behavior. Discussion among trainees can be evaluated, and their products can be evaluated.

Level 4 Evaluation – Result

At this level, the training is evaluated based on its final result. The degree to which targeted outcomes occur as a result of the training. Techers' training of digital skill development is for effective learning of students. In this model, the questionnaire to assess understanding of students, their examination score and attitude scale to assess attitude towards integrating ICT in classroom are used to evaluate.

Conclusion

Heutagogy based training would be an alternative to make use of open educational resources for the professional development of teachers and mainly to bring about attitudinal change among teacher towards training. This model ensures that the training is favorable, engaging and relevant to trainees' jobs. It ensures that the trainees acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training. It ensures the standard of measuring the effectiveness of training given by Kilpatrik i.e. Reaction, Learning, Behavior and Result.

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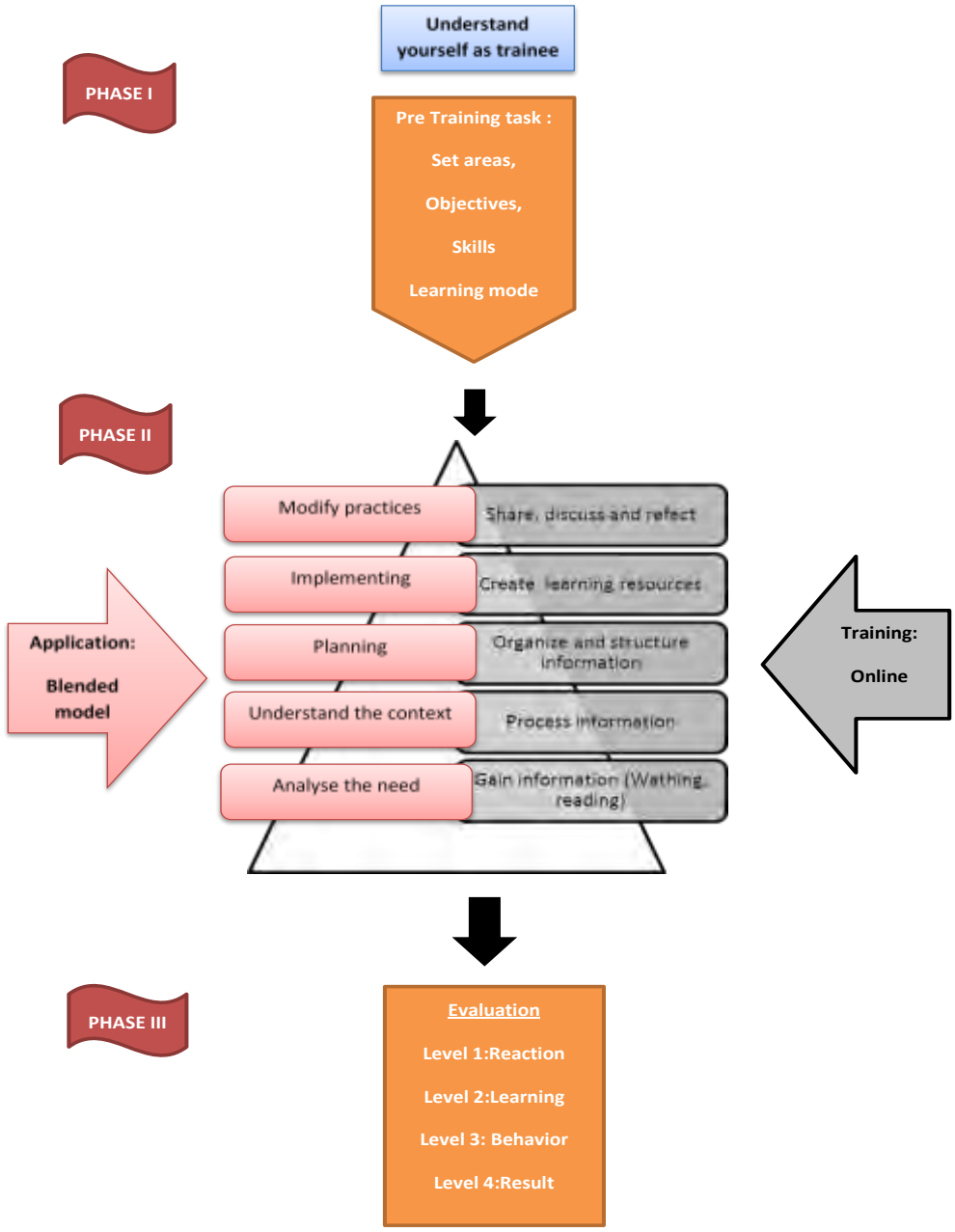
Figure 1



A STUDY OF IMPACT OF AGE, ACCESS TO INTERNET AND SKILL TRAINING IN ELDERLY SEGMENT OF POPULATION IN MUMAI TOWARDS NARROWING DIGITAL DIVIDE

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Abstract

The Digital Divide
The division of the society and people based on information and communication technology concerns is causing a segregation in the society. The reason are many folds ranging from no access to Internet , poor or no skill set for the new media options and new technology , language and education barriers and even age and gender. These and low speed broadband and subscribing to many technology based communication also lend a hand towards Digital Divide. This impacts the development and progress of the nation globally and within states and people.
Keywords*: ICT, Access, Digital Divide, India, Age, Skills and Training, Infrastructure*

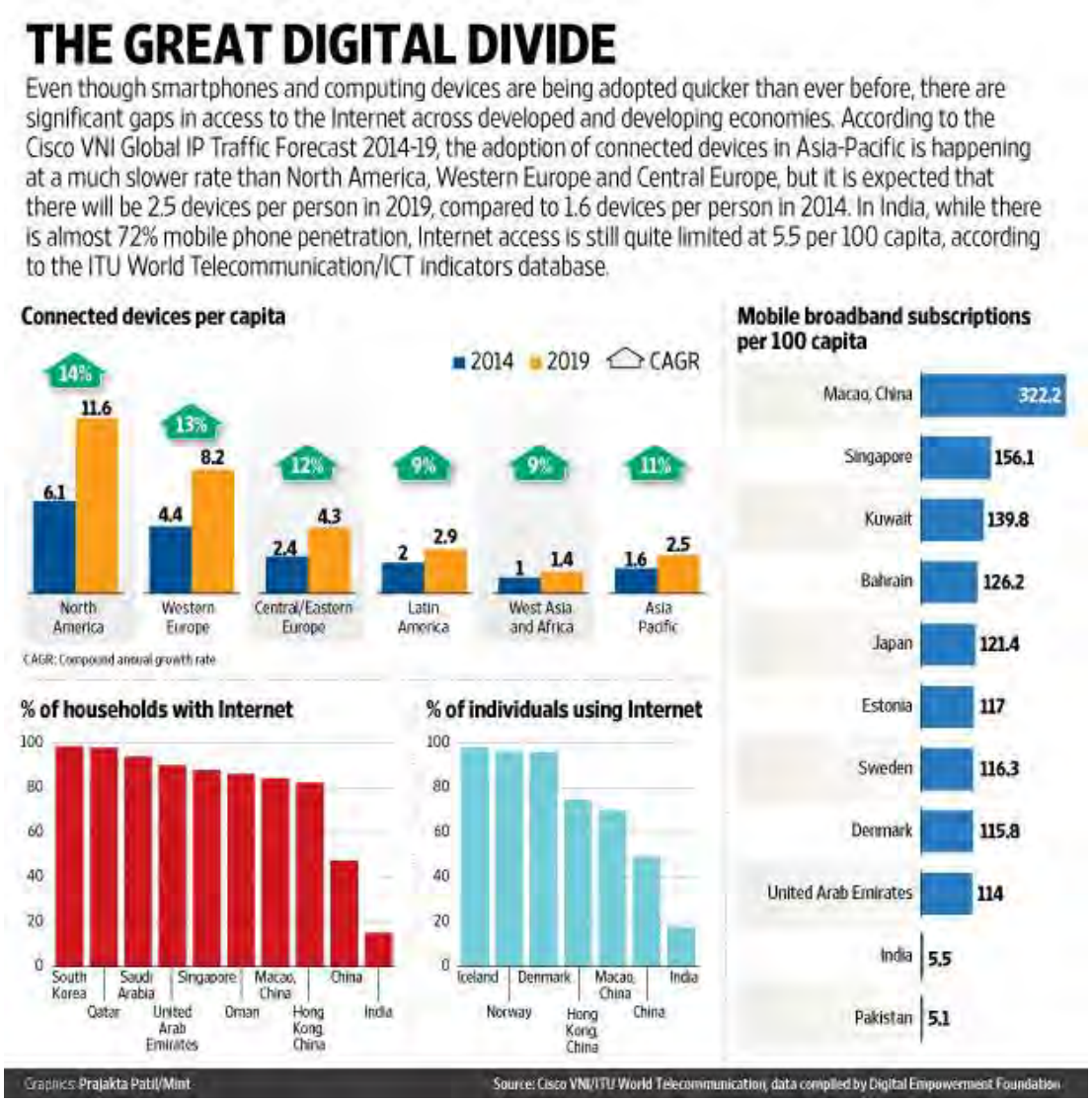
Introduction

Digital Divide meaning:

Digital Divide refers to The Big divide which is creating a rift in the society, between people and creating a yet new form of haves and have-nots. This divide is in reference to the difference and discrepancy between the people who are having access to new forms of information and communication technology and essentially the internet to access those new media options and various information and communication processes. Thus this set of people are referred as Haves. There are other set of people who do not have the means and resources to access the form of technology and its options and are marginalized group. They are referred to as Have-nots.

This understanding of Digital divide if further understood as referring to those people who do not have the abilities or the required skills or the knowledge base to exploit the technology to their best advantage. Yet the stretch of Digital Divide further stretches to the geographical and educational divide i.e. those who reside in rural areas than urban and thereby have been in an illiterate or less educated and so at a disadvantage than his counterpart of urban sector with higher education. Moving ahead the Digital divide is strongly felt amongst the low socio economic classes and at a global level it pronounces its effect on under developed and with a low technological profile nations.

The Important aspect in Digital divide in context to ICT (Information and Communication Technology) is Internet. Initially Digital divide had the manifesto of rate by which technology penetrated and was adopted by various nations and people. However now the strong impetus of it boils down to Internet Access and Usage of the communication technology through it and through its impact the growth and development of the people and nation.



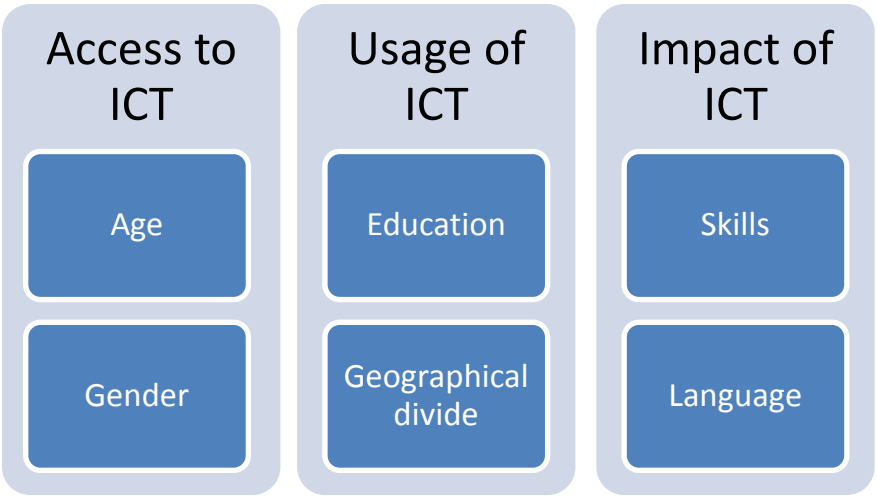
Source: Cisco VNI/ITU World Telecommunication; Data compilation by Digital Empowerment Forum

Source: World meters, United Nations, IAMAI, Facebook, Cisco

Clearly it is evident that India is yet to have a better penetration of ICT in India. Tele density and Internet penetration is yet to make a mark which would propel the country towards progress and development on a global scale.

Digital Divide Prevalence Reasons:

Various factors contribute to the existence of Digital Divide in society. The big divide and rift is caused by cumulative effect of many factors in society. Some of them contribute to slow means of progress and poor realizing of goals and objectives and many are responsible for overall non sustainable growth of the nation .Some of the identified reasons for prevalence of the digital divide in India are as shown in the chart below.



Apart from these, the Income, Political, Cultural and Psychosocial attitudes also contribute towards the Digital Divide in regions and society.

LITERATURE REVIEW

Dr Singh Sumanjeet (2011) discusses in the paper the digital divide between nations and states and communities global, regional and many levels of rich and poor and those old and young too. The author in his paper comments on reasons and possible changes that can be referred within the Digital Divide for the benefit of people. It highlights the fact that reasons such as lack of infrastructure, tele density, illiteracy, lack of skills and the geographical divide of resources in urban and rural sector.

Panda Ipsita (2013) elaborates on the gap between developed and underdeveloped nations in accessing technology and utilizing for better growth and development of the nation. This gap resonating amongst the rich and poor makes the divide very wide and the paper discusses this in context to India.

Singh Neena (2010) comments about the role of various schemes and initiatives towards ensuring the narrowing of the gap and divide created via access through digitization of the information and communication technology. The paper also discusses the barriers and challenges towards narrowing this rift and measures that the government and authorities need to take to ensure the Digital Divide is mitigated.

Statement of the Problem: The Digital divide strongly rests on the penetration of the ICT yet the need of the hour is to integrate people with skills and training to optimally using of those resources. Information and Communication technology can be most beneficial for the progress of the nation if all sectors of population join hands. Age and access to Internet and training with acquiring of skill set in elderly group of people above 50 years of age can be very productive for their own identity and functioning along with creation of a working human capital of Digital India.

Objectives:

- To assess and understand the penetration of ICT in urban sector of India on elderly people.
- To validate the Digital Divide barriers in India.
- To claim the untapped potential of elderly people to learn and absorb skills for ICT.
- To verify the role of the Skill acquisition, age and gender overcoming Digital Divide.

Research Methodology:

Hypothesis:

H1

Ho: There is no significant relationship between Digital Divide and acquiring skills for ICT.

H1: There is a significant relationship between Digital Divide and acquiring skills for ICT.

H2

Ho: There is Inverse relationship between age and literacy with adapting to ICT leading to Digital Divide in the people.

H1: There is direct relationship between age and Literacy with adapting to ICT leading to Digital Divide in the people.

Research Design and **Sources and Method of Data Collection**:

The research study is based on both Primary and secondary data. The Research Design is Exploratory and Tool and techniques used are Structured Questionnaire and modality of Convenience Random Sampling has been utilized. Data has been collected through survey on the respondents

Sampling plan

This research paper is of an exploratory design and aims to find results by conducting a survey on 100 respondents.

Sampling has been done from various sectors of society .The respondents have been sampled through Convenience Random Sampling of age group 50-60 and 60-70 male and females.

Both Primary and Secondary data has been sourced to analyze, assess and understand the current and future impact of Acquiring skills and Literacy of elderly group of people.

Methods of data analysis

The Data generated has been analyzed graphically and in ratio percentage method. A correlation of the variables have been attempted to be deciphered to allow for further understanding of this Digital Divide and acquisition of skills for ICT by elderly respondents..

Limitations of study:

The research study has been limited to Mumbai region only for reasons of logistics of the survey.

These 100 respondents are divided as following:

The respondents sample size has been divided in various Mumbai zonal categories .East, West, South and North and sample has been taken equally from these areas so as to give uniformity to sampling in Mumbai region.

Further the sample size has been bifurcated to gender division of males and females into 50:50 ratio.

The respondent‘s age group has been divided as following. 50-60 and 60-70 years groups and based on this variable the sampling has been conducted.

Age in years	50-60		60-70	
Gender	**M**	**F**	**M**	**F**
North	05	05	05	05
South	05	05	05	05
East	05	05	05	05
West	05	05	05	05

Findings:

Table: **E-Governance Schemes by Government and Private Business houses**

AGE	Life Line India	Bhoomi Project	Friends Project	Digital Mobile Library	I Shakti (HUL)	Param (O&M)
50-60	2	5	3	7	4	3
60-70	2	3	3	0	0	0

The table clearly shows that only 24% of the respondents belonging to age group of 50-60 years had heard about these e governance schemes. From the 60 -70 years age group only8% of them had heard about few schemes floated by Government and others had no information.

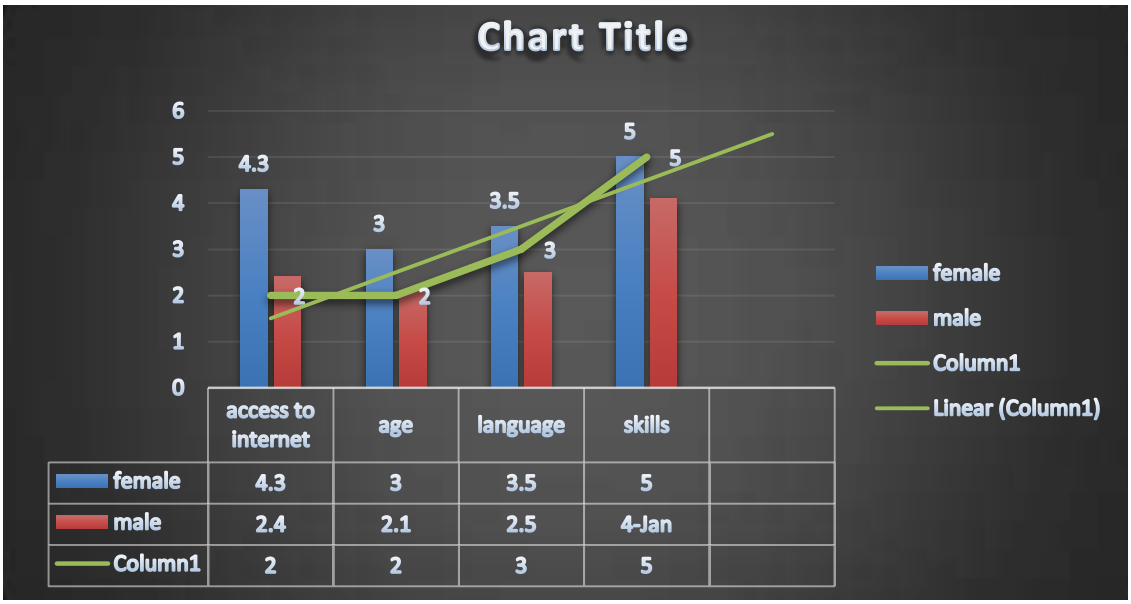
This table clearly indicates that male respondents consider Skill set acquisition for ICT as main components for overcoming Digital Divide followed by access to Internet, Language barrier and their age.

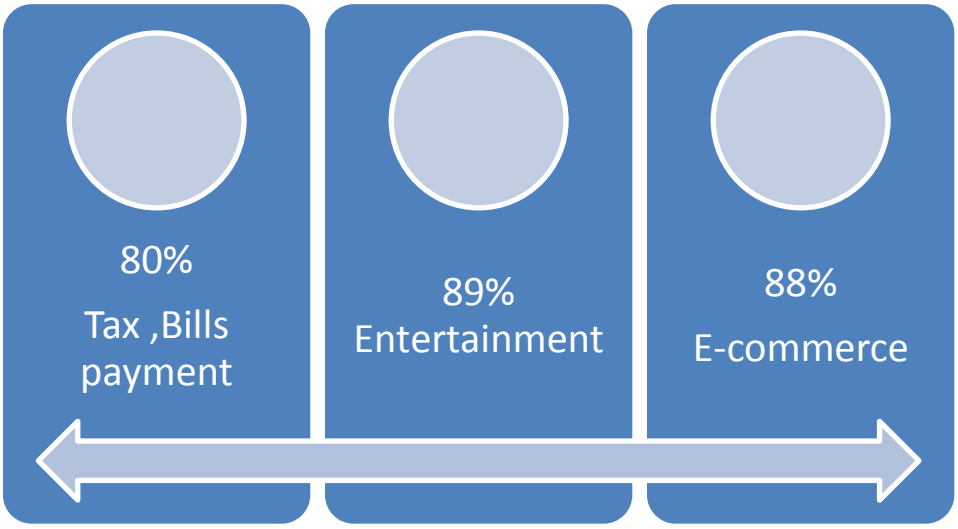
However revelation from this chart point out that the Female respondents have a more pronounced need of many components for ICT and overcoming Digital Divide. Whilst Skill acquisition remains as the main component, yet prominently it is evident that other factors range high in prominence for women than men.

	Table: To measure the correlation of Age and Skill set Literacy				
	Strongly Interested	**Somewhat Interested**	**Interested**	**Less Interested**	**Not at all Interested**
Female 50-60	7	7	7	3	1
60-70	8	6	5	2	2
Male 50-60	11	6	3	3	2
60-70	10	9	3	2	1

This table points out that the out of the respondents men are more interested than women for ICT and Women are little restrained in their interest to overcome the Digital Divide. The Table also indicates that 2: 1 ratio of women to men expressed interest which suggests that the interest once stimulated, it may encourage women sector to be in the strongly interested group for ICT. The Table clearly indicated the finding that Age has correlation with Skill set education provided to the respondents group.15% women respondents were strongly interested and 21% male respondents too expressed strong interest. Only 6% of respondents expressed no interest. Evidently Age was no deterrent in acquiring skills and getting educated for ICT.

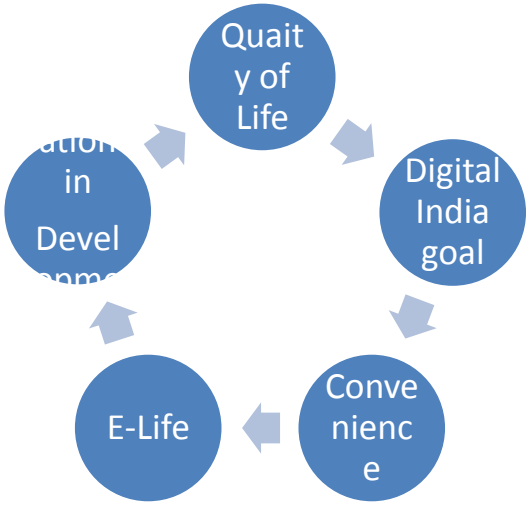
Table: Benefits of ICT if Training for Skill set given.





The respondents very clearly stated that if they are able to access the Internet with required training for ICT provided to them, then these activities of paying Tax and bills for various services, Socio-cultural and Entertainment and Ecommerce would be their benefits and activities to indulge in which would further improve their quality of life and convenience along with convergence to Nation's goal of Digitalization.

Table: **Cyclical Impact of Skill Training for ICT**



Testing Of Hypothesis

Ho: There is no significant relationship between Digital Divide and acquiring skills for ICT.

H1: There is a significant relationship between Digital Divide and acquiring skills for ICT.

Correlation of Skills Training for ICT and Access to Internet towards Digital divide is well established and it has a significant relationship by the above tables. 80% have cleared stated the convenience for them to pay taxes and bills online would be of great help to them due to their age. 89% have stated that ICT would be a source of entertainment and keeping their socio cultural and political interest alive with more impact on their emotional health of not being alone, since at their age the children have moved on and settled elsewhere.88% of the respondents were very clear in their opinion that they would post integration with ICT they would start indulging in Ecommerce both as consumers as well as sellers.

Thus the null hypothesis has been rejected.

H2

Ho: There is Inverse relationship between age and literacy with adapting to ICT leading to Digital Divide in the people.

H1: There is direct relationship between age and Literacy with adapting to ICT leading to Digital Divide in the people.

The findings clearly indicate that in spite of an age of 50-60 and 60-70 years 90% of respondents expressed strong interest in learning the required skills for ICT and were very interested to learn and be part of the Digitized India. The age was seen as a deterrent for only 5% women and 5% Men respondents.

Clearly the findings state that the Null hypothesis is rejected and it is established that there is a direct relationship between Age and Education of skill set towards adapting to ICT.

Conclusions and Suggestions:

The paper very clearly highlight sand marks out the facts that elderly population who are able to gain access to Internet and can be given training and required skills set for using the ICT proficiently can make a constructive human capital of the nation. Not only can they lead a constructive life for themselves but also can be contributory force towards growth and development of the nation.

It‘s important for states to make such schemes to train the elderly segment of the population .College students can be harnessed for such projects and internships during their tenure in academics. Also various NGO‘s can take this as projects for development of society. Corporate groups can conduct CSR via such skill trainings to this segment of population and nation can benefit.

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USE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN HEALTH EDUCATION

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Introduction:

Information and communications technologies (ICTs) can play a critical role in improving health care for individuals and communities. By providing new and more efficient ways of accessing, communicating, and storing information, ICT can help bridge the information divides that have emerged in the health sector in developing countries—between health professionals and the communities they serve and between the producers of health research and the practitioners who need it[1].As ICT plays an ever-increasing role in developed and now developing countries, building 21st century skills to meet the escalating demands on healthcare resources is a strategic imperative for nations [2].

ICT is a blessing in many ways forthe health care education. It facilities as a platform for the health professionals to enhance their knowledge, skills and communicate with their colleagues, students, patients and keep them up-to-date with the latest development in medical and clinical advancements across the world. Students and faculties of medical, nursing or allied health sciences have much to gain from the ICT which has revolutionized the health care field over the years. In recent years, there is a rapid change in the way communication technology is being handled and health professionals should also be ready to embrace it.

ICT in Health Education:

New technology has brought profound changes in education. Medical education has also undergone significant changes due to recent technological advancements. Medical schools, particularly in the developed countries, have invested heavily in ICT not only to deliver education but also to improve the quality of services that health professionals provide. Developing country like India, where scarcity of human resources in the health sector is a problem, can be particularly beneficiary of ICT-mediated education [3].

In adequate educational institutions and qualified medical educators, poor distribution of facilities and poor access to the latest educational infrastructure are some of the issues to be address to improve the quality of medical of medical education in developing countries. Advanced technology can address at least some of these problems. The United Nations (UN) and the World Health Organization (WHO) have acknowledged ICT as a useful tool to address education in health sector in developing countries [3].

There are various types of web technology tools are available to educate and communicate with people and used in health education, some of those mentioned below [4, 5].

Forms of Technological Tools in Health Education:

Tool	Description	Example
Blogs	A Simple website providing brief opinions and information in the form of posts	http://thehealthcareblog.com The Health Care Blog (compiled of current health trends and issues)
Wikis	A webpage, which allows to edit, omit, or add information	https://en.wikipedia.org http://www.webicina.com/public-health/public-health-wikis Public Health Wikis (9)
Social networking	A webpage to connect users and communication	https://www.facebook.com/

Video sharing	A webpage, which is made for video files to be uploaded for public or private users	TED Talks in the Health topics Health promotion webinars
Digital libraries	Online library which contains vast resources that is made available in digital format.	–
E-learning	A webpage that keeps you up-to-date with the latest developments and provides retraining about the newest technologies.	–

Use of ICT for educational activities of Health care Professionals:

ICT tools such as e-learning, m-learning, science apps, readymade power point presentation and Wikipedia are effective in improving knowledge and skills in health care professionals. Mobile devices, computers, internet, and optical discs are used in education and training of health care professionals across the world[5]. Some of those are discussed below.

E-learning:E-Learning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom. In most cases, it refers to a course, program or degree delivered completely online. There are many terms used to describe learning that is delivered online, via the internet, ranging from Distance Education, to computerized electronic learning, online learning, internet learning and many others [6]. ―Hearning encompasses a pedagogical approach that typically aspires to be flexible, engaging and learner–centered; one that encourages interaction (staff–staff, staff–student, student–student), and collaboration and communication, often asynchronously (though not exclusively so) [7].E-learning methods can vary from as simple as audio cassettes to as complex as multi-point video-conferencing facilities supported by online applications. The integration of e-learning in medical education is the need of the hour [8].The students in medical field have to continuously acquire new skills and keep themselves abreast of latest development, a goal presently considered difficult to attain in the absence of technology. The use of e-learning can help them achieving the goal of continuous professional development, considering the vastness of syllabus, paucity of time, and already overburdened schedules [9]. Medical Council of India (MCI), has recognized the importance of the technology and has included the use of electronic means in the broad competency ―Lifelong learner committed to continuous improvement of skills and knowledge [10]. E-learning technology can be used in the augmentation of all the learning domains viz., cognitive, psychomotor and affective. In the cognitive domain, group teaching in classrooms could be enhanced by providing online material like pre-lecture assignments and audio-video clips during the sessions. Psychomotor skills, although best learnt with real practice, can also be augmented by technology, at least up to the ‗knows how' level. Audio-visual demonstration of procedures, diagnostics and interventions can be provided. In the affective domain, videos of scenarios depicting good and bad communication-skills, role-plays and counselling sessions, and self-recordings can be used to stimulate learning. Other modalities include online case-studies and patient logs, clinical decision support systems, virtual patients, medical video games, E-books, e-atlases, teaching databases, and digital versions of online journals [8].

Interactive Classroom: Interactive Classroom allows health care students to actively work with the dynamic content, rather than passively listening to the teachers. Interactive technologies based on modern IT developments, become tools that provide students with a world rich in resources. This positive scientific development facilitates customized learning environment for students of different learning styles, which create a time-specific and adjusted estimates of success. With modern technology at its core, interactive classrooms improve the learning process clearly and effectively by illustrating the new concepts and enhancing students ‗motivation. Interactive classrooms are equipped

with modern interactive hardware and corresponding software.Wireless electronic boardallows the teacher or student from the other end of the room to enjoy the interactive presentation on the interactive control panel. By doing so, it creates a freedom of participants in interactive classroom activities.Electronic notebook is an interactive and innovative device allows easier development and distribution of the educational material.

Webinars: A webinar is a live web-based video conference that uses the internet to connect the individual hosting the webinar to an audience–the viewers and listeners of the webinar from all over the world [11]. Webinars connect geographically dispersed doctors to share their information, ideas, and to be in touch with the fraternity [5].

ICT enabled Seminars: ICT enabled seminars for the healthcare students facilitate participation of the students and teachers from distance places.

ICT enabled Continuing Medical Education Programs (CME): Continuing medical education (CME) expands the knowledge of medical professionals and provides up-to-date on emerging medical technologies. Claiming that doctors are one amongst the busiest professionals to spare time in physical training, the ICT enables them to carry their education from anywhere and gain the credits. ICT enabled CME program acts as an interactive virtual classroom, teleconference of operative procedures, online library, and web enabled teaching to fill the knowledge gap in the health care professionals [5].

E-books: E-books can be easily accessed by the health care professionals as per their choice.

Mobile health (mHealth) technologies: Mobile health (mHealth) technologies have experienced a recent surge in attention because of their potential to transform the delivery of health care. This enthusiasm is partly due to the near ubiquity of smartphones and tablets among clinicians, as well as to the stream of mobile medical apps and devices being created [12].Medical students are using smart phones in a big way using a number of apps in their education, including anatomical atlases, reference tools, and question banks[13].The potential applications of mHealth technologies closely align to the tripartite goals pursued by academic medical institutions: clinical, research, and educational.Many components of traditional medical devices, such as display screens and batteries, are now built into smartphones and tablets, and these mobile-based devices can be manufactured at a lower cost, making them more accessible to students and institutions for educational purposes [12].

Digital Simulations for Health training: Various forms of health simulation currently co-exist. A distinction must be drawn between organic and non-organic simulation. The first entails simulation with animals, cadavers (notably for surgical procedures) or live subjects (e.g. 'dramatised' simulations with patient-actors of consultations at which diagnoses of chronic diseases are announced) while the second uses substitution aids: mannequins, procedural simulators and new information and communication technologies. Digital simulation represents the future of health training, free of the impassioned debates about patient consent. It helps in complying the ethical principle and it allows knowledge to be disseminated in an appropriate way given current training constraints: delivered remotely; delivered to several participants; can be repeated, etc. Finally, after initial training, it helps health professionals to retain knowledge and increase their expertise in an environment where patient management is over-specialised. "The end goal of digital health simulation must be to improve patient management", says JérômeLeleu, CEO of Interaction Healthcare, the French leader in digital health simulation. As per YvanieCaillé, Founder and Director of patients‘ association, Renaloo, ―Health digital simulation provides tangible solutions that recognize the human aspects in each patient instead of just seeing the bodies used as learning objects, sometimes without consent. It enables the emergence of a new rule, "never first on a patient." It is an opportunity to democratize health. Beyond the training of health professionals, health digital simulation couldalso become a training tool and support for patients, in addition to or as part of therapeutic education"[14].

Telementoring: Telementoring involves procedural guidance of one professional by another from a distance using telecommunications. This has involved interactions involving audio dialogue, video telestration (video tablet and pen), and even guidance of a camera or laparoscope with a surgical robot such as Aesop™ (Computer Motion, Santa Barbara, CA). In order to send audiovisual data, connections using wide area network (WAN), LAN local area network (LAN), integrated services digital network (ISDN) or internet protocol (IP) links have been utilized. Security has been established through virtual private networks (VPNe) to prevent others to access and manipulate connections. At first, telementoring was developed by surgeons from the Johns Hopkins Universitygroup utilizing rudimentary teleconferencing audiovisual equipment and a video sketch pad to provide telestration (Cody Sketchpad, Chryon Corp., Melville, NY)[15].

Conclusion:

Based on the experience from different countries and set ups, it is convinced that getting the right and appropriate ICT tools in the hands of teachers and students of health care field proving to be a catalyst for better and more immersive education. This will facilitate health professionals in acquiring border skills and preparing themselves for the fast evolving challenges of present and future healthcare settings across the world. Appropriate measures should be taken to equip the students and faculties with necessary ICT tools for optimal application of the same. Need based ICT training should be incorporated as a part of the curriculum of medical, nursing and allied health sciences education. A careful combination of time tested and latest information and communication technologies in teaching learning should be underscored to make the health education enjoyable and impressive.

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LMS- BENEFITS AND CONSTRAINTS IN ENHANCING TEACHING LEARNING PROCESS

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Abstract

Technological influence is inevitable in all segments of life. Education sector too has adapted in a number of ways and extended new opportunities for teaching and learning process. Successful implementation of Learning Management System (LMS) can significantly improve the quality and magnitude of education. Both the technological and people infrastructure need to be comprehensive and secure to accomplish LMS success. India as a developing country tries to reach the ever populous and diverse students in the higher education Institutes. LMS could remove the time and physical constraints of attending and interactingwith more students, accelerating the re-learning and skill development of the country. This paper is trying to identify the benefits when the faculties and student and the most vital internal and external constraints the faculties face in adopting LMS as an effective tool in higher education. The educators play a crucial role as they are the key stakeholders to deliver the pedagogical and technological collaboration needed in successful LMS.

Keywords*: E-learning, LMS, Higher Education& Pedagogy*

Introduction:

Blended learning has been gaining acceptance as it has proved to be an effective approach in reaching out to an increasingly diverse student population whilst adding value to the learning environment through incorporation of online teaching resources. Despite this growing interest, there is ongoing debate about the definition of the concept of blended learning. As a result, teachers in higher education have developed different understandings of the term and different design approaches have evolved.

A gradual process of pedagogical evolution was apparent; teachers were developing and evolving new strategies specifically for mediating ICT-supported learning. Evident commitment to incorporating ICT was strengthened by a cautious, critical approach, and by the influence of external constraints. Teacher accounts emphasized both the use of ICT to enhance and extend existing classroom practice, and change in terms of emerging forms of activity which augmented or improved practice.

In today‘s scenario, academic institutions are striving to find the right combination of students, faculties, protocols and systems to manage their learning programs. Learning management systems (LMS) are becoming an interface for handling course registration, managing course contents, assessing students through assignments, conducting quizzes and exams, for smooth functioning of institute administration, evaluation and report generation. In general, LMS/E-Learning helps for acquiring the knowledge using the help of technologies e.g. Internet and Interactive based over the traditional ways; thereby enables learning over a wide spectrum with higher efficiency.

A comprehensive research has to be conducted to develop a framework on the internal and external constraints for LMS. This helps academic staff and IT staff to develop the teaching - learning style and achieve an effective adoption of LMS in all higher education institutes in India. The technology implementation for teaching and learning is very prevalent, but its educational effectiveness is a debatable issue.

The purpose of this research is the analysis of the various commitments and the several constraints in the adoption of a learning management systems (LMS) for teaching practices by faculties in a higher education institution. The right tool will be great aid for the teacher in developing and providing content or study materials, continuous evaluation & required interaction and attaining feedback.

Findings suggest that evidence has partial influence upon practice with practitioners preferring to consult colleagues and academic developers. Today, e-learning is a strategic topic for many higher education institutes. Therefore, a thorough analysis, from a pedagogical and technological perspective, is crucial to ensuring suitable usage and implementation of e-learning.

Research Design/Methodology:

The paper is a descriptive version of the current state in India with regard to education especially LMS as an e-learning tool and lures on a wide range of secondary sources both published, unpublished and personal experiences.

Literature Review:

ICT is considered as a mainstream in higher education. ICTs are being used in many areas such as: developing course materials; delivering content and sharing content; communication between learners, teachers and the outside world; creation and delivery of presentation and lectures; academic research; administrative support and student enrolment (Mandal & Mete, 2012).

The origin of learning management system (LMS) is found in the use of computer technologies in education practice as a result of information revolution. LMS is a full - scale learning platform that supports numerous aspects of educational process (Kats, 2013). It is generally referred to as software adopted to tackle certain functions in the academic sphere, including class management, document tracking, report generation, and online courses delivery (Nelson and Staggers, 2014).

Levy identified six areas that should be carefully addressed by universities when considering the possibility of planning ICT integration and online distance learning programs: vision and plans, curriculum, staff training and support, student services, faculty and copyright and intellectual property of materials. Finley and Hartman also discussed similar issues such as clear vision, faculty skills and knowledge and departmental culture which were identified as barriers to the integration of technology into faculties‘ graduate courses.

Discussing the adoption process of ICT in higher education teaching, Kirkup and Kirkwood identified as relevant the appropriation of ICT tools by higher education teaching staff, as well as the following contextual factors: organizational culture, teaching and assessment practices, competing priorities and the interaction of ICT with other tools and systems already used on campus. Schauer, Rockwell, and Fritz (2005) also indicated as key factors: faculty commitment and skill development, technology integration and support, financial issues, student engagement and support, quality control for courses and outcomes assessment, compliance with regulations and legal matters.

A more recent study, focused on comparative analysis of failures and success experiences of higher education institutions in embracing online education initiatives and identified as crucial factors adequate planning, investment in marketing and in students‘ recruitment, financial management, quality assurance, student retention, faculty development and innovative online course design and pedagogy.

Benefits of LMS:

Learning Management System (LMS) works as central repositories to address all type of educational needs. The LMS mainly taking care of Curriculum Planning, Instant Evaluation, Learner Engagement and Content Management.

Curriculum Planning: The word curriculum planning implies courses to teach and within a specified course what topic to teach in a particular semester within the stipulated time. The faculties are involved in curriculum planning and are making a course plan and lecture schedule before starting the course.

Instant Evaluation: All LMS supports instant evaluation for multiple choice questions asked during internal test. As soon as student click submit button, all multiple choice questions are evaluated

simultaneously and grading is stored. Student gets more time for their improvement and using LMS we can increase frequency of conducting test in a semester.

Content Management: Course content management is a severe issue for faculties as well as students. Many faculties repeat same course in consequent year. LMS provides distinctiveway to create, manage and store contents for future use. Similarly, students during assessments, Exams and placement they need revision of class notes. Managing notes of every year seems impossible. Here too LMS, provides tools to store all previous and current notes.

Learner engagement: Learner engagement means engaging today‘s students for academic success. Students learn more in a group as they imitate behaviour of other students from different cultural backgrounds. This also helps in building strong student relationship like getting to know each other, building strong teams.

Reports generation: LMS provide nice reporting tools with options to customize student‘s reports.

Communication and collaboration: Some learning management systems provides chat, forum as communication tools and wiki, blog, glossary as collaborative tools.

Classroom and college announcements: All classroom and college news in form of updates are visible in announcements in LMS.

The benefits of LMS further emphasize on the Contents can be repeated again and again until learner understands it properly, Multimedia learning methods be used depending upon learner receptivity, E-learning is culture independent; Learning is flexible in terms of timings and completion of syllabus, Individual problem solving is possible.

More reach: LMS allows greater access to more students and more efficiency with better information; The learner with Internet access is able to access online libraries, journals, conferences and online virtual classrooms, and through this will achieve a high volume of the latest information.

Constraints:

The barriers for LMS deployment can be mainly classified into infrastructure, attitude of students and faculty, and lack of training for the content creation and suitable practice for faculty, optimum usage by students.

Infrastructure: Availability of infrastructure like internet, suitable computer poses as a major challenge, Power source is necessary during e-learning study.High costs for establishment, enquiry for high funding to conserve: Providing hardware instruments is costly which is sometimes difficult to afford.

Attitude: Many feel that these online tools such as LMS will eliminate the role of a teacher and students lack of interest to attend the interactive regular class room sessions.Faculties fear handwriting becomes bad due to overuse of keyboard, student tardiness is often seen if class contents are available online, overuse of computer can damage student‘s eye.

Pertinent for practical courses: Experts believes e-learning can provide training for students, but education should be such that learners would be able to test their performance and get master in visualizing. There is no advantage in memorizing the content of course and transfer it aimlessly. In this case, we are just consuming the knowledge and do not get to the deep of knowledge. Mainly in subjects like Accounts, Maths, Statistics, Computer and IT the students have to undergo several hands on practice of various real time situations. Those faculties many a times believe in applying the concepts in various situations and get several application oriented results. So the faculties have to categorically attempt hard to explore various opportunities to use the LMS in different situations.Training methods should be in a way that practical and productive thinking skills of students grow in the end. It means the person will be able to devise the problem and finds its solution.In other words, in an efficient and practical education system, the learner has to be

encouraged to find a method to solve the problems curiously and expand the understanding which requires practice and is based on the learner‘s activity.

The use of technology for teaching and learning is now widespread, but its educational effectiveness is still an open question.

Discussion:

There are lot of efforts believed to be made to explore the possibilities of online learning (OL)/ e-learning towards building up of quality human resources in higher education for a developing nation like India. A comprehensive environmental scanning of various e-learning experiments, tools, projects to facilitate e-learning or various institutional level efforts has been carried out.

Copying assignment is impossible in online scenario as LMS has plagiarism checker. The teachershould be trained to use the tool effectively. The students will be taught in such a way that they are capable to create original content.

A survey conducted by Arulselvan,at a rural school near Chennai was able to pinpoint that the subjects that were very interesting to the student and those that are difficult.. Before the LMS implementation, there usedto be more number of absentees but as the system started the numbers began to diminish. The survey has found out the LMS implementation has reduce the absenteeism to a considerable extent. Further, the reduced absenteeism has enhanced their academic performance significantly.

Arthur et al. suggests several good teaching and learning practices for undergraduate education. Increasing student-faculty interaction is necessary as it facilitates the student to be involved intellectually and make their career plans where the faculty would gear them both at times of success and difficulties. Secondly the team effort playsvital role where sense of collaboration and social comes into play than being a competitive scenario. The author also encourages the student toward active learning beyond the classroom e.g. internships, doing an independent study etc. Of course timely assessment and prompt feedback is necessary as it will help student with poor academic records and given the special attention would enable them to prepare well for the upcoming exams. Time management is another aspect where one should effectively utilize their time efficiently. It also encourages student to expect more, presuming that higher expectations drive the students to perform well and as a catalyst to make extra efforts. It is interesting to note that student typically follows various modes of learning and chooses to follow his own way as it is easier. Considering a pool of students, we would catch them with varied interests and talents; such diversity and be encouraged to adopt such diverse ways of learning.

The managementtoo finds it essential for their uniqueeducation proposition and enables them to attain higher education standards in the country. College management can use LMS for betterment of their institutes. They can effortlesslyyield faculty feedback online using LMS and feedback report be taken out for advance analysis and decision. Colleges can adopt LMS methodology for branding purposes during admission process and company calling process in placement time. LMS will serve as USP for colleges because most of the placement companies now days take online test for campus selection and these tests are taken on LMS. So, if college has a suitable LMS, campus process will be easy and more corporates will be fascinatedfor placement drive.

This study argues that the commitment of e-learning has been limited and reasons out why. The challenges or constraints of traditional face-to-face education *vis-à-vis* e-learning in India are outnumbered the e-learning platform and suggestions for management of the e-learning process by institutes which expect to venture into e-learning are enumerated. The paper advocates the urgency for the traditional institutions to put an impetus on investment in ICT for providing e-instruction for delivery of knowledge by riding the information super highway through a selected LMS. This study

should be considered as eye opener, as it shows benefits of LMS online working as compared to offline working.

Research limitations/implications:

Collective analysis of review of literature developed from secondary sources.

Conclusion:

Learning Management System works for a broader improvement of teaching and learning. Psychology of student works as a major parameter for student‘s growth. The knowledge of Student‘s psychology helps the teacher to get answers to questions like what are the factors that affect students learning.

The awareness of psychology has helped the teacher in editing teaching approach in learning process. LMS supports specific tools for understanding student‘s psychology easily such as group assignment in class consisting of each and every student of class in group. Each student modifies the assignment and finally contribution of specific student is known easily. Hence, faculty can set appropriate strategy after knowingstudent‘s psychology to teach specific student.These models share features of a technology-based training and suggest new learning methods in which the learner plays an active role and also emphasizes self-directed, independent, flexible and interactive learning.Educational effectiveness of ICTs depends on how they are used and for what purposes. And like any other educational tool, ICTs do not work for everyone or everywhere in the same way.

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EMPOWERING EDUCATION IN INDIAN SCHOOL WITH IOT TECHNOLOGY & ITS SIGNIFICANCE

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Abstract

Internet of Things (IoT) technology in education represents an enormous opportunity for schools to collect valuable data and use this data to enhance the learning experience. The capabilities of —smart" objects – such as desks, light fixtures, or fitness bands — have the potential to support both teachers and students & parents in meeting learning goals. This papers suggest application & importance of few affordable IoT based devices that can be easily installed in the school premises to ensure secure school environment, effective teaching & learning process with all recent updates related to the topics that they are learning on their fingertips.

Keywords: *IOT, RFID, Smart classroom, PDA,SchoolTube, TeachersTube, LED notice board,NFC*

Introduction

Internet of Things, a term coined in 1999 by Kevin Ashton while working at P&G, is a network of physical objects that are connected to the internet. These objects such as sensors, smartphones, watches and electronics will transmit data via —The Internet" to the cloud providing a —smarter" service or experience for the user. This is what we mean by —smart technology."

Internet of Things (IoT) is a rapidly growing network of a variety of different ‗connected things.' Use of IoT in academics is like a new wave of change that has brought new opportunities and possibilities for the improvement of both teaching-learning process and educational institutions' infrastructure.

Teachers work hard. Sure they get the summers off but they can put in 12 to 14 hour days during the school year. How can we help them do their job more efficiently? From designing the curriculum, to teaching, to grading papers and communicating with parents & students — technology will help.

Objectives

- To study few, possibly low cost, IoT enabled devices that can be used in the schools in India to empower & share knowledge among the teachers and students across the globe.
- To study how IoT enabled devices can help in reducing burden of a school teacher & Management .
- To learn how better communication & co-ordination can be implemented among parents , teachers & students.

Research Methodology

The study uses secondary data available in books, journals, research reports and websites for the reference .

Limitation of the study

The study focuses on applications of few IoT devices that can be used in Indian schools & its possible significance from Teacher, Parent & student point of view

What is IoT

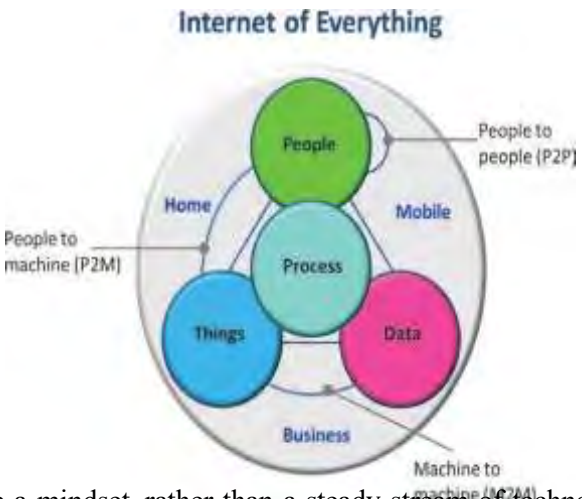
The concept of connected devices or things has given a new rise of the Internet, anything, anywhere can get connected with the Internet and becomes ‗Smart'. Connected devices can communicate with each other and share information which can then further be processed to take some decisions. This whole concept is named as ‗Internet of Things.'

The main goal of the IoT's development is to connect the physical world and the environment to the Internet or to wireless networks, this would allow making objects, machines and work environments

interactive. By using sensors, objects will be capable of exchanging data with other machines without the need of human intervention.

The IoT network connects different types of devices like personal computers, laptops, tablets, smartphones, PDAs and other hand-held embedded devices. Others include devices to measure blood pressure, heart rate, devices like biochip bracelets for pets or farm animals, devices to call emergency services, robots, autonomous vehicles, home appliances, etc. These devices gather useful information with a variety of sensors and data collection technology, then transmits it to other processing devices for interpretation and decision-making

Many organizations are already experiencing the Internet of Things (IoT)—the networked connection of physical objects. The Internet of Everything is the next step in the evolution of smart objects—interconnected things in which the line between the physical object and digital information about that object is blurred. IoT focuses only on sensor networks—machines communicating with other machines, and the data created as a result.



Over time, the IoT will be a mindset, rather than a steady stream of technology. Even though every other device in our home, workplace, or surrounding environment will be intelligent enough to connect and talk to each other, people will inevitably focus on the transformational possibilities for our world.

IoT in the School & its significance

The realm of education is no exception to the IoT's influence. Until now, educational technology has pivoted more or less around virtual conferencing and classrooms, online tutorials, and similar offerings. However, this is only the beginning. Today wide variety of IoT enabled devices are available & emerging new devices every day. Here are list of few, possibly low cost IoT devices that can be easily installed in the school.

From Teachers & Student point of view

IoT is being used as a teaching and research medium in education. Integrating IoT as a new actor in educational environments can facilitate the interaction of people (students and teachers) and (physical and virtual) objects in the academic environment [5]

1. **Teaching through interactive models:** IoT is a highly exciting and stimulating topic to attract students and an ideal platform for teaching difficult concepts .e.g. An IoT-based interactive model is built to teach the English language. To correct the pronunciation and the shape of English learners' mouth, this model uses voice and visual sensors
2. **IoT-based Smart Classroom:** This tool is already being utilized. Smart classrooms allow teachers to know what students want to learn and the why they want to learn which is beneficial both for faculty and students. The advancement in the field of technology in education has facilitated educators to design smart classrooms help students to understand & motivate the real purpose of using technology which makes the learning process more effective, easy & fast.
3. **Frequency Identification (RFID) - technology**: Taking attendance of a class is a time-consuming task. Use of IoT device tracker can be used to save time and effort both. It can collect or record student attendance after every period accurately, calculate total attendance & display it on LED display at the beginning of a class. The record of a student's attendance is also kept at the office automatically. Teachers can keep track of the follow-up of record for each student which can be visible to both principal & parents.
4. **Get instant feedback:** With this facility teacher can find out the weaknesses of the learners in the class using
5. **Online record diary for the Teachers:** Teacher can keep online academic & other activity records for each student & update easily from time to time. Progress report graph can be easily generated, monitor & accessed by parents easily.
6. **Easy examination & assessment process** online tests , tutorials, assignments, evaluation, doubt solving sessions can be possible through smart videoconferencing e
7. **SchoolTube**: It help each class student or teacher to get all authenticated excellent lesson notes by experts, best websites for them, question papers, practice question papers , tutorials , etc. at one place so that student will get instant and correct help without wasting time on the internet

   It is the place where teachers can share latest news, articles, free videos, inventions & up gradation in topic is available and showed to the students. This can help students to understand & explore current trends, new ideas in the topics that they are learning in the class.
8. **TeachersTube:** IoT based an online global community for the teachers to discover & discuss new motivating teaching learning methods, innovative tools, research ideas, or resources used to explain certain difficult concepts to the students. It is a platform to provide rich teaching resources, with open discussion room.
9. **IoT based research forum:** Open discussion forum, online paper presentation,

   Project presentation, online conferences can be made available on fingertips that can not only

save time & money but also can ensure excellent quality research

10. **IoT based carrier enhancement courses:** It can help teacher and students in shaping their carrier & personal growth. Online orientation course, refresher courses, Certificate, carrier guidance sessions, Distance learning, online virtual training by industry experts.
11. **Online Paper Assessment:** IoT based paper assessment help speed up transparent the assessment & evaluation, verification process.
12. **Easy access to library:** IoT based library can be used to create virtual global library which can facilitate all types of National, International e-books, research papers, Magazines, articles, access at one place.

    An internet based concept is incorporated with RFID technology to form an internet based application for the library management, used to automate the entire process which is carried inside the library such as authentication, query and reply , locating the book, Issue and Return books etc. automatically
13. **IoT based Notice board:** LED based notice board can be used to show all daily & upcoming activities in the school premises in the entrance that can be updated instantly by school authority Teachers & Principal.
14. **IoT Based sports section:** Sports Teacher can monitor speed, power, distance etc. through a device worn by the athlete or a remote device. Analysis of this data by coach helps him cherry pick unfit players or fit players who can be given some rest or used in more strategic manner.

From parents point of view

1. IoT enabled ID card of the student can help parents to keep track of student attendance, progress in the school e.g NFC have become common in smart phones
   with uses such as reading NFC tags or for access to public transportation .
2. Parents can continuously observe academic mental physical growth of the student.
3. Parents can get counselling from the teachers or experts to their children which can be monitored by both teacher & parents.
4. IoT enabled School bus help tracking parents & school about bus timing, driver, conductor details & availability. This ensure secure pick & drop facility of the children on the way to school & in the school premises. e.g NFC have become common in smart phones with uses such as reading NFC tags or for access to public transportation can be used in school buses.

Conclusion

IoT will bring ease for both students and teachers. Students will learn better, and teachers will be able to perform their duties more efficiently. New inventions in the field of IoT will improve teaching and learning process drastically in future. Emerging IoT tools will provide a more appealing, flexible, engaging and quantifiable system of education that can fulfill the different needs of the students. Additionally, school administrators, parents, and other stakeholders stand to gain from IoT technology applications.

For successful integration of IoT devices in a classroom environment, an education provider may have to face many difficulties like network bandwidth, reliable Wi-Fi Connection, web analytics, security, privacy, availability of devices for students, teacher training and cost of equipment.

The whole setup of an IoT-based educational institution can be therefore expensive. Therefore the cost of devices and equipment is another challenge.

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ICT-AN INTERACTIVE STEP TOWARDS DIGI-EDUCATION

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Abstract

Information and Communication technologies have been recognised as revolutionary tools that can leverage India's demographic advantage and turn the country into a knowledge powerhouse by nurturing and honing the knowledge base. Considering which MHRD launched NME-ICT in 2009.The future of teaching -learning transformed to facilitator - learner is bridged through ICT. This paper attempts to highlight the current scenario and prospects of ICT in India.

Keywords: *ICT, digi-education, classroom, digital age, perspective, innovation.*

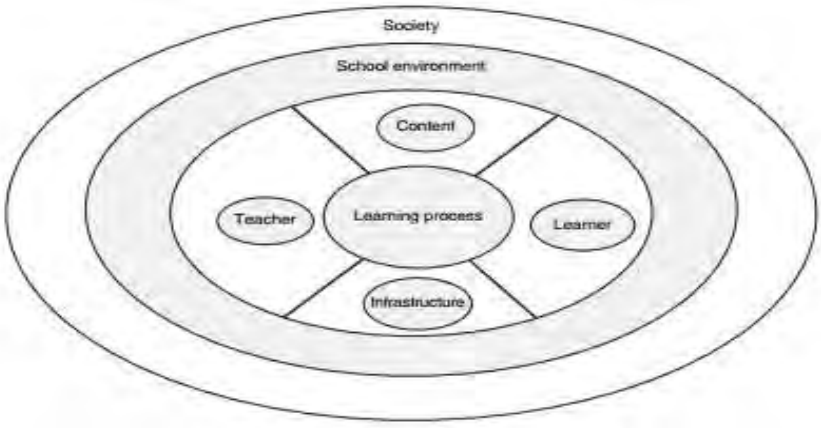
Objectives

1. To study ICT.
2. To study emerging ICT technologies.
3. To understand student perspective and teachers perspective about ICT.
4. To analyze traditional and future change in education.
5. To study future of digi-education.

INTRODUCTION:

ICT-Information and Communication Technologies in education is the base to digi-education. It is a new generation classroom. The use of ICT goes long beyond the current days to when these technologies were introduced, but, it only gained attention and exposure in recent past. Technology has brought the facilitators and learners much closer. In developing countries like India ICT provides improved quality of education and provides flexibility to learners by providing remote access to learning material. Integrating ICT and education is complex as it involves various factors like teachers acceptance for the change, institutional support in terms of infrastructure and training programmes and socio-institutional acceptance.

FIGURE: The learning process: key elements and influencing factors



Source: International Handbook of Information Technology in Primary and Secondary Education (Voogt. J and Knezek. G. 2008) (adapted from Plomp, Ten, Brummelhuis and Rapmund, 1996; Voogt and Odenthal, 1997)

Social and economic pressures are forcing senior education leaders to rethink business models and consider a range of new technologies, to bring down the cost of administering education institutions and scale the business, according to research from Gartner, Inc.

According to Gartner vice president and distinguished analyst Jan-Martin Lowendahl, traditional educational business models are being fundamentally challenged by digitalization.

"An increasing number of technical innovations and technology trends are emerging from within the industry, but most will emerge outside the industry, driven by major forces such as digital business and the consumerization and industrialization of IT". Among the strategic technologies suggested by Gartner for education sector following are a few of them-

1. Adaptive Learning

Adaptive learning is a concept that traces its roots back to at least the 1950s, but the ability to capture learner data through online learning has provided a breakthrough. True adaptive learning is a type of crowd sourcing and big data collection. The real value of adaptive learning lies in the metadata attached to each learning "morsel," which must then be combined with enough empirical data of students trying to master the topic to allow personalized learning. It is extremely valuable in designing the pedagogy of the future.

2. Adaptive E-Textbooks

Unlike traditional print materials, e-textbooks can be edited to include up-to-date information, be assembled or disassembled, or include content from other sources and social interaction. Adaptive e-textbooks add the element of tracking student interaction with the text, and adapting to the learning style. E-textbooks are the first key step of going from analog to digital education.

3. Big Data

Big data in education is associated with collecting vast amounts of data from the digitized activities of students, parents, faculty and staff, transforming that into information, and producing or recommending actions aimed at improving institution outcomes. Big data in higher education has been around for decades, mainly focused on research. Now, it is a very promising technology-based strategic capability that has the possibility to improve the whole education ecosystem.

4. Digital Assessment

Assessment within education is in itself a vast and complicated area. Digital assessment is ultimately about being able to do any assessment digitally, to remove the need for physically tethered as well as human-proctored tests and improve modes of testing, grading and data analysis. The first-level application of digital assessments is to increase trust in online education by applying identification mechanisms, such as keystroke identification or cloud-based face recognition. Digital assessment is a very practical technology with a clear high-level goal, but with many problems in the implementation. However, good digital assessment is a necessity for trustworthy and scalable online or hybrid (digitalized) education, and will remain a strategic technology until it is solved.

5. Mobile

Mobile is a popular term for pervasive access via many types of devices. Mobile is not simply a synonym for mobile smart phones or tablets. Mobile in education includes use in all aspects of the academy — administration, education and research. However, the domain is maturing surprisingly slowly. Inhibitors in 2014 still include Smartphone cost, device limitations (such as battery life), the development of m-learning course materials, lack of skills and the wide diversity of mobile devices. Education CIOs will need to treat mobile as a strategic technology for several years.

6. Sourcing Strategies

Not a technology in itself, sourcing strategies represents a collection of technologies and vendor services, from hosting to cloud, home-grown to open source, to subscription models for acquiring software/hardware capabilities. A sourcing strategy is a set of scenarios, plans, directives and decisions that dynamically define and integrate internal and external resources and services required to fulfil an enterprise's business objectives. Strategic sourcing helps IT to focus from administrative transactions and operational support toward activities that enable differentiation and innovation for the institution.

ICT BASED TEACHING-LEARNING:-

a) Students Perspective: Ease of access leading to scholastic performance

Unlike the regular classroom sessions ICT provides and supports interactive and more engaging sessions. When ICT is implemented at its best a learner focused environment is created. Innovations in digi-education empower new methods of learning and adapting instead of traditional methods followed by teachers and learners. The internet has proven to be a strong base to all these innovations which have bridged the gap between service provider (facilitator) and consumer (learner). Models in ICT have to be developed such that they are not only easy to access and use but such that they uplift the enthusiasm (interest) of learners.

b) Teachers perspective: Getting to know all about ICT

Integrating ICT in education does not take away the importance and power of a teacher, rather it supports the role of a teacher by encouraging outcome of scholastic performance. Implementing ICT challenges the teacher‘s capacity and skills to lead the change. The role of a teacher to guide the learner, assess his performance and encourage his creativity and innovation still remains the same. ICT trainings should be compulsory and not optional. Online groups and communities can be formed for the same.

FUTURE OF DIGI-EDUCATION:

Technology is reshaping how we teach, connecting classrooms and shaking up the fundamental business model of the education industry. According to Forbes the future tech-strategies that will reshape education through ICT are-

1) MOOC -Massive open online courses, or MOOCs, in which faculty leads a course with a large number of students via online video lectures, have probably been the biggest story of higher education over the last few years. They may bring in changes to reshape the education industry. Many renowned universities over the world are integrating MOOC to their traditional education system.

2) Reimagined classrooms- "Flipped" classrooms, where students watch lectures at home so they can do homework-like exercises during class time. The idea is to encourage students to learn at their own pace at home so they can spend more quality time with teachers. This has shown a massive growth in the results of learners.

3) Peer to peer learning- Students are encouraged to answer each other‘s questions under the supervision of teachers as guides. Social media encourages students to form communities where they can interact and learn new things.

4) Digital credits- Various courses offer virtual badges to qualifying students that makes it similar to a degree. Also instead of going for a two or four year degree course a student can opt for a short term course under a experienced facilitator.

5) Adaptive Learning-It focuses on improving student performance by providing assignments based on their individual assesment.Unlike traditional same pace assessment.

6) *Google Classroom*- It is a free service provided by Google that helps learners and facilitators communicate inside and outside of classrooms.It provides a handful advantages like saving papers to

start with,enhanced communication and feedback also is easy to set up.Another tool for education that will benefit students largely.

Considering various advantages of ICT in education like ICT tools that are far more interactive and attention grabbing for students. Use of images and videos improves the retention of concepts in students. The Government of India has started a one Stop Education Portal launched on October 30, 2006 by His Excellency, the then President of India to facilitate lifelong learning for students, teachers and those in employment or in pursuit of knowledge free of cost to them under National Mission for Education through ICT(NMEICT).

CONCLUSION:

There is no appropriate timing for using technology, and enhance improvement in education. From traditional classroom learning to modernized digi-education the key factor to understand is, ICT is filling the gaps between teachers effort and students interest. All the areas of ICT should work on the same path to eliminate inefficiencies, reach beyond traditional walls of classroom and develop a strong partnership for being all time available for the learners.ICT is cutting the barrier of geographic location, and providing all the resources to learner for experiments which result in good quality expertise.ICT also helps in adaptive learning, based on students capabilities, the assessments can be changed for facilitating student.

Use of ICT tools helps in progress to support learning.

RECOMMENDATIONS

Government needs to create more awareness and institutions need to encourage the use of ICT tools .ICT tools must be used in education for creating better environments by providing infrastructures that support ICT and rigorous training sessions for teachers to get expertise in ICT tools.

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AN EFFECTIVE USE OF ICT FOR EDUCATION AND LEARNING BY ENHANCING WORLDWIDE KNOWLEDGE, RESEARCH AND EXPERIENCE

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Abstract

Information and communication technologies (ICT) have become commonplace entities in all aspects of life. Across the past twenty years the use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavour within business and governance. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. The use of ICT in education lends itself to more student-centred learning settings. But with the world 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 the 21st century. One of the many challenges facing developing countries today is that of preparing their societies and governments for globalization and the information and communication revolution. Policy-makers, educationists, non-governmental organizations, academics, and ordinary citizens are increasingly concerned with the need to make their societies competitive in the emergent information economy. Globalization and innovations in technology have led to an increased use of ICTs in all sectors - and education is no exception. 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 to learning and achievement.

Keywords: *ICT, Computer, Internet, World Wide Web, Teleconferencing, Email.*

INTRODUCTION:

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,
- decision-making,
- handling of dynamic situations,
- working as a member of a team, and
- Communicating effectively.

According to Daniels (2002) ICTs have 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. However, there appears to be a misconception that ICTs generally refers to ‗computers and computing related activities'.

According to UNESCO (2002) information and communication technology (ICT) may be regarded as the combination of ‗Informatics technology' with other related technology, specifically communication technology. The various kinds of ICT products available and having relevance to education, such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio counselling, interactive voice response system, audiocassettes and CD ROMs etc

have been used in education for different purposes (Sharma, 2003; Sanyal, 2001; Bhattacharya and Sharma, 2007).

ICTs have the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change (Davis and Tearle, 1999; Lemke and Coughlin, 1998; cited by Yusuf, 2005).

ICT enhancing teaching and learning process –

In a rapidly changing world, basic education is essential for an individual be able to access and apply information. Such ability must find include ICTs in the global village. 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.

ICT enhancing the quality and accessibility of education –

ICT increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. This in turn would better prepare the learners for lifelong learning as well as to improve the quality of learning. In concert with geographical flexibility, technology-facilitated educational programs also remove many of the temporal constraints that face learners with special needs (Moore & Kearsley, 1996). Students are starting to appreciate the capability to undertake education anywhere, anytime and anyplace.

ICT enhancing learning Environment –

ICT presents an entirely new learning environment for students, thus requiring a different skill set to be successful. Critical thinking, research, and evaluation skills are growing in importance as students have increasing volumes of information from a variety of sources to sort through (New Media Consortium, 2007).

ICT enhancing learning motivation –

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, especially computers and Internet technologies, enable new ways of teaching and learning rather than simply allow teachers and students to do what they have done before in a better way.

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.)

Do ICTs help children to learn better?

Evaluating technology projects is notoriously difficult. Even more so is the evaluation of educational interventions. School influence on pupils_ academic or social outcomes explains only about 12 to 15 per cent of the variance, leaving 85 per cent or more to be explained by the influence of factors such as the child_s family background, lifetime experience, natural ability and so forth. Many early experiments with ICTs in classrooms were based on nothing more than enthusiasm or hunch. However, the growing emphasis on the need to show concrete benefits has led to more attempts to evaluate the impact of computers in classrooms. But evaluating ICTs in education is particularly hard, for a number of reasons.

Does ICT-enhanced learning really work?

The educational effectiveness of ICTs depends on how they are used and for what purpose. And like any other educational tool or mode of educational delivery, ICTs do not work for everyone, everywhere in the same way. It is difficult to quantify the degree to which ICTs have helped expand access to basic education. Since most of the interventions for this purpose have been small-scale and under-reported. Further, as the Head Teacher of one of the schools added, any thing has its ―uses and abuses‖ and the same holds for ICT in education.

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 Vikramshila Education Resource Society Shikshak Sammelan 2009 local issues of concern. Moreover, videos can also be made accessible to the blind, as some organizations are doing using _audio description._ Various organizations have produced videos on a range of topics including disaster management, child rights, forced migration, adolescent and gender issues and HIV and reproductive and sexual health topics.

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 in several ways:

1. By increasing learner motivation and engagement,
2. By facilitating the acquisition of basic skills, and
3. 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.

CONCLUSION:

ICTs for education refers to the development of information and communications technology specifically for teaching/learning purposes, while the ICTs in education involves the adoption of general components of information and communication technologies in the teaching learning process. This literature review has sought to explore the role of ICT in education as we progress into the 21st century. In particular 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 practices.

The adoption and use of ICTs in education have a positive impact on teaching, learning, and research. ICT can affect the delivery of education and enable wider access to the same. In addition, it will increase flexibility so that learners can access the education regardless of time and geographical barriers.

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EXPLORING THE POTENTIAL OF ICT IN EDUCATION WITH BLENDED LEARNING

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Abstract

One of the many challenges facing developing countries today is that of preparing their societies and governments for globalization and the information and communication revolution. Education sector can be the most effective sector to anticipate or to bring about this change A number of studies have Shown that the use of new technologies in education is essential in the twentieth century to bring about digital revolution in many Asian countries. This can be achieved by the integration of information and communication technology (ICT) in teaching and learning methods Therefore this paper is an attempt to present/ study the important issues that must be addressed by both teachers and student using ICT in teaching learning process .Most of the literature has focused on direct effects of ICT and indirect impacts of ICT on other stake holders of education system Since student performance is mainly explained by a student's characteristics, educational environment and teachers' characteristics Our paper is structured as follows: section one explains positive impacts of ICT on student performance, section two explains the negative impacts of ICT on the traditional determinants of students' performance and finally, section three underlines the use of blended learning to nullify the negative impact of ICT in student performance.

Keywords*: Information & communication technology (ICT), Blended learning, computer, internet, student performance*

INTRODUCTION:

ICT stands for INFORMATION & COMMUNICATION TECHNOLOGY .These technologies include:

1)computer

2)the Internet,

3)Broadcasting technologies (projectors and monitors)

4)digital recorders

ICT is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process**.** Technology (internet) in another side can be the most effective way to increase the student s knowledge.

According to the the review of the literature ICT impacts the following stake holders in education system in following manner.

ADVANTAGES OF ICT ON STUDENTS:

it is important to acknowledge that students are already interested and engaged in using technology, this creates many amazing opportunities for students and teachers to benefit from integrating some forms of technology in the classroom and to make teaching and learning more effective. Here are some of the main benefits of using technology in the classroom.

Improves engagement

When technology is integrated into lessons, students are expected to be more interested in the subjects they are studying. Technology provides different opportunities to make learning more fun and enjoyable in terms of teaching same things in new ways. technology can encourage a more active participation in the learning process which can be hard to achieve through a traditional lecture environment.

Improves knowledge retention

Students who are engaged and interested in things they are studying, are expected to have a better knowledge retention. As mentioned before, technology can help to encourage active participation in the classroom which also is a very important factor for increased knowledge retention. Different forms of technology can be used to experiment with and decide what works best for students in terms of retaining their knowledge.

Encourages individual learning

No one learns in the same way because of different learning styles and different abilities. Technology provides great opportunities for making learning more effective for everyone with different needs. For example, students can learn at their own speed, review difficult concepts or skip ahead if they need to. What is more, technology can provide more opportunities for struggling or disabled students. Access to the Internet gives students access to a broad range of resources to conduct research in different ways, which in turn can increase the engagement.

Students can learn useful life skills through technology

By using technology in the classroom, both teachers and students can develop skills essential for the 21st century. Students can gain the skills they will need to be successful in the future. Modern learning is about collaborating with others, solving complex problems, critical thinking, developing different forms of communication and leadership skills, and improving motivation and productivity. What is more, technology can help develop many practical skills, including creating presentations, learning to differentiate reliable from unreliable sources on the Internet, maintaining proper online etiquette, and writing emails. These are very important skills that can be developed in the classroom.

Access to remote learning resources. Teachers and learners no longer have to rely solely on printed books and other materials in physical media housed in libraries (and available in limited quantities) for their educational needs. With the Internet and the World Wide Web, a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere at anytime of the day and by an unlimited number of people.

ADVANTAGES OF ICT ON TEACHERS:

With countless online resources, technology can help improve teaching. Teachers can use different apps or trusted online resources to enhance the traditional ways of teaching and to keep students more Interactive . Virtual lesson plans, grading software and online assessments can help teachers save a lot time. This valuable time can be used for working with students who are struggling. What is more, having virtual learning environments in schools enhances collaboration and knowledge sharing between teachers.

ICT facilitates sharing of resources, expertise and advice.and Gains in ICT literacy skills, confidence and enthusiasm Computer use during lessons motivated students to continue using learning outside college hours.

Advantages of ICT on parents:

Easier communication with teachers ,Higher quality student reports – more legible, more detailed, better presented

Greater access to more accurate attendance and attainment information Increased involvement in education for parents and, in some cases, improved self-esteem .

Increased knowledge of children‘s learning and capabilities, owing to increase in learning activity being situated in the home.

Disadvantages of Using ICT

Besides having the advantages, there are some disadvantages regarding the use of ICT in the teaching of reading and writing. Two concerns that teachers have about using technology such as Instant Messaging (IM) or blogs with their students is that students will not take the work seriously and will not use what they have learned in school in their postings (Sweeny, 2010). Moreover, as Ward (2004) pointed out, although students could be exposed to a variety of reading materials and genres of writing, there is a danger that the reading skills that are developed from scrolling the computer screen lead to an accelerated but superficial, and often inaccurate, understanding of the content.

Misuse of ICT facility:

Instead of using their laptops or tablets for their studies and online tests, more often than not students stray away and visit social networking sites like **Facebook** or **Twitter**

Then, listening to the teachers in lessons are no longer their main priority - they would be too focused on playing games or visiting social networking sites.

This would result in lower academic grades.

The Cyberbullying Trap:

Giving students access to anonymous accounts and endless contact avenues can only lead to trouble. Cyber bullying has become a real and in our face problem among young people today. This harassment has no end, which includes the class room. There is also no way to monitor or discipline students who are involved.

***Low Income Groups*:**

students from low-income families may not have computers at home or may have computers at home with no access to the Internet. Consequently, students in low-income communities may be disadvantaged. To reduce the effect that social or economic status may have, we should give Internet assignments that students can easily complete while in school. If necessary, schools may need to keep computer labs open for longer and/or odd hours. The use of computers at public libraries should also be encouraged.

***New Administrative Responsibilities*:**

Teaching using the Internet brings to bear a new set of administrative demands on the teacher and the school administration. These include development and implementation of acceptable use policy, training, developing new evaluation criteria as needed, and addressing parents‘ concerns.

CONCLUSION:

However, ICT as a teaching aid is more complicated as it demands more specific skills from the teachers. Moreover, teachers are faced with some challenges that prevent them to integrate ICT into the curriculum. That is insufficient technical supports at colleges and little access to Internet and ICT prevent teachers to use ICT in the classroom. In order to integrate ICT into the curriculum, on the one hand, teacher training institutions should provide appropriate and sufficient support for the teachers.

On the other hand with the above mentioned pros and cons of use of ict. The ideal solution is to provide BLENDED LEARNING. It refers to learning models that combine traditional classroom practice with e-learning solutions. That is online digital media with traditional classroom methods. It requires the physical presence of both teacher and student, with some element of student control.

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Advantages and Disadvantages of Using ICT in Education Jozef BUSHATI, PhD (1) Ezmolda BAROLLI, PhD (2) Prof. Ass. Dr. Gezim DIBRA (3) Arben HAVERI, MBA (4) 1. 3. 4. University of Shkodra "Luigj Gurakuqi

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ICT IN EDUCATION THROUGH POLICY, FORMAL COMMITMENT AND CURRICULUM

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Abstract

The invent of ICT has brought entrepreneurial culture in every walk of life. The use ICT in higher educational institution is very important in providing opportunity for students to learn new things. ICT has diverse set of technological tools and resources used to communicate, create, disseminate, store and manage information. The quality enhancement movement at the college and university level can be achieved with the help of ICT. The digitizing the human knowledge, cloud computing, social networking, touch screen, mobile and PC technologies, are important development in higher education . It focuses on evaluation of ICT in higher education and to explore how ICT acts an agent of powerful change in practices to which institutions have been accustomed . This paper focuses implication of impact of ICT to the students, teachers, research workers, and administrative staff ,and utilizes more institutional and global opportunities, challenges and future of using ICT.

Keywords: *Entrepreneurial, enhancement, digitizing, cloud computing, touch screen.*

Information and Communication Technology have made rapid strides in the past couple of decades.Many experiments have taken place in the country and large body knowledge has accumulated and regards to use of ICT in education.However,the potential of ICT has not been fully harnessed.The use of ICT in education remains limited and there is a need to accelerate efforts to use ICT for fostering quality education. Accreditation agencies were established in India in 1994 as a measure of quality assurance in order to enhance standards of Higher education . Much has been written about the use of film, radio, television in education, (cf.Cuban, 1986, De korte , 1967, Molnar, 1997). Because access to digital tools , applications and networks continues to grow worldwide and media is increasingly available in digital form .ICT- use in education can be expected to increase dramatically. A total of 1285 Higher Education Institutions were assessed and accredited during the reported period .Thus , bringing the total to 6241 Colleges and 255 Universities accredited by NAAC till 31 March 2016. .Total number of accreditation done by NAAC as on 31st March 2016 is 8853 colleges and 413 Universities. Till February 22, 2017 NAAC has accredited 1256 higher education institutions.. It consists of 1197 colleges and 59 universities under the revised grading system.

. Poor quality of education resulting in unsatisfactory learning outcomes is a matter of great concern. The higher education subsector is constrained by shortage of well-qualified faculty due to vacant faculty positions. The prominent Delhi University making appointment of Lecturers only on an ad-hoc basis for several years as arbitrary, unjust and amount of harassment and exploitation. The educational counsel one of the premier organization also acts as an interface between the Indian students facing problems in the Indian government. August 2017 open door data shows that a record of 2, 06,708 Indian students were studying in the US. However, during the academic year 2016-17 Indian students contribute $ 5.5 Billion to the American Economy.

NAAC assessment lays focus on quality initiative, quality sustance and quality enhancement. The process is paying rich dividends, bring about quality enhancement and quality assurance which is the thrust of the accreditation/Reaccreditation itself. ICT play an important role all the seven criteria .It is very clear that India has the second largest H.E system in the world. Although the Indian H.E has

already entered a stage of massification, the GER in H.E remains low at 23.6 percent in 2014-15.The current target is to increase GER to 25.2 per cent in 2017-18 and further to 30 per cent in 2020-21.The overall picture of education development in the country is mixed and there are many persisting concerns and challenges relating to access and participation in education, quality education imparted, equality in education, system efficiency ,governance and management, research and financial commitment to education development. It is very clear that a knowledge economy like India ICT based learning is going to be center for future. The basic objective of 12th five year plan itself is e-inclusion. The total outlay for the Department of Information Technology (D.I.T) in the 12th Five year plan (2012-17) is reported to be 81,378.45 corers The plan laid for e-governance, e-learning, e-security, e-innovation research and development and e-inclusion.The current upcoming initiative such as Make-in-India,Skill-India, Digital India,Clean-India,Start-up are expected to transform India to become self-sufficient and self-reliant The Global Sustainable Development Goal -4 quality education within the Agenda 2030 seeks to ―Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". ICTs are a set of Technological tools and resources used to communicate and to create, disseminate and manage information.ICT involves using digital technology, communication tools ,access, manage, integrate, evaluate and create information in order to function in knowledge society.

In our country HE imparted by Universities and colleges are facing challenges in terms of access, equity and quality. There are 30 million students undergoing Higher Education Quantity and Quality should go hand in hand and both components are vital in growth and development any Higher Education system. Unless these issues are addressed we will not be able to realize our potential as nation that gives quality education to her children. India is one of the youngest nations in the world with more than 54 per cent of its total population below 25 years of age.A large proportion of the products of the education system are found to lack employable skills.This has sustainably lowered the credibility of Higher Education system .The utility of Higher Education is assuring employment remains questionable.Many graduates and Post graduates even PhD etc are applying for Government Peon posts. Recent youth unrest-and the reservation agitations by Patels,Jats,Gujjars,Kapus,Marathas have roots not in a job emergency but a formal emergency .Ghandhiji said the difference between what we do and what we are capable of doing would suffice to solve our problems.

Every university and affiliated college is expected to have a policy for appropriate and effective use of ICT.Integrating ICT in teaching learning and evaluation covers the entire spectrum of education from early child development in territory education.ICT need to see as an essential aspects of teaching cultural toolkit in the 21stcentury,affording new and transformative models of development that extend the nature and research of teacher learning whenever it takes place. For developing countries like Vietnam, Malaysia ICT can more over be seen as a way to merge into a globalization world. It is assumed that ICT brings prodigious change in teaching methodology. The 4 Es of Indian Higher Education viz., Expansion, Equity, Excellence and Employability and provide broad purposes.

1. Natural,fast and easier way of teaching
2. Effective and Interesting
3. Best attention Compellers
4. Effective retaining of the content by students
5. Inculcate scientific attitude
6. Bring vivid reality into class room
7. Students get opportunity to correct misconceptions.
8. Economic in terms of time and Verbalism.
9. Help the teacher to explain more subject
10. Saves preparation and teaching time.

11. No deviation from the subject.

ICT in Teaching

According to Blurton ICT is defined ”Diverse set of technological tools and resources used to communicate, create, disseminate, store and manage Information.”Technologies Include ICT tools Board, Charts, Pictures ,Optical Overhead Projector, Mimeo pad. Every University and affiliated college is expected to have a policy for appropriate and effective use of ICT.While many universities/colleges are using ICT in different ways including Enrolment,Exam time table,even declaration of result.There are some areas where ICT can be used for smart effective educational administration. General administration of student data inventory PRN management, Personal records, Personal profile maintains and Library System.It is Important that universities articulate how they want to deploy ICTs to improve the quality of teaching learning and evaluation. This will be done by networking Institutions, creation of virtual laboratories, creation of database, accesses to expert lectures and technological developments in Industries and different National Labs.

Tele Education System

.―EDUSAT‘ INDIAS” first thematic satellite dedicated exclusively for educational services, was used extensively to cater to a wide range of interactive educational delivery modes like one way TV broadcast ,video conferencing ,computer conferencing, web-based instruction, etc..It is the first thematic satellite space technology in education.An integrated network system comprising of EDUSAT had manifold objectives to supplement curriculum based teaching,imparting effective teacher training. Providing effective quality resources and new technologies. The networks implemented under EDUSAT programme comprises SITs and ROTs. About 15 million students are getting benefitted through this programme.It also supports Telemedicine and Village resource Centre projects of ISRO.

Virtual Learning Campus

.The EDUCAT (GSAT-3) satellite provided its services till September 2010 , supporting tele education ,telemedicine and village resource centre. The virtual learning campus (VLC) is a designed to enhance your study experience and allow you to extract with resources persons and fellow students Virtual Learning campus is designed to enhance your study and interact with tutors and fellow students. Students in any college may access the services over the web. Virtual labs have been designed to provide remote access to labs in various disciplines of science and technology.Virtual labs can also be known to complement a physical lab.

Virtual Libraries and Digital Learning

The emergence of ICT has made revolutionary changes in educational field. Emergence of Internet has added a new dimension of ICT which gives birth to Digital Library.Quality has gained much more importance in the field and hence academic libraries should adopt quality principles to serve the user community in a better way.The 14 principles of TQM accepted globally. In the age of information technology the variety of E-journal consortia‘s there, it may be J-gate ,INDEST, UGC sponsored INFONET and variety of databases it may be EBSCO which will be more helpful. Digital libraries can vary immensely in size and scope and can be maintained by individuals, organizations or affiliated with established physical library building or institutions,or with academic institutions. The electronic content may be stored locally or accessed remotely via computer network. A digital library is a type of information retrieval system.

Distance Learning & MOOCs

It is a type of education, where students without being face to face with a teacher in the classroom. This is one of the important modes for achieving enhanced access, developing skills, capacity building, training employability and life-long learning. At present distance learning in the country is provided by IGNOU and state open universities.

Massive Open Online Courses provide free access to cutting edge courses at relatively lower cost. There is a felt need to create a body to promote, coordinate, regulate and maintain standards of MOOCs and to develop a mechanism for recognition, and transfer and accumulation of credits.

SWAYAM

SWAYAM this was initiated by GOI and designed to achieve the cordial principles of education policy viz., access , equity and quality. The objective of SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution. This was indigenous IT platform that facilitates of all the courses . UGC has already issues regulation 2016 advising the universities to identify the courses. This has tied up with the help of Microsoft and would be ultimately capable of hosting 2000 courses different professional strata.

Conclusion and Recommendations

Any policy on education has to acknowledge the inter-sectorial and inter-ministerial role to be played by the states.There are such national level policies such as,Early Childhood care and Education(ECCE)adopted in 2013,National Youth policy(NYP),2014and National Policy for skill development and Entreprenneurship,2015.The National Education Policy(NEP)2016 envisions a credible education system capable of ensuring inclusive quality education for graduates equipped with Knowledge,Skills,attitudes and values that are required to lead a productive life,participate in the country‘s development in all walks of life. It recognizes long term economic growth and development.

1. ICT will be an integral part of curricula in all levels and domain of learning.
2. ICT as a tool of enhancing and an integral part of teacher education curricula.
3. On line maintains of all documents from the time of admission to leaving the Institution.
4. ICT based for soft was used student attendance, performance and evaluation of teachers, Progress of students‘ administrative functions like academic audit and records.
5. A programme for exclusive use of ICT for college management will be drawnup by UGC and concerned state Govt.
6. ICT cannot be seen in Isolation but has to be seen with other infrastructure like availability of space, reliable electricity network connectivity, security and maintaince of Infrastructure.
7. MOOC is another application enhancing the ICT enabled education at the affordable cost.
8. Development of different kinds of Mobile APPs using open software by faculty and students to suit the local needs.

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SKILL DEVELOPMENT THROUGH EDUCATION: ROAD MAP FOR BUILDING KNOWLEDGE SOCIETY: A SUSTAINABLE APPROACH

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Abstract

In this digital age the power to think, to create, to implement and to build known as brain power, which is the imperative and needed other than economic and defense power to build a nation. The upcoming knowledge society recognized and provides evidence that the ―Brain Power" is essential and influential for national building. Application of Information and Communication Technology is a medium or tool not the end solution to the problem. We have to build a human resource which is best in creativity, having appropriate skill and techno savvy through education. It is the road map for holistic and sustainable development of a nation.

Keywords: Brain power, Skill development, Education, Knowledge society, Sustainability

INTRODUCTION

Whether we talk about institution building or nation building human resource play a vital role as compared to other factors. Human resource (manpower) if is skilled and creative will add advantage to the process of creating knowledge society. No doubt, ICT (digital age) is paramount in nature and to be considered most but skilled and intelligent brains are working behind it, which are the backbone of the system. Management thinkers propounded various theories of management control, out of which humanitarian approach is the significant discovery to development of knowledge management process. Human has head to think, heart to feel and hand to work (3-H approach) to contribute toward creation of knowledge society.

WSIS (World Summit on Information Technology) By UNESCO also acknowledged: ICTs should be regarded as tools and not as an end in themselves. Under favorable conditions, these technologies can be a powerful instrument, increasing productivity, generating economic growth, job creation and employability and improving the quality of life of all. They can also promote dialogue among people, nations and civilizations.[1] Healthy dialogue among people is the only ray of hope for holistic and sustainable development of knowledge economy.

OBJECTIVES

- To understand the brain power for creating knowledge society
- To know various aspect of skill development
- To justify the impact of skill and brain power on national development
- To assess the role of education in achieving sustainable development

LITERATURE REVIEW

Governments and businesses are becoming ever more interested in the production and capitalization of knowledge, so much so that the ―knowledge economy' is now regarded as the paradigm of economic progress. This has significant implications for teaching and research generally, and for the IS community in particular. This paper provides a brief analysis of general developments in higher education to provide a context for discussing the developments specific to IS. Stakeholder analysis is then used to identify the main responsibilities and pressures placed upon the IS academic community. Using the stakeholder analysis as a set of ―requirements' that the IS academic community must balance, several ways in which IS teaching and research can better contribute value to the various stakeholder groups are identified. Throughout the paper, several ―policy level' recommendations are made that could lead to the IS community being better able to manage the pressures exerted by

[1] *Building inclusive Knowledge Societies- A review of UNESCO's action in implementing the WSIS outcomes*

[2] *The Value of Information Systems Teaching and Research in the Knowledge Society, by, Christopher J. Hemingway &*

different stakeholder groups and, consequently, being more able to address a broad range of commercial and social issues.[2]

The role of education in improving the choice and quality of lives, enhancing social and economic productivity, and initiating the process of empowerment and redistribution of resources is well-documented in the past sixty years of research. Despite India's commitment to provide "free and compulsory education for all children until they complete the age of 14" and achieve Universalization of Elementary Education (UEE) and Millennium Development Goal (MDG) with substantial improvement in the quality, the average years of schooling has remained low at less than three years. Around 35 million children, in the age group of 6 to 14 years, are still estimated to be out of school and the percentage of girls and other disadvantaged sections is disproportionately high among these children. Various state sponsored efforts at national, state and district levels are currently underway across India, aiming at accelerating the pace of UEE and MDG. In some areas, notable small-scale initiatives by non-governmental organizations and other representatives of civil society are complementing state-sponsored efforts.[3]

Teacher training, professional development of teachers, and education reform have traditionally been quite divorced processes. All the way from the times of "teacher-proof" curriculum design and educational materials to contemporary politics and discourses of educational reform, teachers and teacher education have occupied a marginal role. In recent times, with reform agendas emphasizing decentralization, restructuring of school systems and external evaluation and quality assurance systems, one could even argue that teachers have been implicitly seen more as a liability than as an asset for reform efforts.[4]

Governments all over the world want their countries to have high-value, high-skill economies, and they realize that the first step towards this aim is to have a well-educated workforce. In the UK, an appreciation of the connection between economic success and education has led to widening participation in university, as well as lifelong learning, becoming new political priorities. But this Commentary from the Teaching and Learning Research Programme shows that this policy prescription may not be enough to avert a significant attack on skilled and professional employment in the UK.[5]

DEFINATIONS

Brain power: instinctual ability, capabilities

Skill development: metacognition, digital divide

Education: the process of conveying or achieving appropriate knowledge or skills

Knowledge society: Groups which brings about, contributes and makes associable the knowledge which can be develop the human plight to all members of the society

Sustainability: Evading of the diminution of natural wealth in order to uphold an environmental poise "the pursuit of global environmental sustainability"

RESEARCH METHODOLOGY

[2] *The Value of Information Systems Teaching and Research in the Knowledge Society, by Christopher J. Hemingway & Tom G. Gough, Volume 3 No 4, 2000*

[3] *Role of Teacher in Enhancing Learning Achievement of Child & Emphasis on Teacher Skill Development, Knowledge Building and ICT By Nilay Ranjan and Naimur Rahman*

[4] *Learning To Teach In The Knowledge Society Final Report 2005 by Juan Manuel Moreno, Task Manager (HDNED, World Bank)*

[5] *Education, globalization and the knowledge economy by Professor Ian Diamond FBA AcSS, The Economic and Social Research Council*

Researcher used empirical method to carry out the research study on above referred topic. Concerning the aspects of the research topic archival method and library method is going to contribute in a significant way to the study of research.

ROAD MAP FOR BUILDING KNOWLEDGE SOCIETY

Foundation of knowledge economy depends upon:

- Experimental and technological knowledge
- Exchanges and impetus to innovate amongst users and doers
- Decentralization of commutable arrangement of innovation within a coordinated system
- Extensive application of information and communication technologies, including in education[6]

Change in the Pedagogy: Change in the definition of knowledge form a product (end result) to process it is the process. It reduces the gap of communication between people. It means doing, learning something with the help of ICT as tool.

Tool to change in pedagogy: Learning and the role of education, Different belief of knowledge and education, Key distinctions, Concept of education and society[7]

Right to education: It was the correct time when this bill gets passed in our parliament and in true scene children in not depriving to a have right to education.

Skill development and vocational education: It is the best initiative taken by government, with school education child will develop their hobbies in to skills which can be further professionalized to earn his livelihood

Open and distance education: It is the framework under which one that left his education can be back in the stream of education. Opportunity of selecting a specific subject or stream is available with wide choices in distance and open education

Virtual learning: It is one step ahead where government is promoting a network of knowledge hub where from remote area anyone can access or refer the study material of his choice and learn from it.

CONCLUSION

Education is the lone most significant pathway to achieve holistic and sustainable development in this digital divine. Supply side explains the needs to enlarge the hallucination of people dreams for their future responsibilities. On demand side of the knowledge society required the preparedness of teaching learning process and teachers. To have equilibrium in above condition it is recommended that from teachers have to train from all dimensions to teacher educators as a facilitator. It required autonomy (academic, financial), collaborative learning, adaption improved teaching learning methodology live case study method, problem solving method etc with the advent of ICTs.

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BLENDED LEARNING IN DIGITAL AGE

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Abstract

Blended learning is a combination of traditional classroom teaching and use of technology in the classroom which includes online material as well. The importance of digital and blended learning is gaining acceptance across the world. Blended learning uses the merits of both traditional learning and digital learning, thereby giving the user a better learning experience. Blended learning gives importance to physical presence of teacher and students in the class, thereby making teaching more effective in the classroom. This paper makes an attempt to understand this concept as the use of technology also has certain limitations.

Keywords: *Digital learning, E-learning, Online Courses, Traditional learning,*

INTRODUCTION

Learning is one of the important outcomes of education. The traditional system of classroom teaching still occupies an important part of any educational system in the world, including India. Educational system in India is very old. During the Vedic times, the Gurukul system existed, whereby students use to stay in the Gurukul and complete their education. This system has been replaced by the modern educational system, introduced by the British rulers in India.

After independence, we have followed the board pattern system. We have established the Central Board of Secondary Education (CBSE Board) at the Central level and at State level we have the respective State Boards. In addition to these two boards, we also have Council for the Indian School Certificate Examinations (ICSE) operating from New Delhi. These three boards are generally seen competing with each other, with each having its own benefits and disadvantages. New Boards have also emerged in the country which seeks to give international curriculum exposure to Indian students; International Baccalaureate (IB), which is Switzerland based also co-exists along the other Boards in India. Apart from differences in syllabus, the approach towards the students is different. But one thing where these boards are similar is consensus to use ICT in day to day teaching. With support from government, the CBSE and SSC boards are now making increasing use of technology in classroom teaching, i.e. use of power point presentations. The use of PPT teaching is gaining momentum, but this is not Digital learning, which is now evolving in India.

The approach of higher learning in colleges & universities is also changing from traditional chalk & duster to use of technology. Many colleges across India are implementing use of ICT in teaching. Teacher training workshops are being conducted to acquaint teachers in use of technology. The use of technology is making a change in the way teaching is done and the learning outcomes are to be tracked.

DIGITAL LEARNING

In the era of globalisation, the concept of Digital learning is gaining ground across the world, including India as well, as the idea is to bring reforms in the education sector.

Digital learning is any type of learning that is imparted by use of technology or by instructional practice that uses technology. Digital learning emphasises that education can be given at anytime, anywhere & to anyone. It is not necessary for the person to remain physically present inside a college or university, but he/she can enrol and learn the courses which are available online and gain knowledge. The Ministry of Human Resource Development (MHRD), Government of India, has

stated many courses on digital platform for the benefit of the students under the names; SWAYAM, SWAYAM PRABHA & E-PATHSHALA.

BLENDED LEARNING

Blended learning is a way of imparting education (formal or non-formal) that combines online digital media with traditional classroom methods. Digital learning is picking up in India, but there is a possibility of learner not paying enough attention during teaching learning done through video recordings generally shown through you tube.

Blended learning's objective is to combine the best of both; digital learning and traditional classroom teaching. Though there is no exact definition of blended learning, but the beginning of online courses is attributed to the start of blended learning.

OBJECTIVES OF THE STUDY

1. To understand concept of blended learning.
2. To understand the difference between digital learning and blended learning
3. To find out the advantages and disadvantages of blended learning
4. To give suitable suggestions.

RESEARCH METHODOLOGY

The researcher has used secondary data to arrive at suggestion and conclusion

SOURCES OF DATA COLLECTION

Data is collected through various sources like MHRD website, UGC website and other related literature available in books and on websites

LIMITATIONS OF THE STUDY

Primary data is not collected. The primary data would have been useful, as the learners themselves would have been the best judge of their outcomes. Primary data is not collected due to paucity of time.

TRADITIONAL CLASSROOM LEARNING & DIGITAL LEARNING

Traditional classroom learning is a concept where teacher and students come together in school or college and remain physically present for the prescribed hours in the school. A fixed syllabus is prescribed by the board/university and accordingly students learn it. Their learning outcomes are tested by exams, which are generally in written, oral or project format etc. These marks are combined and the marks denote the performance of the students. Students who score more marks are called intelligent ones, and those who score fewer marks are called as less intelligent ones. This method continues even today, but now use of technology is becoming important in every school/college. Many schools are using projectors in the classroom. Teachers are making increasing use of it and teaching aids. This practice is picking up in colleges also. Use of PPT is not digital learning, but it is teaching with the aid of technology.

With the passage of time, universities have started distance learning courses. The traditional method was to give books of subjects, and students have to learn from these notes and appear for the exams. With the passage of time, with the introduction of tablets, educational material is given on tablets, which is known as e-tablets. E-learning material has gained acceptance across the world, including India, and e-learning, online studies, online courses have started becoming important.

As a part of improving the standard of education in India, the University Grants Commission (UGC) started the concept of digital learning through its sites on SWAYAM, SWAYAM PRABHA & E-PATHSHALA. Similarly an application is developed by MHRD & IIT Kharagpur titled as National Digital Library of India for mobile phones and tablets.

The concept of Digital learning is becoming important as it does not require physical presence of the student in the class. The student can access the teaching material as well as learning resources in form of slides or lecture as per his/her convenience. This brings in more flexibility to the student,

especially for those who are working and cannot attend regular classes. In case of SWAYAN project of UGC, it has invited lecturers across India, to develop teaching material as per the topic assigned to them. This material therefore comes from lecturers who are spread across the country.

DIFFERENCES BETWEEN BLENDED & DIGITAL LEARNING

Digital learning is development of e-content for the student and it is available through the website of that concerned institution, or it is available on UGC site through SWAYAM and SWAYAM PRABHA for the DTH channels. The student can also register for these courses, and learn at his/her speed. Certain guidelines are also given in case of distance learning, regarding the number of teaching hours for which the learner has to spend on the online material. After completion of mandatory teaching hours, he/she can appear for the test and after successfully passing the exam; the institute issues the passing certificate. This certificate helps students to increase their skills especially if they are working.

Blended learning, is a combination of use of technology, but requires the physical presence of the teacher and students in the classroom. Noted researcher Norm Friesen defines blended learning as the range of possibilities which is done by combining internet and digital media inside the classroom and requires face to face teaching and learning.

Technology based learning was initiated in the USA in the early 1960s, with the use mini computers and main frame computers, as an alternative to teacher based teaching. Mainframe computers used to give live satellite videos. But since the modem was of 56k, they gave a poor quality of audio and video. Later on CD-ROMS came into existence and teaching material was given through these discs. With the increase in internet speed across the world, now extensive use of internet is made inside the classrooms, through live webcast and online or recorded video. In India a very good example is of recorded topic wise video provided by Khan Academy.

ADVANTAGES OF BLENDED LEARNING

1. Blended instruction is more effective than purely physical or online classes. Blended learning method results in high levels of student achievement because it combines the merits of both traditional and digital learning.
2. Teachers can give extra attention towards slow learners, who may find it difficult to understand the concept.
3. Presence of teachers in the classroom, also leads to effective concentration of the student, as opposed to digital learning in which a student may get disturbed by phone calls or from unwanted distraction, as there is no one to control his/her behaviour.
4. The use of ICT in the classroom, leads to better satisfaction of the learners, as they also get involved during such sessions and not simply listen.
5. Textbooks and e-learning devices can help the student to access learning material at lower cost, whereby saving them from buying expensive textbooks and reference books.
6. If physical books can be replaced by e-learning resources, the space crunch face by library in keeping books will also get redressed. This will help to reduce cost of running libraries as they would no longer be required to maintain expensive cupboards and furniture.
7. Blended learning provides education in a personalised way, because every student has his/her own pace of learning, and not like the traditional classroom teaching where everyone has to go with the teacher‘s pace.
8. Blended learning automatically collects student information and provides grading to them as per their learning. Test scores are announced instantly, which helps teachers to understand the progress of students in the classroom.

DISADVANTAGES OF BLENDED LEARNING

1. Blended learning is dependent on technology, so it can suffer from problems of technology, like poor connectivity and slow speed.
2. Before teachers and students start using blended learning, it is very important that they should be IT literate. Effective use of such technology is important to have a meaningful learning experience.
3. Continuous use of recorded videos can be a bit of unexciting for the learner, as he/she may get a feeling of being mechanised.
4. Digital learning tools are not available free of cost, e-content developers charge fees, which again might be prohibitive and expensive to some users.

SUGGESTIONS

1. Blended learning is a good approach rather than complete digital learning, as it combines traditional classroom teaching and digital learning. It has to be encouraged in the classrooms of India, but without diluting the role of a teacher in the class.
2. Blended learning has to be developed as an effective tool, to solve live problems as well as challenge the learner, which can be beneficial to the learner.
3. Blended learning will help the user, to acquaint himself/ herself with use of ICT in his/her day to day life, thereby incorporating the importance of technology.
4. With blended and digital learning set to gain ground across the world, it is also important to understand that human interface is very important to solve issues of students in the class.

CONCLUSION

In the era of globalisation, the world is moving close to each other. One of the best ways to understand each other‘s progress is to accept blended and digital learning process. This will lead to better understanding of the concept across the regions as well as sharing of knowledge by crossing the physical boundaries of each nation. By using ICT, there is no need to physically visit libraries of international repute; membership can be taken by sitting in your own country. Quite an amount of material is also available free of cost, this can help the diligent learner to study, even without financial hardships.

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TEACHING LEARNING IN A DIGITAL AGE

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Abstract

An institution or teaching learning process in today's digital age cannot be effective without technology, as teaching in the recent digital age has become a challenging task. Due to this, a new innovative approach is needed as there are many changes taking place in the economy and changes in technology. Teachers are nowadays facing many challenges such as teaching an increasingly diverse student population, to make lectures interesting for the learners by using multimedia and other resources, where ICT can be used to overcome these challenges. Learners find the lectures interesting when even they are involved in the teaching learning process. Learners in the digital age are also very techno savvy and this is also a reason to implement ICT in the teaching learning process. ICT has transformed the role of teachers, learners and also in the education system. Thus in today's digital age, for a teacher to be successful needs to implement technology in their process, for which trainings should be provided and development programs can be arranged by the institution for the faculties. Last but not the least, teachers has to now also focus on attending workshops, presenting papers in seminars apart from teaching, for which ICT is a must. Hence effective teaching learning in a digital age will require ICT which is explained in the paper below.

Keywords*: Digital age, teaching, learning, development programs, education.*

INTRODUCTION

Globalization has brought about many changes in our lives right from our eating habits to changes in work life. There is no chance at all to leave the education sector unchanged. Thus we have shifted from the traditional system of higher education of Guru Kula to the modern techno savvy university education system, which is now called the ―Digital Age". As education is now covering almost all aspects of life, it will be effective to adopt ICT (Information, Communication and Technology) in teaching- learning and evaluation. It will help in the most reliable and convenient transmission and dissemination of information. The education system is also continuously making progressive developments by effectively implementing ICT in teaching- learning and evaluation to compete globally. Teaching – learning and evaluation is a crucial part of our education system.

This paper will enable us to understand that what kind of teaching learning process should be required in the digital age and the role ICT will play in effective teaching learning. ICT is an effective tool and an important aspect of the strategy of any education institution which is intending to serve the different categories of teachers, students and which aims at smooth conduct of all activities to achieve maximum results.

ICT (information and communication technology) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as video conferencing and distance learning. ICT tools play a wide role and performs multidimensional and multifunctional activities as it can be used to ―communicate", ―to create", ―disseminate", ―store" and ―manage" information on diverse levels. It has led to the progressive development in education sector. ICT should become a priority for all the educational institutions that wishes to reach across the wide diversity of community, which is difficult but can be achieved.

The process of teaching- learning has now become student centric and due to which the objective is now to produce skilled work- force from the educational institutions which can further help in enhancing digital teaching and learning throughout the world. Certain reforms have been introduced in the traditional approaches of teaching- learning which is now been replaced by ICT tools like

online smart -boards , projectors, online lectures , and many other software and hardware devices. The role of ICT tools and resources has enhanced in recent years and efforts are put in to make it reach in every corner of the country.

OBJECTIVES OF STUDY

1) To study the need to change the teaching learning pattern in digital age.
2) To understand how teaching learning can be made effective through ICT in digital age.
3) To understand the role of ICT in education process.

NEED TO CHANGE THE TEACHING LEARNING PATTERN IN DIGITAL AGE

Digital Age Teacher

Now it has been understood that teachers play a vital role in effective education and is a key to educational change. Their role is not only limited to deliver the content but they also play a key role to develop learners. So, it is their task to tackle with technology and help the learners acquire the necessary skills required by them in the ―Digital Age". ICT has now brought certain changes in the current roles and responsibilities of teacher and has challenged their authority of sole source of knowledge and requires the teachers to be learners first.

Best teachers do not copy but have or come up with their own innovative methods of teaching. A good teacher in a digital age will be the one who is having the important tool i.e. ICT with them, which can help the learners in digital age to explore. Teachers, in today's age should act as a facilitator between learner's personal interest and skills, knowledge that the society demands from them.

Digital Age Learner

Earlier the learners used to play a passive role in education where they more focused on listening to the teacher and responded to teacher's direct instruction, due to which they were not expressive. This process then became a barrier in their effective learning. Learners will learn well when they are also given an opportunity to actively participate in the learning process by giving presentations, which need was then fulfilled by the implementation of ICT.

In a digital age, the learner is not just dependent on the teacher but is far more ahead of a teacher. They are very much techno- savvy and can easily access information from various sources and can upgrade their knowledge. Technology has provided them more freedom and flexibility which was absent before, due to which now they play an active role in the learning process. All this has also brought about challenges for the teachers as they are very new to this technology whereas the learners have already been exposed to it in their early formative years. Teachers have been provided with tools, but lack knowledge. Hence, the teachers are trying to learn to implement the same effectively in their teaching patterns. Students on the other hand prefer it more as they can explore and enquire as much as they want.

NEED FOR ICT IN EFFECTIVE TEACHING LEARNING IN A DIGITAL AGE

The traditional methods are no longer in trend as nowadays the teaching learning sessions have become more interactive and two way communication is taking place. The education process has now become student centric. Due to this even the teacher has to make use of ICT to make the lectures more interesting. Students are now given assignments, project work so as to play an active role for which technology becomes an important tool. ICT has enabled in effective and swifter education. The students are given an opportunity to present their ideas effectively.

Various transformations been made in different sectors and now the focus is on education sector to come up with innovative educational practices. Due to the same there are changes expected in the traditional teaching patterns as well. Teachers also need to adopt the new technology, which is again possible through ICT. ICT can make teachers competent i.e. they will not only be intellectually sharp but also will be updated about the new trends, amendments taking place. It can also help them in their

professional development as they can come to know and adopt innovative teaching methods and evaluation mechanisms, effectively.

ROLE OF ICT IN TEACHING LEARNING IN A DIGITAL AGE

ICT as discussed above can help in effective teaching- learning process and is a useful key in the digital age. Its role can be explained as below:

1) Helps teachers interaction with students

By ICT, education process has now become two way communication wherein even students can be actively involved in the process wherein they can refer various websites and can avail information in different aspects and prepare presentations, and later on can be questioned too.

2) Facilitates teachers in preparation

In today‘s digital age teachers are not just dependent on textbooks but can avail more knowledge through various websites which can help them to get more clarity and can explain terms with innovative examples.

3) Facilitates effective learning

ICT also helps in effective learning where students can be taught with innovative methods by showing them short stories which can help in generating interest. Projects can be prepared, presentations can be given by the students which will not only help in effective learning but also will help them acquire skills required in future for securing jobs.

4) Liberate learners from the limitations of physical environments

Through ICT, the learners can try to overcome the barriers of their physical environments caused due to lack of resources and infrastructure.

5) Helps teachers in getting access to various institutions and universities

ICT can help teachers to get an easy access to various universities and institutions giving guidelines on various educational matters like UGC, NAAC etc. which can help them in their professional development.

6) Gap filling function

ICT is also a tool which can help in filling the gap between teachers and learners as the teachers can communicate effectively with the students.

7) Helps in confidence building of learners

In a digital age where learners preferably use technology can be well prepared for the lectures. They can read information given on different sites which will help them to give them more clarity. Previously they were only dependent on textbooks and teachers but now before the lectures they can get information on different matters due to which they will sometimes have more information than the teacher, which will lead to confidence among the learners.

CONCLUSION

Effective teaching is very important as learners can become good doctors, engineers, lawyers etc. if they get good teaching. And the effectiveness to teach depends on the innovative teaching tools available, which at today‘s point of time is ICT. ICT is a very crucial factor due to which we can observe frequent changes taking place in our society. It is having an impact on teachers, learners and the entire teaching learning process. Also due to technology more conceptual clarity is possible by showing different illustrations online and the teaching learning process has been more simplified. Teaching and learning can take place in a very interesting and effective manner. Nowadays we can see teachers using laptops, projectors etc. Also efforts are been put in by educational institutions in providing ICT training to teachers which can help them to develop and enhance their computer skills. Due to the above reasons and the benefits which can be derived by effective implementation of ICT in teaching learning process, it should be considered as a priority for all educational institutions,

teachers and also learners. This will not only enable the institutions to survive in this digital age but also help to succeed in the near future.

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INTEGRATING TECHNOLOGY INTO ENGLISH LANGUAGE TEACHING-LEARNING

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Abstract

21st century is the age of globalization and is important to grasp on various foreign languages andEnglish language comes first.English Language Teaching has been with us for many years and itssignificance continues to grow, fuelled, partially by the Internet. The forecast points to a surge in English learning, which has peaked in 2010. Over 80% of information stored on the internet is in English. For the first time there are more Non-Native than Native users of the language and diversity of context in terms of learners, age, nationality, learning background etcetera has become a defining characteristic of English Language Teaching today. Technology and improved accessibility have improved the level of resource available to many classrooms; it has not made the act of learning a language easier. Students are, however, given access to almost infinite learning materials, which compliments their efforts in the classroom. Indeed, technology helps students think more critically. It encourages them to question what they are learning with access to a ―wider range of opinion".The colleges play an important role in our student's education. As well as the learning opportunities it offers, it also affords collaborative learning to improve creativity and evaluation. Truly technology should be integrated with English language courses. This paper also highlights the 5 key benefits of technology for language learning.

INTRODUCTION

21st century is the age of globalization and is important to grasp on various foreign languages andEnglish language comes first.English Language Teaching has been with us for many years and itssignificance continues to grow, fuelled, partially by the Internet. The forecast points to a surge in English learning, which has peaked in 2010. Over 80% of information stored on the internet is in English. For the first time there are more Non-Native than Native users of the language and diversity of context in terms of learners, age, nationality, learning background etcetera has become a defining characteristic of English Language Teaching today.

With the rapid development of science and technology, the emerging and developing of multimediatechnology and its application to teaching, featuring audio, visual, animation effects come into full play in English class teaching and sets a favorable platform for reform and exploration on English teaching model in the new era. It's proved that multimedia technology plays a positive role in promoting activities and initiatives of student and teaching effect in English class. Technological innovations have gone hand-in-hand with the growth of English and are changing the way in which we communicate. It is fair to assert that the growth of the internet has facilitated the growth of the English language and that this has occurred at a time when computers are no longer the exclusive domains of the dedicated few, but rather available to many.

With the spread and development of English around the world, English is used as a second language in acountry like India and for some people the 1st language. It enjoys a high prestige in the country. At present the role and status of English in India is higher than ever as evidenced by its position as a key subject of medium of instruction, curriculum. As the number of English learners is increasing different teaching methods have been implemented to test the effectiveness of the teaching process.

Use of authentic materials in the form of films, radio, TV has been there for a long time. It is true that these technologies have proved successful in replacing the traditional teaching.

Language teacher, teacher trainer, technology trainer and educational technology consultant, talks about the impact oftechnology teaching and learning had on students and teachers. Nowadays we offer engaging, innovative and technologically enhanced learning environments for our students. Our Techno-Hubs bring tech-based learning to the English Language Teaching (ELT) classroom improving the way students and teachers communicate and interact through language learning.

Technology can play a major role in the way an English course is taught and in the way a student learns. It can foster interaction and motivation in students in ways that a class taught without technology simply could not. There are various tools and methods that come along with using technology inside and outside of the classroom. As technology has become more readily available, it has also become easier for every student to have access to a computer and other technological resources.

Technology and improved accessibility have improved the level of resource available to many classrooms, it has made the act of learning a language easier. Students are, however, given access to almost infinite learning materials, which compliments their efforts in the classroom. Indeed, technology helps students think more critically. It encourages them to question what they are learning with access to a ―wider range of opinion".

The colleges play an important role in our student's education. As well as the learning opportunities it offers, it also affords collaborative learning to improve creativity and evaluation.Truly technology should be integrated with English language courses. Technology should not run alongside lesson plans, but compliment or even enhance them.

More than just a Wi-Fi code, having access to technology in education will play a big part in its success. Again, this counts both inside and outside of the classroom. Learning materials are now so much more than simply reading from a textbook, extending now to tablets and smartphones. Learners can continue to teach themselves beyond the classroom, in real life situations.

Practice makes perfect for those students who are less familiar with the technology used in the classroom, using it in lessons provides much-needed practice. Technology isn't set to take a back seat in learning, nor in life in general, and so students value the opportunity to familiarize themselves with using different devices in different ways, not just in developing language skills. Beyond limits,obviously, technology is not to be used in place of effective teaching, but interactive tasks, text-to-speech conversion and online tutorials allow students to translate on-the-go. Independent learning, with access to relevant teaching material for support, means more practice and therefore more confidence to push perceived limitations – students are given the courage to try books beyond their current reading level.

Providing context for English language for our students, practicing English outside of a lesson offers exposure to English culture, and so context around what they are learning. Opportunities to practice English in a real life setting are far more readily available. This can be from news sites, through social media, or visiting online forums, all of which provide a variety in language use that is difficult to replicate in the classroom.

In order to transform education we have worked hard to understand how the technology we've introduced to our schools will benefit our students. We've made it work so that not only do classrooms benefit from the latest tools for learning, but our teachers benefit from time-saving, efficient teaching practices. Technology ―has a huge potential to transform education on a global scale" and we wholeheartedly agree.

5 KEY BENEFITS OF TECHNOLOGY FOR LANGUAGE LEARNING

The era where computers rule the world is here. Just as **technology** plays a major key role in business relations, entertainment, music, movies, and almost every aspect of our everyday lives, it plays an equally important role in **education.** Studies have shown that **90% of students** have access to some type of computer or mobile device – whether at school, at work, or at home. So, it's not surprising to see the **evolution of classrooms** and **teaching methods** gravitating in the direction of technology.

New, **technology-integrated classroom** systems have become popularfor **language learning** in the recent years. Blended learning**,** virtual classrooms**,** and learning management systems are all examples of this new era of teaching methodology that top pedagogical experts are endorsing. These **methods** incorporate the use of technology in **language learning** to strengthen learner **engagement**, facilitate the instructor's role, and provide a **structured, comprehensive** learning experience for everyone involved.

It's easy to see that **educational institutes** need to begin transitioning to a more **tech savvy** way of **language teaching** or risk falling behind to more advanced competitors. But what other benefits does technology bring to language learning?

Benefits of Technology for Language Learning:

1. Remote Access to Language Education

The most **inspiring** aspect of technology is its ability to reach audiences **all over the world.** In **language learning**, it means teachers can be hired locally and students access courses that are taught by **native language speakers** – ensuring proper **language immersion**. Taking **language education online** opens a door that allows **virtually** anyone to have access to that course and its resources. Without **technology**, teaching is restricted to a **geographical** area, a specific school, or a specific **classroom**; with it, the reach is endless.

2. Blended Language Learning Courses

Blended Learning courses combine **in-class** and **online** language learning to increase student engagement. In this way, classroom teaching and online training are **complementary** to each other. The role of the instructor moves from a **teacher** to a **facilitator**. Students complete structured, comprehensive **e-learning modules** that teach them the **language** then attend classroom **discussions** where the teacher can focus on class **weaknesses** rather than simply reciting language rules to the students. Technology makes blended learning a reality and promotes an **intuitive language learning methodology** that is proven to be **successful** for language development.

3. Interactive Language Learning is Crucial

Experts have studied and debated that **language learning** through input only is not only **ineffective** but is also **not successful**at achieving learner **language development**. The best way to learn something is through an **interactive learningenvironment** created by technological tools and resources. For students **learning a language**, it s key to ‗do' things with language rather than just learning about language from your teacher. Technology makes it possible for students to **interact** with their **language courses** and gather a more complete understanding of all of the language components. Some students feel **more comfortable**, **less embarrassed** to make mistakes and learn from them in this **interactive**, **intuitive**model.

4. Real World Problem Solving Made Possible

Most of us have opened a text book and realized how **outdated** it was; featuring topics that are **no longer relevant** with pictures and graphics that have long **gone out of education style**. On the contrast, **language learning platforms**, especially **cloud-based ones**, are **easily updated** on a regular basis. The **course content**, **material**, **tools**, **resources**, **format**, etc., can all be **refreshed** and **re-**

uploaded onto the cloud to **guarantee** students always have the **most up-to-date content** available to them. Simultaneously, they are also **interactively learning** in a **virtual environment** that **mimics real-world situations** they can experience outside of the classroom. For example, Dexway Language Innovation has UK and USA English courses that different and is tailored to the audience in that area of the world.

5. Encourages Student Collaboration

It's a common misconception that mixing education and technology individualizes and singles out students in classroom. Students **nowadays** are extremely **technologically adept** and experts agree that the use of **tech savvy educational methods**in classrooms create a collaborative **language learning environment** where students can live in a world of **learner'sautonomy** and learn from one another. Via **technological platforms**, students and instructors can share ideas, documents, host online courses, run training seminars, and give each other honest individual feedback. Technology creates a **bridge for a gap** in the **language learning** world by creating a **community** of **like-minded learners** with the same **language development**objectives and **interactively connects** them to the resources they need to succeed.

Every facet of our daily lives is in one way or another saturated by the use of **technology tools** which have proven to **enrich** and make our lives a little **easier** every day. **Moral of the story**: technological advancements have made everything a little better for citizens of the modern age. The **educational sector** is no exception here; technology has been **exponentially beneficial** for language learning and development. From making language courses available to the whole world to bridging the gap in student-teacher language communication, we have technology to thank for the innovative developments that led to a better learning process for all.

CONCLUSION

Concerning the development of technology, we believe that in future, the use of multimedia English teaching will be further developed. The process of English learning will be more student-centered but less time-consuming. Therefore, it promises that the teaching quality will be improved and students' applied English skills can be effectively cultivated, meaning that students' communicative competence will be further developed. In conclusion, we believe that this process can fully improve students' ideation and practical language skills, which is helpful and useful to ensure and fulfill an effective result of teaching and learning.

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ROLE OF ICT IN TEACHING-LEARNING

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Abstract

The present age is called as ―EraofInformation Technology". IT represents a significant factor in the rapidlychanging relationship between user and information. It is well recognizedthat Information and Communication Technology (ICT) has immenseplausible potential for the structural growth of a country. The newinformation and communication technologies of Internet and multimediahave revolutionized the field of education. Communication is the basic to allcommunication between teacher and student, between institution andgovernment and between peers.

1. Introduction

Information and communication technologies (ICT) have become commonplace entitiesin all aspects of life. Across the past twenty years the use of ICT has fundamentallychanged the practices and procedures of nearly all forms of endeavour within businessand governance. within education, ICT has begun to have a presence but the impact hasnot been as extensive as in other fields. Education is a very socially oriented activity andquality education has traditionally been associated with strong teachers having highdegrees of personal contact with learners. The use of ICT in education lends itself tomore student-centered learning settings. With the world moving rapidly into digital mediaand information, the role of ICT in education is becoming more and more important.

Change has been happening at an uneven pace in any growth-oriented industry, and the education sector is no exception. Rapid growth in the field of education has made governance in academic sector a very complex task. The 21stcentury has witnessed tremendous advancements in technology which has led to far-reaching developments in the administrative system. Cost-effective technology combined with the flexibility in learning and administrative activities is essential to enhance efficiency. Computers can be used extensively for educational administrationInformation and Communication Technology (ICT) playsa vital role in supporting powerful, efficient management andadministration in education sector. It is specified thattechnology can be used right from student administration tovarious resource administration in an education institution (Christiana Maki 2008).

1. Use of Computer

At present majority of devices are based on Digital Technology. One such device is Computer. The Computer is an electronic device that has the capacity to store, retrieve & process both qualitative & quantitative information fast and accurately. The computers were never developed for improving quality of teaching – learning process. But researchers started using Computers for teaching purpose. It gave birth to Computer Assisted Instruction (CAI), Computer Managed Instruction (CMI), Computer Based Instruction (CBI), etc. People started developing CAI for teaching different subjects at School as well as Higher Education level. The developed CAIs were compared with the Lecture Method / Traditional Method and found that the developed CAIs were significantly superior to Lecture Method / Traditional Method in teaching different subjects

2. Information Technology:

Networking of computers gave birth to Information Technology (IT). UNESCO considered Information Technology as ―Scientific, technological and engineering disciplines and management techniques used in information handling and processing, their application, computers and their

interaction with men and machines, and associated social, economical and cultural matters". OECD (1987) treated Information Technology as ―a term – used to cover technologies used in the collection, processing and transmission of information. It includes micro-electronic and info-electronic based technologies incorporated in many products and production processes and increasingly affecting the service sector. It covers inter alias computers, electronic office equipment, telecommunication, industrial robot and computer controlled machine, electronic components and software products."

3. Information and Communication Technology:

IT was limited only to the textual mode of transmission of information with ease and fast. But the information not only in textual form but in audio, video or any other media is also to be transmitted to the users. Thus, the ICT = IT + Other media. It has opened new avenues, like, Online learning, e-learning, Virtual University, e-coaching, e-education, e-journal, etc. Third Generation Mobiles are also part of ICT. Mobile is being used in imparting information fast and cost effective. It provides e-mail facility also. One can access it anywhere. It will be cost effective. The ICT brings more rich material in the classrooms and libraries for the teachers and students. It has provided opportunity for the learner to use maximum senses to get the information. It has broken the monotony and provided variety in the teaching – learning situation.

4. Use of ICT in Teaching and Learning

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

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

4. Conclusion

The ICT brings more rich material in the classrooms and libraries for the teachers and students. It has provided opportunity for the learner to use maximum senses to get the information.Successful implementation of ICT to lead change is more about influencing and empowering teachers and supporting them in their engagement with students in learning rather than acquiring computer skills and obtaining software and equipment. Also proper controls and licensing should be ensured so that accountability, quality assurance, accreditation and consumer protection are taken care of. ICT enabled education will ultimately lead to the democratization of education.

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A STUDY ON THE CHALLENGES FACED IN BRINGING ICT ENABLED EDUCATION IN RURAL INDIA

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Abstract

The Constitution of India embodies an impressive list of Fundamental Rights and thus offers to all citizens individually and collectively those basic freedoms and conditions of life which alone can make life significant and democracy fruitful. Such rights are considered to be essential for the proper, moral and material upliftment of people.Right to Education is the primary right of everycitizen of India, whether a child resides in a high profile society or in a far-away not so developed secluded village, according tothe Article 45 of Indian Constitution the basic elementaryeducation must be provided to all the children up to the age offourteen years. Even after 70 years of independence many statesin India are still struggling to provide the basic right to education to its people. There are about 1303996 ormore than one million rural schools among 6, 38,000 villages inIndia. More than 40 percent of India's population is illiterate and cannot read or write. Schools in rural areas are inadequate and often equivalent to being non-existent. Thus, government's initiative to set up schools in rural areas came into picture. Schools in rural areas are promoted to raise the level ofeducation and literacy in rural India.Three-quarters ofIndia's people reside in the rural areas and 30 percent are below the age of 15 years in their peak formative years of schooling. With the government initiative on education in rural area, there is an upswing of enrollment and attendance ratio seen in the rural schools in the last six years. In the given scenario, the ICT enable education can be considered as an innovative option that will help us to fill in the literacy gap.In the process of bringing ICT's enabled education to the rural masses, there are many issues and challenges facing the rural education centers. The study explores these challenges and suggests suitable strategies for enabling smooth implementation of ICT's in rural education in India.

INTRODUCTION

Information and Communication Technology (ICT) is one of the rapid development technological fields in the global society .Among the developing countries India has reached a significant position in development of ICT's. Particularly in the field of education its development is tremendous.ICT has a direct role to play in the education sector. It can bring many benefits to schools, educationalinstitutions as well as to the community. In developed nations, the implementation of ICT in schools has been compulsory. The same is not true for developing countries like India. However, it has been universally accepted that implementation of ICT and acquiring ICT skills is essential for a more informed, learned and efficient nation.

If we see India's demographic very closely, we will observe that there is an increasing demand for education for a population where 30 percent of which is below 15 years of age, 75 per cent of which resides in rural India, a literacy rate of about 74 per cent, and a linguistic break-up of over 20 different major languages. This provides a huge scope of introducing and implementing ICT enabled education. The government of India has formulated the national policy on ICT enabled school education. The National Policy on Information and Communication Technology (ICT) in School Education ―aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness". In India, ICTs was launched in schools in December 2004 and revised in 2010 to provide opportunities to secondary stage students for building upon their capacity on ICT skills and direct them towards computer aided learning process. ICT in schools have been included under the RashtriyaMadhyamikShikshaAbhiyan (RMSA).

There is no doubt in the near future‘s development will based on ICTs. However benefits of ICT‘s have notreached the rural areas. Both Central and State Governments and NGOs are allocating huge amount for the development of ICTs and rural education. However the level of improvement in accessibility of ICTs in rural schools did not reached the expected level. This paper gives ideas to improve the rural education through ICTs. Also provide some suggestions for effective implementation of the national policy for ICT in education in rural areas.

OBJECTIVES OF THE STUDY

- To analyse the current scenario in rural schools in regard to the use of ICT
- To identify the barriers and supporting features on use of ICT
- To estimate the extent of ICT use among students in the rural areas.
- To capture their perception regarding the need for incorporating computer education.
- To consider opinion of teachers in all above mentioned aspects.

MEANING AND DEFINITION OF ICT

ICT is technology that supports activities involving information. Such activities include gathering, processing, storing and presenting data. Increasingly these activities also involve collaboration and communication. Hence IT has become ICT: information and communication technology.Information and communication technology, or ICT, is defined as the combination of informatics technology with other, related technologies, specifically communication technology.

Michiels and Van Crowder (2001) have defined Information and Communication Technologies or ICTs as ―a range of electronic technologies which when converged in new configurations are flexible, adaptable, enabling and capable of transforming organizations and redefining social relations. The range of technologies is increasing all the time and there is a convergence between the new technologies and conventional media".

Most devices can now be linked to others to share and exchange information and allow it to be used in such a way that they can also be categorized as ICTs. Even books are being incorporated into ICTs either through the potential for informal web publishing or more formal digital book publishing with designated readers or e-books. ICTs, therefore, are an expanding assembly of technologies that can be used to collect, store and share information between people using multiple devices and multiple media.

NEED FOR ICT IN EDUCATION

ICT is an extended term for Information technology which is a technological source to make information available at the right time, right place in the right form to the right user. Earlier, one had to wait for the newspapers to get the information across the world. Now with the smarter technology, information can be accessed from anywhere using smartphones and gadgets. All this is made possible with the help of Information and Communication Technology.

Information and communication technology in schools can be used as a school communication tool to improve student learning and better teaching techniques. With the advancement of technology in education, schools adopt school communication software to transmit, store, share or exchange information. In this technological era, ICT in education has compelled many schools to get accustomed to smart technology. This school communication software uses computers, the internet, and multimedia as the medium of communication.

Benefits of ICT in education are:

₹ It has the potential to improve education system of the nation.

₹ It can transform the nature and quality of education as a whole.

₹ It helps to enhance the quality of education by facilitating new forms of interaction between students, teachers, education employees and the community.

₹ It acts as and provides students and teachers with new tools that enable improved learning and teaching and adds to skill formation.

₹ It improves the learning process through the provision of more interactive educational materials that increase learner motivation and facilitate the easy acquisition of basic skills.

₹ It makes education more accessible for all, bringing education to the doorstep of children living in remote rural locations by means of enabling distance learning.

₹ It provides access to a vast treasure of educational resources and content for improving literacy.

₹ It leads to integration of technologies with traditional educational activities although it can never replace the conventional teacher-student relationship that is so crucial to the development process.

₹ It offers more challenging and engaging learning environment for students of all ages.

BENEFITS OF ICT IN EDUCATION

ICTs are a potentially powerful tool for extending educational opportunities, both formal and non-formal, to previously underserved constituencies—scattered and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities, and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll on campus. Anytime, anywhere feature of ICTs is the ability to transcend time and space. ICTs make possible asynchronous learning, or learning characterized by a time lag between the delivery of instruction and its reception by learners. Online course materials, may be accessed 24 hours a day, 7 days a week. ICT-based educational delivery (e.g., educational programming broadcast over radio or television) also dispenses with the need for all learners and the instructor to be in one physical location. Additionally, certain types of ICTs, such as teleconferencing technologies, enable instruction to be received simultaneously by multiple, geographically dispersed learners (i.e., synchronous learning). Access to remote learning resources feature help teachers and students no longer have to rely solely on printed books and other materials in physical media housed in libraries (and available in limited quantities) for their educational needs. With the Internet and the World Wide Web, a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere at any time of the day and by an unlimited number of people.

ICT in schools has the potential to improve the teaching-learning process in many ways. ICT is learner centric and hence brings about active involvement of students in the learning process. Students get motivated when learning activities are challenging, authentic, multi-sensorial and multi-disciplinary. Schools tend to witness a higher attendance, motivation levels, academic accomplishments and effective communication as an outcome of ICT programs and projects. Teachers too gain as a result of ICT initiatives. They find ICT to be useful for teaching as well as for personal and professional work. Application of ICT in teaching makes teaching more innovative, interesting, interactive, easy and effective. It complements the traditional teaching-learning process. While imparting knowledge with the aid of ICT,educators find that students are more receptive and responsive. Also, ICT can help to impart moreinformation and knowledge to students in a shorter time, enabling maximum utilization of resources and time.

CHALLENGES - ICT ENABLED EDUCATION IN RURAL SCHOOLS

Although ICT has the potential to improve education system of a country to a great extent, yet it is not thecase in the developing countries. There are multiple issues and challenges confronting the implementation of ICT education in schools and educational institutions in these countries and the problems are much more magnified in case of schools located in remote villages and rural areas.

- A major obstacle in the use of ICT in rural education is the lack of knowledge and skills.
- No quality training is imparted on a regular basis to teachers involved in ICT education.

- The educational organizations, school management and teachers fail to perceive the importance and seriousness of the role of ICT in education enhancement. They are rigid and not willing to adapt to the change.
- In schools, teachers are usually burdened with multiple tasks other than teaching. They do not have time to design, develop andincorporate technology into teaching and learning.
- Maintenance and upgrading of ICT equipment‘s in rural schools is subject to their limited financialresources.
- Lackor insufficiency of finances leads to redundant and obsolete infrastructure and equipment in ruralschools leaving a huge lacuna in the process of enabling ICT skills and imparting ICT education
- A large proportion of the educational software produced in the world market is in English. Majorityof online content is available in English. This may lead to language barrier.
- There is lack of computers and computer-related resources such as printers, projectors, scanners, etc.in government schools in rural areas. The ratio of computer per student is insufficient.
- The schools lack up-to-date hardware and software availability. Old and obsoleteequipment‘s are major hindrances to ICT adoption and application.
- Rural schools face issues related to technical know-how, absence of ICT service centers, shortage oftrained technical personnel. Without on-site technical support, much time and money may be lost due to technicalbreakdowns. One of the major obstacles to optimizing computer use in schools has been the lack oftimely technical support.
- Rural schools usually face trouble with respect to the availability of ICT related resources such assupporting infrastructure, uninterrupted electricity, supplementary resources like multimedia,projectors, scanners, smart boards, and so on. Despite being an integral component of the ICT,internet is lacking in most rural schools. Most schools cannot afford the high fees charged by internetproviders and even where there is internet, slow or erratic connectivity destroys the very essence andimpact of ICT.

GOVERNMENT INITIATIVE ON RURAL EDUCATION

The government of India has announced 2010-2020 as the decade of innovation with special focus on ICT enabled education and acquiring of ICT skills for students. The motive of the national policy on education is to create an environment of integrated development for education and economic empowerment of rural students. Important initiatives and strides have been taken in the sphere of rural education:

- Computer literacy projects for teachers and students.
- Mobile classrooms through IT buses.
- E-Learning centers and kiosks for enhancing online education for social and economic change in rural society.
- Community Tele-centers to meet the needs of ICT learning outside formal school setting.
- Bicycle-based connectivity in rural areas.
- National award for teachers using ICT in schools in the teaching learning process.
- Development of IT curriculum.
- Innovative ―Rural Reach Program" by Infosys for imparting first hand ICT knowledge to children of grades 5-10 in villages.
- Higher education ICT initiatives such as E-Gyankosh, GyanDarshan, Gyan Vani and various other distance education programs.

CONCLUSIONS AND RECOMMENDATIONS

India is developing as a knowledge economy and it cannot function without the support of ICT. The gap between demand and supply of education has necessitated the government and institutions to formulate policies for more beneficial use of ICT. In order to bridge the gap, it is necessary to evolve cooperation between public and private stakeholders. There is a need to focus on improving four aspects of ICT - access, usage, economic impact and social impact. Thestudy makes the following suggestions for improving and enabling ICT education in rural India:

- There is a need for public-private partnership for resource mobilization for funding ICT education in rural areas
- To formulate policies to promote ICT
- Provision of broad-based formal education of ICT
- To create awareness on ICT Education
- The government should encourage teachers to use ICT in their teaching to ensure equal learning opportunities for all students.
- Give incentives to firms and individuals for encouraging involvement in continuous training in ICT
- Teachers should be encouraged to attend more training on ICT. Training should not merely focus on basic of ICT skills but should also present methods for integrating ICT in teaching and learning. In addition, training should be in the form of continuous professional development courses with flexible training hours as well as in school training.
- There should be more appointment of ICT teachers in rural schools and assign teacher training responsibilities to them. ICT teachers should therefore be offered school training courses that are especially tailored to meet the needs of the rural school and its teachers.
- Develop supportive infrastructure facilities such as electricity, internet, etc. Government should actively promote the usage of alternate sources of power to ensure a steady power supply to schools in rural areas
- Computer recycling can be an ecologically sound alternative to the problem of computer shortage
- Government and national education authorities should ensure availability of high quality internet access to schools and educational institutions
- Government should ensure joint efforts by software companies and teachers for preparing quality content to support the curriculum and language diversities
- To make ICTs effective and integral tools of education, monitoring and evaluation must be a priority
- The urban-rural divide in terms of access, equity, and resources will continue to be the main issues thatIndian educators will have to address as the needs of the learning community will change.

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ERP: AN EFFICIENT TOOL TO MANAGE ACADEMIC FUNCTION OF FACULTIES IN HIGHER EDUCATION

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Abstract

With increasing competition, it has become very essential to give quality education to the students. With quality education comes innovative teaching and that has resulted in increasing work load of faculties. Lot of data needs to be managed and stored by the faculties and so pilling of paper has increased. Technology can play a crucial role in this direction. Storage of data through ERP will reduce the work load of faculty and all that work which was done manually can be done through this system. As faculties has to perform various tasks, right from teaching, to maintaining various records, as well as improve their personal profile all this can be done through ERP.

Keywords: *Enterprise Resource Planning (ERP), ERP in Higher Education, Academic Function*

1. INTRODUCTION:

Ancient education system in India was symbolized by learning from ‗guru' under the banyan tree, confined to limited number of students. The academic function was very smooth during those periods as limited number of data was required to be maintained. This system has changed over a period of time as number of students getting education has increased,which has lead to increased data management.

Today education sector in India is one of the fast growing sectors which have increased an extensive interdepartmental collaboration for the various tasks. With the advancement of this sector record maintenance has increased and resulted in better management and allocation of resource. Faculties in educational institutionshas to perform various academic functions like preparing time table, lecture plan, checking of answers books, filling up regular lecture attendance, storing various assignment sheets, taking practical, taking students feedback and many more which has resulted in pilling up of bundle of hard copy of data in storehouse. Therefore management of such a huge data has become a challenging task for thefaculties where paper work has increased. Enterprise Resource Planning (ERP)can play an important role in this direction by making the academic work of faculties more digital. ERP reduces the manual work of data maintenance and all the work is done relating to this is done in an efficient manner.

ERP in education is nothing but changing the world with technology. It eliminates human efforts and leaves you with more energy and time so that you can focus on the aspect that requires more attention i.e. ‗Education'

2. STATEMENT OF PROBLEM:

While reviewing the literature the researcher has found thatresearch papers has been written on implementation of ERP in Higher Education, but not much has been said on the benefits of ERP for faculties in the smooth running of academic function and the problem faced by them while implementation of this system. Hence the researcher has taken a topic, *―ERP: An Efficient Tool to Manage Academic Function of Teacher's in Higher Education".*

3. LITERATURE REVIEW:

- Watson and Schneider (1999) in the research paper ―Using ERP in education Communication of AIS" investigated the factors which are important while implementing ERP in higher education and which factors lead to success or failure. After the investigation they mentioned

that staff training is very important process when implementing ERP in higher education in order to gain more benefits from theses system[1]

- According to Robert. C (2004): ERP has played an important role in IT management of Higher Education but it is to some extent far from the core discipline of higher education. It is important to define ERP system in higher education as being multiple scopes, tracking a range of activities including human resource system, administrative student information system and financial system[2].
- Udith (2005): in the article, ―Good Enough! IT investment and Business Process Performance in Higher Education" stated that the key question is whether or not ERP enhance performance process and looked the roles of factors such as leadership and culture and their effects of ERP and business performance. The study concluded that ERP potentially improves business performance in higher education by enhancing services offered to students, faculty and staff[3].
- Khare N (2014) in her research article ―A study of implications of Enterprise Resources Planning (ERP) system in Higher Education" stated that evaluating the most critical factors that potentially determine the impacts from these systems is highly desirable in order to explain the actual benefits that could be achieved through these systems by users and organizations since they could affect educational outcomes and delivery[4].

After reviewing the literature the researcher has found that many articles talks' positive things about implementing ERP in higher education from administrativeangle. But not much has been writtenabout how ERP can be an effective tool to faculties in order to handle their academic function and reduce their workload of maintaining data.

4. OBJECTIVE:

1. To study the role of ERP in the higher educational institutions
2. To study the benefits of ERP for the facultiesin higher education
3. To study the problem faced by the faculties in using ERP
4. To suggest measures that can be taken in order to remove the resistance of ERP among faculties

5. METHODOLOGY OF STUDY:

This paper focuses on the benefits ofERP for faculties in their academic functions. The research is based on primary and secondary data. Primary data is collected by interacting with the college faculties where academic function is performed through ERP system and secondary data is collected from research papers articles and internet.

6. ENTERPRISE RESOURCE PLANNING (ERP) AND ITS BENEFITS TO FACULTIES IN HIGHER EDUCATION:

ERP is information system software that integrates departments and functions across an organization in one common computer. ERP runs off in single database, which enables all the departments to share information and communicate with each other. ERP systems comprise function specific module, designed to interact with the other modules. With implementation of ERP the workload of facilities will automatically get reduce as they don't have to maintain any record manually. All the information will be available to the facultiesat a click of a button.

Benefits of ERPto facultiesinthe performance of their academic function:

1. Administrative benefits:

- Faculties can record attendance through biometrics or on their mobile through ERP apps,which willreducesfacultieswork of recording attendance manually.

- Defaulters list can be generated easily if attendance is filled up through ERP. Faculties just have to enter the attendance percentage below which they want defaulters list and the list will be generated.
- Once the subject allocation is done to the facultiestimetable can be generated automatically

2. *Facilitating students evaluation:*

- Instead of taking class written assignment/ test faculties can take online test which will result in less time consumption and marks will be generated automatically through the system

3. *Student connectivity:*

- Through ERP facultieswill be able to send notes, assignmentsand various announcements to students.
- If students have any doubts regarding the subjects, they can get solved through ERP.
- As the work will be done on click of the button faculties will get more time to mentor students.

4. *Students progression and performance:*

- Students‘ progress can be tracked through ERP
- Faculties can track the performance of the students in particular subject which will help them to find the weaker students and necessary step can be taken to improve their performances.

5. *Self-performance evaluation:*

- Maintenance of personal record for performance appraisal is very important for facultiesand hence records can be maintained though ERP in their personal profile by uploading the documents in the system.

6. *In-faculty communication:*

- Communication can become more effective between the faculties through ERP
- Faculties can send notice regarding any meeting or events to their colleagues through ERP

Though there are benefits of ERP, institutionsfind it difficult to implement it,as faculties do not accept this change easily. The experienced faculties do have resistance to this change as it requires knowledge of computers. As the system is bit difficult to understand the existence of resistance is obvious. But institutions can overcome this by convincing the faculties about the benefits and how will the system reduce their workload once they are well worse with the system.

7. SUGGESTION:

1. Separate training should be given to those faculties who are not much comfortable towards use of computers. They need to be convinced and given confidence regarding the system that how it will be useful to them in reducing their work load.
2. Programing should be designed in such a way that it is user friendly and easy to operate by the faculties.
3. One time training is not enough regarding operation of this system. Continuous training is required.
4. While interacting with the faculties it was found that availability of number computers with latest configuration and high speed data connection is very important for operating the system. Hence for successful implementation of this system institution should provide minimum and required infrastructure to the faculties.
5. In order to implement ERP, involvement of faculties in programme designing is very important. Their suggestion should be welcomed regarding actually how they want system to operate.
6. Few faculties who are efficient in use of computes must be given separate training so that they become well-worse with the system and can train the other faculties whenever required.

8. CONCLUSION:

Use of ICT is the need of an hour in education system and you cannot ignore it. Today most of the corporates are using ERP system in order to manage huge data. Education sector is one of the fast developing sectors and managing huge data in the coming years is going to be a difficult task for the educational institutions. ERP has to be given a serious thought. All the working process has to be done through ERP only so that the task of maintaining huge data becomes less and faculties can concentrate in their core job, which is teaching.

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USING ICT FOR QUALITY IN TEACHING – LEARNING AND EVALUATION PROCESSES

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Abstract

In Higher Education NAAC has brought about many changes. The insistence of the use of ICT has changed the whole paradigm of education. Today's Technology is generally expected to utilize some forms of Information Communication Technology (ICT) in regular teaching practice to make the class interesting and informative. The use of ICT in the classroom can create innovative teaching opportunities for learner-centered learning without giving them stress. Information Technology implies telecommunication involving a combination of computers , networks and the like. Creating multimedia projects in campus improves the Learning environment in campus. It is the combination of various digital media types such as text, images, audio and video into an integrated multi-sensory interactive application or presentation to convey information to the learner. ICT based education at all levels have numerous advantages over conventional mode of imparting education. As Bob Talbert quotes, ― Good teachers are costly, but bad Teachers cost more ". ICT provides corrective and effective solutions to this basic issue. This paper is mainly intended to provide few ideas for improving Quality in Teaching , Learning and Evaluation by using new ICT media and its importance in Teaching.

Keywords: *ICT, Education , Learning environment, Quality Teaching, Learning and Evaluation Process.*

Introduction:

Quality Teaching has become an issue of importance as the landscape of Higher Education has been changing continuous changes. The student body has considerably expanded and diversified. New students call for new teaching methods. The National Assessment and Accreditation Council (NAAC) established by the University Grants Commission (UGC) of India, to assess and accredit Institutions of Higher Education in the Country has come up with the revised guidelines in the Manual for Affiliated/Constituent Colleges which is uploaded in July 2017. In the current Manual ICT enabled campus and use of ICT for quality in Teaching , Learning and Evaluation process has been given due importance with highest marks and the Higher Education Institutions need to gear up for the same. There is an important need to realize the potential of information and communication technologies in bringing about value education to quality education. The specific parameters for assessment of the contribution of technology to quality education may include the use of technology for increased access, for continuing education, for enrichment of class room teaching, for better services to students and for more effective educational management institutions.

To promote the use of Technology, Technological and innovation in educational transactions have to be undertaken by all Higher Education Institutes, to make a visible impact on academic development as well as administration.

Educational Importance:

There are many tools of ICT such as Web-based resources, Electronic libraries and databases, Multimedia resources, White board, Discussion lists and news groups, Conferencing systems and Computer-based assessment. ICT has the potential to ―bridge the Knowledge gap " in terms of improving quality of education, increasing the quantity of quality educational opportunities, making knowledge possible through border less accessibility to resources and people. The implementation of ICT tools in the Teaching, Learning and Evaluation Process have found to bring specific benefits. Besides motivating students, interaction, verbalization and involvement in collaborative learning, ICT extends students experience and literary skills. It encourages the learners to express his/her ideas,

thoughts and feelings effectively and adds to students‘ understanding and interesting . Communication Technologies like video-Conferencing, digital video, interactive white boards , smart and hi-tec classrooms can motivate language to express freely. Teaching , Learning and Evaluation process is always going together.

ICT related activities that support classroom teaching and learning includes activities like the use of Broadcast material or CD-ROM as resources of information in History, Micro-Computers with appropriate keyboards and other devices to teach literary and writing Keyboards, effects and sequences in Music Teaching devices to facilitate communication for pupils with special needs, e-mail to support collaboration writing and What‘s-app groups in sharing of resources. Empowering Learners to engage in meaningful challenging and enlightening task is the aim of all educators and ICT has a powerful role to play in this in every directly with expert sources when they are needed and the sight becomes a powerful motivation in Learning-Video-conferences to support the teaching of modern foreign languages, Internet based research to support geographical enquiry/ Integrated Learning System (ILS) to teach basic numeracy, communication technology to exchange administrative and assessment data. It is also a effective type of learning where learners take various projects. Relationship between teachers and students becomes more interactive and guiding rather than transferring information from teacher to student. The orientation of planning is more towards students performing real works in cooperation with other students.

Essential Conditions :

To effectively harness the power of the new Information and Communication Technologies and to improve classroom teaching and Learning the following essential conditions must be met :

- It is expected that the teachers should be well equipped with the skills and usage of ICT. Lack of teachers equipped with ICT skills is one of the problem for the use of ICT for quality in Teaching and Learning. Teachers must be 0aware regarding the proper usage of ICT tools in the classroom.
- Students and Teachers must have sufficient access to digital technologies and the Internet in their classrooms.
- Every Institute is facing the challenges of preparing a new generation of faculty to effectively use the new learning tools in their teaching practices. To overcome this task one requires the acquisition of new resources and expertise by organizing faculty training programmes to empower and enable the use of technology for improved teaching.
- Access to virtual laboratories should be encouraged.
- It is expected that academic Institutions should have access to NPTEL, NME-ICT, and open Educational resources to support teaching-learning process.

Conclusion :

Modern technology is prevalent in every field and education is not an exception. ICTs are tools that play a very significant role in the advancement of the educational sector. The use of appropriate technologies is important to facilitate learning thus providing an e-learning atmosphere to both students and faculty. Thus a sustainable infrastructure, course content, information resources and services , all should be integrated for the enhancement of the Teaching, Learning Process. Teaching is a process which is systematic, scientific and intended to bring about desired learning. Teacher using different media elements for Quality in teaching will definitely help oneself to represent in a more meaningful way, as the progress of a Country depends upon the quality of its teachers.

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A STUDY ON THE IMPACT OF ICT ON LEARNING FOR UNDER GRADUATE ARTS STUDENTS IN MUMBAI & NAVI MUMBAI

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Abstract

Undergraduate students in Educational Departments are required to evaluate basic tools in Information Communication Technology in order to promote the learning process and outcomes. The teacher's ability to use the means of technology and adapt them in the educational process, apart from training, involves understanding the technology itself. This paper examines the impact of ICT in learning for Under Graduate Arts Students in Mumbai & Navi Mumbai. The investigator uses simple mathematical techniques to test the hypothesis. The paper concludes that the use of ICT in learning improves learning.
Keywords*: ICT, Learning and Under graduate Arts Student.*

1. Introduction of the Study:

Over the last years, the Internet and the World Wide Web (WWW) had a great impact not only on the way humans communicate, but also on the teaching and learning techniques. In terms of the educational use of the Internet it is both used equally at homes and classrooms. Educators nowadays and education in general, are highly challenged to adapt the continually increasing technological advances in the learning process in order to ensure the quality of the learning outcomes.

Information and Communications Technologies (ICTs) are a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. ICT tools are used nowadays in all educational institutions.. Students are familiar with most of these tools and they use them in their everyday activities. Implementing ICT tools in teaching and learning process, will be a great opportunity for both teachers and students.

Undergraduate students in Educational Departments are required to evaluate basic tools in Information Communication Technology in order to promote the learning process and outcomes. The teacher‘s ability to use the means of technology and adapt them in the educational process, apart from training, involves understanding the technology itself. The aim of this study is to investigate.impact of ICT on learning for Under Graduate Arts Students in Mumbai & Navi Mumbai.

2. Relevance of the Study:

The undergraduate level of education is an important milestone to the learners who seek for establishment in life or aspire to enter into the global field. ICT Allows flexible, self-paced learning where students are, to an appreciable extent, able to choose what they'd like to focus on and spend variable amounts of time on it based on the perception of their learning needs and positions. Therefore it is necessary to adopt ICT in learning for Under Graduate Arts Students in Mumbai & Navi Mumbai.

3. Scope of the study :

This study is limited to the study of the use of ICT in learning process for undergraduate Arts Student in Mumbai & Navi Mumbai. The study includes following Arts courses:

1. Bachelors of Arts (B.A)
2. Bachelors of Mass Media (B.M.M)

4. **Methodology:**

In this research primary and secondary data was used to collect and analyze the data obtained from all the respondents.

4.1 Number of respondent : 40 Undergraduate Arts Students

4.2 Sampling method : Simple random sampling was used to collect the primary data.

4.3 Method of data collection- For collection of data both primary and secondary method is used.

5. Objectives:

1.To study the impact of ICT in learning for under graduate arts students.

2. To explore the general perceptions of Undergraduate students and about the role of Information Communication Technology in higher education and to gauge students dependence on the same for seeking knowledge and information.

6. Hypothesis:

Ho: There is a negative impact of ICT in learning for under graduate Arts students.

H1: There is a positive impact of ICT in learning for under graduate Arts students.

7. Result: To test the hypothesis quantitative analysis of closed ended responses was done by percentage distribution and Qualitative analysis of open ended responses was done observing the trends.

Table: Analysis of Data

	Positive Impact	**Negative Impact**	**Total**
No. of Respondent	34	6	40

Overall the observations were in favour of increasing usability and dependability on technology as ready reference tool of subject information. Learners valued text books and technology almost equally and regarded computer training as a desirable incorporation in curriculum.

As majority of the respondent has preferred the use of ICT in learning for undergraduate arts students the null hypothesis is rejected and the alternate hypothesis is accepted. Hence it is concluded that ICT has a positive impact on learning.

8. Conclusion:

The major finding of this research is that availability and usage of ICT is very essential to improve the educational efficiency of students. This indicates that availability of ICT in Education is supportive for the students to improve their learning skills as well as latest technologies . ICT are helpful for the students to better prepare their assignments and projects. Results also show that ICT can be helpful to produce the productive knowledge of students related to their studies. Our findings suggest that more the availability and usage of ICT in education sector, more the efficiency of students will increase. Students agreed that ICT provides vast knowledge to students through internet and digital libraries, so it can be helpful to enhance the educational efficiency at local, regional and national level.After analyzing all the results we conclude that ICT brings a positive impact on Education sector on learning for Under Graduate Arts Students in Mumbai & Navi Mumbai.

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INDIAN HIGHER EDUCATION IN A CHANGED ENVIRONMENT AND ROLE OF INFORMATION LITERACY SKILLS IN PROMOTION OF QUALITY HIGHER EDUCATION

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Abstract

This paper attempts to highlight the impact of information technology on global higher education sector and impact of ICTs on Indian Higher Education Sector. It also describes briefly the recent developments in Indian Higher Education System. Role of Information Literacy Skills in promotion of quality higher education. The paper also reveals the importance of Integrating IL Skills in Higher Education curriculum.
Keywords*: Higher Education, Information Technology, Information Literacy, Skills, NDL, India*

1. *INTRODUCTION:*

Today, information has become a major economic commodity and the citizens need to be educated for the proper utilization of information, specially children from pre-school through post-secondary education. In the information rich world, where the scope of available information appears limitless, there is a growing need for students to become the critical users of information. It not only includes knowing how to locate internet resources but also focuses upon developing the skills necessary in seeking information from a variety of resources. The type of information found is not important, but to use that information to complete the assigned task or research is of great importance. Information Literacy (IL) is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.

The two important dimensions of the new information technology are interactivity and time-space convergence and cost-space convergence. The information environment is a world of instant communication and of virtual reality .The literacy skills of composing and editing are skills of the highest order.

In the 21st century environment of rapid change fostering an individual ethic and ability to learn throughout the lifetime is increasingly important, to maximize individual potential and social growth and stability. It is expected that the IL will play an important part in revitalizing downtown of Education system in India. IL is not a destination, it is an ongoing journey, and it is the key to lifelong learning.

2. *IMPACT OF INFORMATION TECHNOLOGY ON HIGHER EDUCATION SECTOR*

The global higher education scenario is witnessing rapid transformation in the past few decades and there has been a huge expansion in tertiary education. Major shares of the countries have moved from elite stage to massification stage and further to universalization stage in higher education development. This massive expansion is also accompanied by emergence and expansion of private sector, increase in globalization of higher education especially technology driven learning platforms such as MOOCs.

In an age of accelerating globalization, advances in the field of information technology can play a key role in meeting growing demands for enrolment in higher education. The increased flow of technology, economy, knowledge, people, values and ideas across borders has had a strong impact on higher education in terms of the quality, access and diversity of educational provision. The innovative use of new information and communication technologies (ICTs) in higher education, for both distance

and face-to-face learning, has proven to be an important means for meeting the increasing demands for enrollments worldwide.

The developing countries have been particularly put under strain, as state budgets for higher education are shrinking year by year. Hence it is difficult to meet the increasing demands for higher education enrolments. The introduction of new forms of higher education delivery, taking advantage of the use of ICTs . capitalizing on audio, video and/or the Internet as means to deliver education; as well as the development of different educational models through arrangements such as networks of institutions, have proved to be effective and innovative strategies to meet these challenges.

The need for lifelong learning has become increasingly prevalent in the ever more dominant knowledge economy where learners must continually strive to upgrade their skills and qualifications in order to remain competitive in a dynamic global market place.The Internet and e-learning are providing means for learners to access higher education in new ways, anywhere and at anytime. These technological developments have brought opportunities and challenges which must be navigated carefully at the national, regional and international levels in order to maximize the benefits and minimize the risks.

3. *IMPACT OF INFORMATION TECHNOLOGY ON INDIAN HIGHER EDUCATION SECTOR*

The department of Higher Education, Ministry of Human Resource Development is administering the National Mission on Education through Information and Communication Technology (NMEICT) Scheme to leverage the potential of ICT, in teaching and learning process for the benefit of all the learners in Higher Education Institutions in anytime anywhere mode. The three cardinal principles of Education Policy viz., access, equity and quality could be served well by providing connectivity to all colleges and universities, providing low cost and affordable access-cum computing devices to students and teachers and providing high quality e-content free of cost to all learners in the country. The NMEICT Scheme encompasses all the three elements. The two major components of the NMEICT Scheme are (a) content generation and (b) providing connectivity along with provision for access devices for institutions and learners.

The SAKSHAT is envisaged as one stop education portal (www.sakshat.ac.in) to facilitate lifelong learning of the students, teachers and those in employments or in pursuit of knowledge free of cost to them. The portal is expected to be the main delivery platform for the contents developed under the NMEICT Scheme. The INFLIBNET has taken up the initiative to create integrated one stop e-content portal for easy access to all the contents developed under the Mission.

E-Content: The Mission is in the process of creating high quality e-content for the target groups covering all disciplines at higher education level. The flagship program for e-content generation is National Program on Technology Enabled Learning (NPTEL). The NPTEL is a joint initiative of IITs and IISc funded by the NMEICT which provides e-learning through online Web and Video based courses in engineering, science and humanities streams. Over 810 courses have been completed and made available in NPTEL website. Further, about additional 200 e-content courses are getting generated.

For Under Graduate (UG) courses, Consortium for Educational Communication (CEC) has been tasked for e-content generation content in 87 under graduate subjects in collaboration with its 17 media centers. The e-contents for eight UG subjects namely History, Botany, English Literature, Environmental Science, Anthropology, Mathematics, Hindi Language and Vocational Studies (Photography) are complete. E-content creation for another 21 subjects is under process.

For PG 77 subjects, e-content generation activity has been assigned to University Grants Commission (UGC). The Learning Management System for e-PG Pathshala (http://epgp.inflibnet.ac.in/) is

available in open access and hosted on the INFLIBNET server as well as accessible through the Sakshat Portal.

The National Digital Library: Under the NMEICT, a project titled "Development of National Digital Library of India, Towards Building a National Asset" has been sanctioned to the IIT, Kharagpur. The project is envisaged as a national knowledge asset which will provide ubiquitous digital knowledge source and will support and enhance education, research and innovation catering to the needs of all types of learner groups over the country. The project will help collate (and if needed generate) large number of e-contents for school, college and higher category students with a special emphasis on the e-learning, virtual library and technology enhanced learning design covering the needs of learners with differing abilities, expectations and socio cultural background.

The NDL shall be developed to cater to the requirement of learning content for students of various categories and educational levels from primary to postgraduate, teachers, researchers, working professionals in general as well as special groups (like the legal and medical profession) and life-long learners.

Study Webs of Active Learning for Young Aspiring Minds (SWAYAM): the MOOCs (Massive Open Online Courses) have emerged as the most inexpensive mechanism for offering quality education online, to a very large number of learners. The approach incorporates important aspects of active learning, discussions forum, instant feedback through online quizzes, etc. It is believed that in coming years, this approach will be increasingly adopted in various blended forms, and is likely to lead to positive disruptive changes in the educational systems. Specifically for India, given the urgent need to reach out to largest possible number of learners the MOOCs are seen as the way forward to reach out to millions of learners across the country.

4. *RECENT DEVELOPMENTS IN INDIAN EDUCATION SYSTEM*

Education, in general and higher education in particular has become extremely important in the 21st century, mainly because of its linkage with the economy. Our country is hovering between two identities; the developing nation and the emerging nation. Higher education is an essential social as well as economic infrastructure for an emerging nation like India. India is now recognized as a nation with a potential to give ―knowledge creators" to the world economy.

The 21st century economies are looking for graduates that have a sound foundation in the core subjects, experience in profession related skills and knowledge of soft skills that are connected with the communication skills, command over the language, personality and capacity building. The assessment of students is the prime and crucial task of the university. The education process is not just confined to getting of a degree. It also is not restricted to the process of adult education only. Indeed, the need of the hour is for Universities to create such an enabling mechanism to address education as a lifelong learning process.

The Indian Higher Education system, which includes Technical Education, is one of the largest of the world, just after the United States and China. Higher Education is the most powerful tool to build a knowledge-based society for the future. Higher Education provides people with an opportunity to reflect on the critical social, economic, cultural, moral and spiritual issues facing humanity. It contributes to national development through dissemination of specialized knowledge and skills. The National Policy on Education-1986, revised in 1992 (NPE) states that in Higher Education in general and Technical Education in particular, steps will be taken to facilitate inter-regional mobility by providing equal access to every Indian of requisite merit regardless of his origins.

The University Grants Commission (UGC) has taken various measures towards improving quality of higher education and Academic Reforms such as the introduction of semester system, the regular updating of curricula and introduction of Choice Based Credit Systems (CBCS), etc. The UGC has also issued Regulations on "Minimum Qualifications for Appointment of Teachers and

other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education, 2010" for improving the standard of teaching in Indian Universities. The UGC has also issued the "Mandatory Assessment and Accreditation of Higher Educational Institutions, Regulations, 2012" whereby all eligible higher educational institutions are required to get themselves accredited. In order to improve quality of teachers and teaching, National Eligibility Test (NET) and State Level Eligibility test (SLET) have been made compulsory requirements, only exception being those who have completed Ph.D in accordance with the UGC (Minimum Standards and Procedure for Award of M.Phil/Ph.D Degree), Regulations 2009. The National Assessment and Accreditation Council (NAAC), an autonomous body established by the UGC, accredits universities and colleges on various parameters of quality.

The UGC also implemented various schemes aimed at improving the quality of higher education, such as Universities with Potential for Excellence (UPE), Colleges with Potential for Excellence (CPE), Centre with Potential for Excellence and a Particular Area (CPEPA) Special Assistance Programme (SAP), Basic Scientific Research (BSR) etc.

The Rashtriya Uchchatar Shiksha Abhiyan (RUSA) is a Centrally Sponsored Scheme (CSS), launched in 2013 it aims at providing strategic funding to eligible state higher educational institutions. The central funding (in the ratio of 65:35 for general category States and 90:10 for special category states) would be norm based and outcome dependent. The RUSA will help the higher education to grow as per the need of the day.There are many innovative schemes under the RUSA. The RUSA would create new opportunities for universities through upgradation of existing autonomous colleges and conversion of colleges in a cluster. It would create new model degree colleges, new professional colleges and provide maximum infrastructural support to universities and colleges. Faculty recruitment support, faculty improvements programmes and leadership development of educational administrators are also an important part of the scheme.

A separate component to synergise vocational education with higher education has also been included in the RUSA. Besides these, the RUSA also supports reforming, restructuring and building capacity of institutions in participating state. It has been decided to implement and monitor the RUSA scheme online and real time basis. For the purpose, a web-based online real time system to have Government to Citizen (G to C) and Government to Government (G to G) interfaces through a well designed huge and strong database has been envisaged.

5. *IMPORTANCE AND ROLE OF IL SKILLS IN PROMOTION OF QUALITY HIGHER EDUCATION*

A simple definition, as given by Moore (2002), of information literacy means ―amastery of the processes of becoming informed". Information literacy is a crucial skill in the pursuit of knowledge. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2007), IL means the set of skills, attitudes and knowledge necessary to know when information is needed to help solve a problem or make a decision, how to articulate that information need in searchable terms and language, then search efficiently for the information, retrieve it, interpret and understand it, organize it, evaluate its credibility and authenticity, assess its relevance, communicate it to others, if necessary, then utilize it to accomplish bottom-line purposes; IL is closely allied to learning to learn, and to critical thinking. Information literacy is a signal skill for lifelong and flexible learning situations.

In the age of enormous amounts of quickly changing information, students and professionals alike must be able to find information and put it to use effectively. Students must be able to access information beyond textbooks and classroom instructors to prepare for the workplace. Staying successfully updated requires individuals to be information-literate.

Webber (2010) has defined information literacy for the 21st century as ―the adoption of appropriate information behavior to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society."

Information literacy is not only creating an awareness it also making users to acquainted with the physical availability of the information, but help them to understand the information, characteristics and its use. It is about introducing students to the forms of information available to them, and then helping them to determine what sort of information they need for any specific context, how to find it, how to evaluate it, and how to use it effectively and ethically. Jonasses and Grabowski pointed that ―Prior skills and knowledge transfer directly to new learning. When prior knowledge exists, acquisition of new information is facilitated".

6. CONCLUSION

Higher Education is very important for the overall development of any country. The government also has realized the same and is giving more importance to it. The success of Sarva Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA) has laid a strong foundation for primary and secondary education in India.However,the sphere of higher education has still not seen any concerted effort for improvement in access or quality.In the coming decades, India is set to reap the benefits of demographic dividend with its huge working age population. The International Labour Organization (ILO) has predicted that by 2020,India will have 116 million workers in the age bracket of 20 to 24 years,as compared to China's 94 million.India has a very favorable dependency ratio and it is estimated that the average age in India by the year 2020 will be 29 years as against 40 years in USA,46 years in Japan and 47 years in Europe.In fact,we have more than 60% of our population in the age group of 15 to 59 years.This trend is very significant on the grounds that what matters is not the size of the population,but its age structure.It would be a lost of an opportunity if we don't take advantage of this dividend .Herein lies the significance of higher education.

In an emerging information -based society, it is essential for the students to learn how to think actively and critically about information rather than to passively receive pre-packaged facts or materials. The information literacy programmes thus better able to enhance students generic abilities which include problem solving, critical thinking, creativity, collaboration, communication and presentation. They can also use these abilities properly, that is, legally and ethically. Developing lifelong learners is central to the mission of higher education institutions .Information literacy is a key component and a major contributor to lifelong learning. Several studies conducted by experts in India and abroad revealed that lack of information is partly the cause of under utilization of existing information and communication techniques (ICTs) and information resources.

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TEACHING IN A DIGITAL AGE

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Abstract

Technology is leading to massive changes in the economy. Technological innovation is needed for the development of human. Traditional teaching learning like talk and board along with that of modern aids or use of ICT will be an added advantage to the teaching community. ICT can bring a wide change in the process of teaching learning and evaluation process both within classroom and beyond classroom. The use of ICT in education lends itself to more student-centered learning setting and often this creates some tensions for some teachers and students. But with the world moving rapidly into digital media and information, the role of ICT in education is becoming more and more important. With the use of ICT same things can be teach in more smarter way. With the use of power point presentation, video lectures, teaching can be made more effective. Teachers can save lot of time in preparation of lessons, lecture notes. In this research paper an attempt is made by the researcher to make teaching more effective. Data is collected from teachers teaching in arts, commerce and sciences colleges of Navi Mumbai. Further an attempt is made to study ICT has an impact on teaching and learning.

1. KEY CONCEPTS

ICT: Information and communication technology it is diverse set of technological tools and resources used to communicate, and too create, disseminate, store and manage information.

Digital- Digital refers to electronic technology that generates, stores, and processes data in terms of two states: positive and non-positive.

Quality teaching: quality teaching is defined as teaching method that successfully help learners develop the knowledge and skills they require in a digital age.

2. INTRODUCTION:

Technology is leading to massive changes in the economy. Technological innovation is needed for the development of human. One of the widely accepted fact is that telecommunication is considered as a basic infrastructure necessary for the economic and social development of the country.

Traditional teaching learning like talk and board along with that of modern aids or use of ICT will be an added advantage to the teaching community. There are various tools which can be used by the faculty for teaching for the students at higher level. What do we mean by quality teaching? The tern quality teaching can be defined as a key influence on high quality outcomes for diverse students.

3. ROLE OF ICT IN EDUCATION

ICT can bring a wide change in the process of teaching learning and evaluation process both within classroom and beyond classroom. With the use of ICT same things can be teach in more smarter way. With the use of power point presentation, video lectures, teaching can be made more effective. Teachers can save lot of time in preparation of lessons, lecture notes.

4. SIGNIFICANCE OF THE STUDY

This research will help the teachers in understanding how teaching can be made more effective with the use of ICT. Many teachers are reluctant to use ICT‘s especially computers and internet. Some of the reasons for the reluctance include poor software design, lack of administrative support, increased time and efforts needed to learn the technology. Very few teachers are using ICT for gathering the information and referring online books.

5. OBJECTIVE OF THE STUDY

1. To study the traditional methods of teaching and learning
2. To study the modern methods of teaching and learning for making it more effective.
3. To the impact of ICTon teaching and learning process.

6. SCOPE OF THE STUDY

This study will help the teachers to make the teaching more effective. Not only teacher‘s fraternity but also for the students it will be helpful in effective learning.

7. LIMITATIONS OF THE STUDY

1. The study is limited only to the education sector and other sectors are not considered for the study.
2. The sample is restricted to only teachers.
3. The area is restricted only to Navi Mumbai and other regions are not considered due to geographical constraints.

8. REVIEW OF LITERATURE

Researchers has reviewed various books, journals, magazine and research papers are reviewed to arrive have indepth knowledge of the subjects.

9. HYPOTHESIS

H_0 Use of ICT has no significant impact on teaching learning and evaluation process of students.

H_1 use of ICT has a significant impact on teaching learning and evaluation process of students.

10. DATA ANALYSIS

Primary data is collected from teachers working in Arts, Commerce and Science colleges of Navi Mumbai. Secondary data is collected from published reports.

11. RESEARCH METHODOLOGY

a) **Sample respondents**:The sample for the research is selected as teachers from Arts, Commerce and Science colleges of Navi Mumbai.

b) **Sample size**:60 teachers are selected as a sample for the study.

c) **Research design**: descriptive research.

The present study is conducted for the well-defined sample frame which comprises of only teaching staff from colleges of Navi Mumbai.

	Commerce	Science	Arts	Total
Total	20	20	20	60

12. DISCUSSION OF THE OBJECTIVES

a) ICT for evaluation: Online marking system is helpful for the teachers as compare to earlier method of manual correction. Error to a large extent can be minimized.

b) They can acquire, organize and create their own digital resources.

c) They can use ICT for making classroom processes more inclusive and to address multiple learning abilities.

13. FINDINGS OF THE STUDY

	Statement	No. respondents agreed	No. respondents not agreed
1	Use of ICT tools for teaching in classroom	24	36
2.	Teaching is more effective with use of video lectures, power point presentations	42	18
3.	ICT has influence in developing teaching and learning process	48	12

4.	Saving in preparation for lectures with the use of ICT	24	36
5	Satisfied with ICT tools compare to traditional method of teaching	24	36
6	Well-versed with all techniques of ICT	18	42
7.	Undergone training for using Moddle, or other similar software.	24	36

1. It was found that out of 60 respondents 40 percent respondents are using ICT aids for teaching in the class rooms whereas 60 percent of respondents are not using ICT Tools for teaching.
2. It was found that 70 percent of the respondents are of the opinion that with the use of video lectures, power point presentations teaching can be more effective.
3. It was found that 60 percent of the respondents are of the opinion that ICT has influence in developing teaching and learning process.
4. 40 percent of the respondents are of the opinion that using all tools lot of time can be save on preparation of lectures.
5. It was found that 40 percent of the respondents are satisfied with the ICT tools of teaching rather that of traditional method of teaching.
6. It was found that only 30 percent respondents are well versed with all the tools of ITC to make teaching more effective.
7. It was found that only 40 percent of the respondents had undergone for the training.
   With the application of z test , at 5 % level of significance calculated value for the same is -4.21 which is lesser that table value -1.960. null hypothesis is rejected and alternate hypothesis is accepted. And it is concluded that ICT has significant impact on teaching and learning process.

14. CONCLUSION

Considering all the responses of the respondents it can be concluded that ICT has a special role in education. Training should be given to the teachers to make them well versed with all tools that can be used for teaching. It is believed that use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education with advanced teaching methods, improve learning outcomes, and enable reform or better management of education system.

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USAGE OF SOCIAL NETWORKING SITES WITH THE DEVELOPMENT OF WEB 2.0

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Abstract

The utilization of social networks is a developing sensation, being progressively vital in both personal life and academics. Social networks are utilized as devices to empower users to have social communication. The utilization of social networks supplements and improves the instructing in customary classrooms. For instance, YouTube, Facebook, wikis, and blogs give an enormous measure of material on an extensive variety of subjects. This study plans to investigate the need to modify the conservative style of educating and learning after the development of Web 2.0. The study anticipates creating alertness among the youngsters existing to social networks and how the young generation is destructively and vigorously getting inclined by the employment of these locales so far additionally will help out the young to figure out the use of these technologies efficiently.
Keywords: *Information technology, classmates, social networking, academics, associations, students*

Introduction

The progression in Information Technology leads to the development of Social Networking Sites (SNS). SNS at present is used regularly by millions of individuals. The usage of SNS has been so extensive that they have grabbed the consideration of academics globally. SNS are presently being examined by many researchers from social science because of the impact being created on the society. Further, the number of college users using Social Networking Sites (SNS) in India is markedly increasing. Facebook, My Space, Twitter, LinkedIn, Skype and Ning are a couple of such destinations that pull in most extreme of the young to tune in to them and in this manner symbolizes their own particular benefits and negative marks that urgently need to make a real picture among the young. Situations have now changed into an common sight to deal with people being insensitive to speak to their adorable, at their homes during visitors and relatives around them, get-togethers wherein they are most of the time preoccupied by their cell phones not bothered about where they are and what is the importance of the event. Consideration has along these lines been moved from genuine to virtual world and obvious to unnoticeable companions

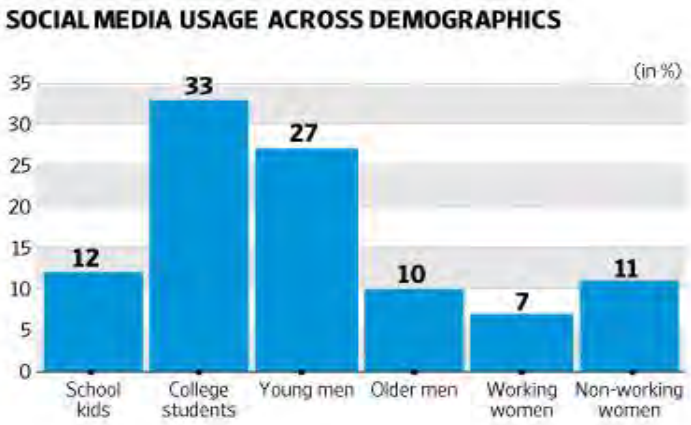
Malesky & Peters, have found that a majority of university students have profiles on social networking sites (e.g., Myspace, Facebook) (Salaway et al.). Still, it is yet to be firm what dependability this quickly budding technique of communication will play in an academic setting. Analysis was done on this research by collecting data from 459 university students and 159 university faculty members. From the student respondents, more than one-third and a quarter of the faculty participants reported that it is undesirable for faculty members to have accounts on SNSs. Considerable disagreement persists between the faculty and students, as well as among the faculty and among the students regarding what comprises suitable professional professor/student interaction on SNSs.

Neelesh and Tiwari, the authors have observed that the impact of students progress is due to the advancement in internet whereby they can interact and socialize. Social networking sites such as, Twitter, Linkedln and Facebook have become a daily routine for sharing information, interaction and also the most imperative part to construct and sustain ongoing associations. The results of this survey revealed that most of the students are active users for these sites and moreover in comparison, there

are more students pursuing their graduation than post graduates and they do so regularly for more than half an hour.

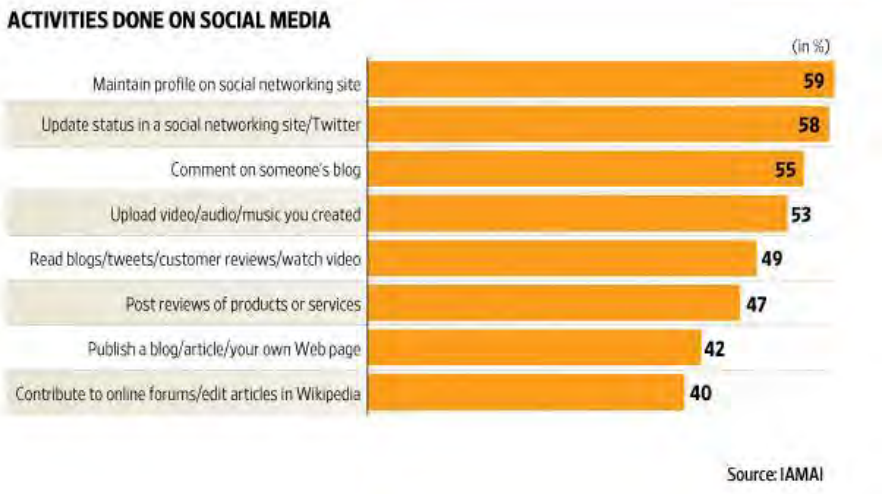
Usage of SNS in our country

In India, many users who use Internet are mostly having an access to social media networks. The percentage of users active on social media is 66% in urban area given in the report by Internet and Mobile Association of India (IAMAI). The familiar actions by users are upholding their profile (virtual) on the feature of like of Facebook & Twitter, uploading, sharing an update and replying to post. Active social media usage among college students is 33% which can be seen from the following graph.



Source IAMAI

The familiar actions done by the users of social media are shown in the following graph.



Structuring a powerful college community

Incorporating social media doesn‘t have to stop with students and teachers; specially, administrators are on the search for innovative ideas to include social media into their academics/learning. Nowadays even parents of young children are often social media natives; where some had Facebook in college in their time. They use LinkedIn to find jobs. And they may even have a satire account on Twitter about parenting.

Tools which are available like Moodle, assist students to have association with their peers and classmates and their educators for an interactive session, whereby these tools facilitate the topic explained happen to be easy to access to all students who attend regardless of time and place. In this atmosphere students, can ask or post queries and doubts and they will be replied by their fellow

classmates or teachers/instructors. Moreover, teachers can have a enormous time grading quizzes and exams. Class participation could be measured in this way and give comments on any subject for the purpose of teaching and spreading knowledge. Facebook, Twitter, and other tools can be used in a likewise way. Many other SN tools, such as collaboration, online surveys, crowdsourcing, bookmarking and citation, document sharing, and online storage, can be used to augment the education procedure which was not done earlier.

Conclusion

Considering all the pros and cons it is necessary to develop certain regulations over the use of social networking sites especially for college students. Anything done in moderation increasing the positive impact and reduces the negative impact. So, the students ought to get a option to use their time to mingle in an effective way. This should not hamper their performance as it should be remembered that these sites create virtual world. Focus should be on the ethical usage of SNS. It should serve in a right way since SNS is a boon and curse for the Indian society. Web 2.0 tools from social networks, such as blogs, Facebook, YouTube, and online courses, are providing students a way to augment their performance in academics. Students would desire to search improving ways of educating by altering their learning styles and linking with an atmosphere that has more dynamic social latent and not to study in secluded atmosphere that give customary styles of learning.

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ROLE OF ICT IN TEACHING LEARNING PROCESS

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Abstract

Information and Communication Technology (ICT) are increasingly becoming important part of the education system. The proper integration of ICT with teaching and learning environment improves quality education. ICT provides ample opportunities to the students as well as the teachers in bringing awareness of their roles & responsibilities in teaching and learning process.. ICT has helped to monitor and evaluate various functions such as, conduction of exams, coordination between potential institutes, alumni network, etc. This paper basically emphasis on the role of ICT in teaching learning process. It tends to show its significant contribution to education worldwide. These changes have enabled educational institutions and teachers to rethink their roles, teaching and vision for future. It has led in developing sustainability of a nation in the world of knowledge. It emphasis on contribution of ICT in teaching learning process and improving the level of education. The change in technology has brought about a significant effect on the way people live, work, and play worldwide. New and emerging technologies challenge the traditional process of teaching and learning, and the way education is managed. It has an important impact in all areas. a strong desire to integrate ICT into teaching-learning processes. The innovations that ICT has brought in teaching learning process includes E-learning, e-communication, quick access to information, online student registration, etc. It acts as a source of knowledge and a means of interaction between the learner and teacher.

Keywords: *ICT, Teaching Learning, knowledge*

INTRODUCTION

ICT plays a significant role in teaching learning process. It has benefitted the educational sector in a wide way and has improved in imparting increased knowledge among the learners. Education is a life long process which can be accessed anytime anywhere as per the need. Education should meet the needs of variety of learners and therefore IT is important in meeting this need . The internet has become an important part of every individual‘s life. ICT-Information and communication Technology has given wings to empower the use of technology related activities in the world of education. There is a negative image of ICT on the minds of many people and to eliminate that educational institutions play an important part.

IMPORTANCE OF ICT IN TEACHING LEARNING PROCESS

ICT acts as a important source to quick information at anytime. It has approaches to online education through online libraries in different areas. It has made teaching learning interesting. It has reduced time required. The following are the significance in teaching learning process :

- **Access to variety of learning resources**

  In the world 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 widened the areas of learning. They need to make use of the new multimedia technologies to communicate ideas, describe projects, and order information in their work.

- **Immediate information**

  IT has provided immediate education. In the era of technology it imparts knowledge that is quick and one can be educated anywhere at any time. IT has often been introduced into well-established patterns of working and living without radically altering them. In todays time paper work is replaced by computers which helps the work to be done at faster space.

- **Quick learning**

  Now in the era of computers and web networks the pace of imparting knowledge is very fast and one can be educated. There is no time duration for study one can study 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. Online education helps to unite together to do the desired task. Efficient postal systems, the telephone and various recording and playback systems based on computer technology all have a part to play in educational broadcasting in the new millennium. In developed countries the Internet and its Web sites are now familiar to everyone including children.

- **Audio-Visual education**

  Audio-Visual Education, planning, preparation, and use of devices and materials that involve sight, sound, or both, for educational purposes. The devices helps in use of 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.

  The findings suggest the value of audio-visuals in the educational process. They can facilitate perception of the most important features, can be carefully organized, and can require the student to use more than one modality.

- **Authentic and up to date information**

  The information and data which are available on the net is purely correct and up to date.

  Internet, a collection of computer networks that operate to common standards and enable the computers and the programs they run to communicate directly provides true and correct information.

- **Online library**

  Internets support thousands of different kinds of operational and experimental services one of which is online library. We can get plenty of data on this online library.

  As part of the IT curriculum, learners are motivated 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 that helps them them to select the medium best suited to conveying their message, to structure information in a hierarchical manner, and to link together information to produce a multidimensional document.

- **Distance learning**

  Distance Learning, method of learning at a distance rather than in a classroom. The term distance learning was mainly connected to continuing communications revolution, that replaced home study, independent study, external study, and, most common, though restricted in pedagogic means, correspondence study. It has increased demand for access to educational facilities and innovative communications technology that has been increasingly exploited in face of criticisms that distance learning as an inadequate substitute for learning alongside others in formal institutions. A powerful incentive has been reduced costs per student. At the same time, students studying at home themselves save on travel time and other costs.

- **Better accesses to children with disabilities**

  Information technology has brought drastic changes in the life of disabled children. IT provides various software and technique to educate these poor peoples. Unless provided early

with special training, people profoundly deaf from birth are incapable of learning to speak. Deafness from birth causes severe sensory deprivation, which can seriously affect a person's intellectual capacity or ability to learn. A child who sustains a hearing loss early in life may lack the language stimulation experienced by children who can hear. The integration of information technology in teaching is a central matter in ensuring quality in the educational system. There are two equally important reasons for integrating information technology in teaching. Pupils must become familiar with the use of information technology, since all jobs in the society of the future will be dependent on it, and information technology must be used in teaching in order to improve its quality and make it more effective.

OBJECTIVE OF THE ICT IN TEACHING LEARNING PROCESS

1. To increase the number of education services.
2. To promote literacy using information technology.
3. To improve distance learning
4. To provide equal opportunities to obtain education.
5. To encourage learning through various methods used by ICT.

LIMITATIONS OF USE OF ICT IN TEACHING LEARNING PROCESS

1. Lack of equipments and resources
2. Lack of training provided
3. Lack of interest and initiative by teachers to adapt new ways of teaching learning process through technology.
4. Lack of trained personnel‘s.
5. Lack of confidence and software problems.
6. Lack of time.
7. Lack of technical support.
8. Unreliable internet
9. Resistance to change
10. Lack of ICT tools and techniques.

RECOMMENDATIONS

1. Students can practice collaboration skills by getting involved in different online activities. For instance, working on different projects by collaborating with others on forums or by sharing documents on their virtual learning environments. Technology can encourage collaboration with students in the same classroom, same institution and even with other classrooms around the world.
2. By using technology in the classroom, both teachers and students can develop skills essential. Students can gain the skills they will need to be successful in the future. Modern learning is about collaborating with others, solving complex problems, critical thinking, developing different forms of communication and leadership skills, and improving motivation and productivity. What is more, technology can help develop many practical skills, including creating presentations, learning to differentiate reliable from unreliable sources on the Internet, maintaining proper online etiquette, and writing emails. These are very important skills that can be developed in the classroom.
3. Teachers can use different apps or trusted online resources to enhance the traditional ways of teaching and to keep students more engaged. Virtual lesson plans, grading software and online assessments can help teachers save a lot time. This valuable time can be used for working with students who are struggling. What is more, having virtual learning environments in schools enhances collaboration and knowledge sharing between teachers.

4. Proper training will enable the teachers to impart education using technology to the learners. It will enable to create interest and update knowledge to both the learner and the teacher in various fields.
5. It will help change education system and reduce the problem of illiteracy among youths in the country by encouraging distance education.

CONCLUSION

When technology is integrated into lessons, students are expected to be more interested in the subjects they are studying. Technology provides different opportunities to make learning more fun and enjoyable in terms of teaching same things in new ways. For instance, delivering teaching through gamification, taking students on virtual field trips and using other online learning resources. What is more, technology can encourage a more active participation in the learning process which can be hard to achieve through a traditional lecture environment.

Students who are engaged and interested in things they are studying, are expected to have a better knowledge retention. As mentioned before, technology can help to encourage active participation in the classroom which also is a very important factor for increased knowledge retention. Different forms of technology can be used to experiment with and decide what works best for students in terms of retaining their knowledge. No one learns in the same way because of different learning styles and different abilities. Technology provides great opportunities for making learning more effective for everyone with different needs. For example, students can learn at their own speed, review difficult concepts or skip ahead if they need to. What is more, technology can provide more opportunities for struggling or disabled students. Access to the Internet gives students access to a broad range of resources to conduct research in different ways, which in turn can increase the engagement. Proper training needs to be given to the teachers to make a proper use of ICT in teaching learning process.

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ICT- A TOOL FOR BRIDGING THE FINANCIAL INCLUSION GAP

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Abstract

In 2015, Government of India had launched Digital India, a campaign with a vision to transform India into a digitally empowered society and knowledge economy. The developments in Information and Communication Technology (ICT) have brought a number of innovations as digital banking products. These products provide the convenience of meeting the banking needs of customers anywhere and anytime at the lowest cost, enabling extension of the banking network to unbanked areas of the country. This paper attempts to highlight how ICT has been leveraged to realise the dream of financial inclusion.

INTRODUCTION

An estimated 2 billion working-age adults globally have no access to the types of formal financial services delivered by regulated financial institutions. Former United Nations Secretary-General Kofi Annan, on 29 December 2003, said: ‗The stark reality is that most poor people in the world still lack access to sustainable financial services, whether it is savings, credit or insurance. The great challenge before us is to address the constraints that exclude people from full participation in the financial sector. Together, we can and must build inclusive financial sectors that help people improve their lives.”Alliance for Financial Inclusion (AFI) Executive Director Alfred Hannig highlighted on 24 April 2013 progress in financial inclusion during the IMF-World Bank 2013 Spring Meetings: "Financial inclusion is no longer a fringe subject. It is now recognized as an important part of the mainstream thinking on economic development based on country leadership. In partnership with the National Bank for Agriculture and Rural Development, the UN aims to increase financial inclusion of the poor by developing appropriate financial products for them and increasing awareness on available financial services and strengthening financial literacy, particularly amongst women. Financial inclusion means the delivery of financial services, including banking services and credit, at an affordable cost to the vast sections of disadvantaged and low-income groups who tend to be excluded (Chhabra, 2015).

Financial Inclusion in India through ICT

According to the World Bank Report only 52.7 % of the Indian population have bank accounts, which mean that half of the population are outside the ambit of formal banking. They account for nearly two- third of the unbanked population in the world.

In order to bring them under the formal banking network the government has resorted to Information & Communication Technology (ICT) to reach the unbanked masses. The support of ICT in the growth of banking sector is tremendous, especially in case of inclusiveness which facilitates the economy in its growth and development [1]. Over the past several years the RBI and the commercial banks have taken several initiatives to improve financial inclusion in rural areas using ICT. This paper brings to light some of the digital initiatives launched by the Government of India with this end in view, the data for which has been collected from secondary sources.

The Digital Drive

Digital India is a campaign launched by the Government of India to ensure that its services are made available to citizens electronically by improving online infrastructure and by increasing internet connectivity or by making the country digitally empowered in the field of technology. The impact of ‗Digital India‘ by 2019 as envisaged in the vision document of the Government, has so far led to:

- An investment of $18.4 billion to provide last mile internet connectivity, better access to government services, and development of IT skills.
- Setting up of a pan India fiber- optic network by June 2016.
- Provision of Wi-Fi services in cities with a population of more than one million, as well as major tourist centres.
- Provision of broadband internet access to 2, 50,000 village clusters by 2019 at a cost of about $5.9 billion.
- Availability of ‗digital lockers' to each citizen, allowing them to store all their original identification documents and records.
- Development of 100 smart cities in India, for which $1.2 billion has been allocated.
- Universal phone connectivity.
- Setting up of 4, 00,000 internet access points.
- Digital inclusion targeting job creation for nearly 1.7 crore people trained in IT, telecom, and electronics.
- Creation of at least 8.5 crore indirect jobs related to IT.
- Focus on moving towards automation in delivery of government services.
- Achievement of a leadership position in IT towards betterment of health, education and banking services.
- Widened internet access and an enabled use of shareable private space on a public cloud model inorder to empower citizens digitally.

Looking at the government initiative and the usage of mobile, banking may shift their services from Brick and Mortar banking to Digital banking to bank the unbanked population.

The following tables (1&2) show growth in internet users in India, indicating signs of banking shifting from traditional banking to digital banking. Data signifies that 4 out of every 5 person use internet through mobile and nearly 40 per cent of the users are from the rural areas.

Table 1. Growth of internet users vs. mobile internet in India during 2012-16.

Indicator	June 2012	June 2013	Oct 2013	June 2014	Oct 2014	Dec 2014	Marc 2015	June 2015	Oct 2015	Dec 2015	June 2016
Total internet users	137	190	205	243	278	302	330	354	375	402	462
Mobile internet users	48	91	110	137	159	173	192	238	276	306	371
% Mobile internet to total internet users	35.04	47.89	53.66	56.38	57.19	57.28	58.18	67.23	73.60	76.12	80.30

Source: http://dazeinfo.com/-Mobile internet users in India 2016, figures in million users* estimated

Table 2. Growth of mobile internet users in India – urban vs rural

Indicator	June-12	Jun-13	Oct-13	Dec-13	Mar-14	Jun-14	Jun-15	Jun-16*
Urban users	44	70	85	103	126	153	171	262
Rural Users	4	21	25	27	29	32	68	109

% Rural to Urban users	9.09	30.00	29.41	26.21	23.02	20.92	39.77	41.60

Source: http://dazeinfo.com/-Mobile internet users in India 2016, figures in million users* estimated

The provision of access to banking services to nearly 47 per cent of the reportedly unbanked population in India has the potential to unfold huge growth opportunities for financial services players. In this context, digital platforms are likely to deliver financial services to both the unbanked and the under banked population, especially in rural/remote regions, at a low cost, and subsequently increase digital financial access to provide high quality, affordable financial services. By using digital channels transaction costs could be lower than those incurred through traditional channels as much as 90 per cent, thereby bringing down break-even costs. Digital banking is likely to provide huge impetus to financial inclusion.

INDIA'S MOBILE BANKING OPPORTUNITY

The widespread use of mobile phones and the advent of smart phones have led to digital revolution world wide. Mobile phones affect the lives of billions of people around the globe, including the poor. The changing mobile technology has revealed opportunities and allowed nearly three billion people without bank accounts to access financial services.

The extensive reach of mobile phones in the country (920 million subscribers) offers an innovative low-cost channel to extend the reach of banking and payment services. The following initiatives by the government adds further impetus to this.

1. **Aadhar Enabled Payment System (AEPS)**
   AEPS is a bank led model, which allows online interoperable financial inclusion transaction at POS(Micro ATM) through the Business Correspondents(BCs) of any bank using Aadhar authentication. It also provides financial services through kiosk. It provides four types of services which enable Aadhar users to make banking transactions ie, balance enquiry, cash withdrawals, cash deposits, Aadhar to Aadhar fund transfer. It facilitates disbursements of Government entitlements like MNREGA, Social Security Pension, Handicapped and Old age pension etc.of any Central or State government bodies using Aadhar and authentication thereof supported by UIDAI. Biometrics platform facilitates Financial institutions to Know Your Customers through e-KYC using unique identification number (Aadhar number)
2. **National Unified USSD Platform**
   One of the innovative payment services launched by NPCI works on Unstructured Supplementary Service Data (USSD) channel. This service was launched envisioning the potential of mobile banking and the need for immediate low value remittances. Banking customers can avail this service by dialling *99, a common number across all Telecommunication Service Providers(TSPs) on their mobile phones and transact through an interactive menu displayed on the mobile screen.
3. **Unified Payment Interface (UPI)**
   The RBI Governor launched the Unified payments Interface(UPI) system on 11th April 2016, as its latest offering in boosting digital money transfer. The interface has been developed by NPCI, the umbrella organisation for all retail payments in the country. UPI is a channel the powers multiple bank accounts into a single mobile application (of any bank) of a participating bank, merging several banking features, seamless fund routing and merchant payments into one hood. It also caters to the Peer-to- Peer collect request, which can be scheduled and paid as per requirements and convenience. It also provides an option for scheduling Push and Pull transactions for various purposes like sharing bills among peers.

4. **Retail Banking**

   Last Financial Year, RBI has awarded 21 organisations as Payment Banks and Small Banks to bridge the financial inclusion gap. The provision of these services is expected to encourage electronic retail payments and facilitate inter-operability across banks in a safe and secured manner. It will also provide a cost effective service model for dispensing last mile access by leveraging AEPS for bio metric identification, using bank technology interfaces for smooth delivery of services.

CONCLUSION

Despite the huge potential and well-established promise of digital financial services to drive financial inclusion, multiple challenges remain in making this sustainable. Banks need to focus on developing compelling products that suit the need of customers. Banks may also need to invest in creating user readiness on several counts to benefit from the growth of this segment. There is a need to adopt holistic approach towards ongoing digital banking and mix business strategy with all possible avenues to create remarkable customer experience which makes difference in bridging the financial inclusion gap in unbanked and under banked areas.

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A STUDY ABOUT THE INNOVATIVE TEACHING PRACTICES

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Teaching is the process of attending to people‘s needs, experiences and feelings, and making specific interventions to help them learn particular things. Interventions commonly take the form of questioning, listening, giving information, explaining some phenomenon, demonstrating a skill or process, testing understanding and capacity, and facilitating learning activities (such as note taking, discussion, assignment writing, simulations and practice). This is the general definition given for teaching. So teaching means attending to students needs and make specific interventions to make them learn things thereby making a change in their behavior. Teaching becomes effective only when students learn, and out of this learning there happens a change in their attitudes, belief and as a whole their behavior. Here making intervention is the major role of a teacher. The answer to the question ―How a Teacher can make Intervention?" will help to give an idea about various methods used to make students learn. The methodology used is very important because only if we can use the best method, we will be able to intervene properly and thereby bring a positive behavioral change in students.

But before going to the methods of intervention, we must consider about various other elements which is needed to make the interventions effective. The main thing here is that teaching, like other parts of our work, is about relationship. We have to think about our relationships with those we are teaching *and* about the relationships they have with each other. Creating an environment where people can work with each other is essential to make intervention effective.

Other elements we require are the ability to access and make available resources for learning. The two central resources we have are our own knowledge, feelings and skills and those of the people we are working with. Giving importance to the experience, knowledge and feelings of learners is always good.

There also should be caring for learners, but in a non-possessive way and recognizing they have worth in their own right. This means trusting in capacity of others to learn, make judgements and change.

The teacher should have the ability to understand the student‘s reactions from the inside should be able to think from the student‘s view point or in general should be empathetic.

Teacher should to able to differentiate. Differentiation involves adjusting the way we teach and approach subjects so that we can meet the needs of diverse learners. It entails changing content, processes and products so that people can better understand what is being taught and develop appropriate skills and the capacity to act.

Finally teachers need to encourage people to adopt growth mindset. They should be able to throw lights into brains of students in such a way that they cultivate a growth mindset.

When all these primary elements are ready we can think about effective interventions. Normally interventions are classified as follows

Teacher-centered methods	Active methods	Student-centered methods
Talking	Supervised student practice	Reading for learning
Explaining	Discussion	Private study and homework
Showing	Group work	Assignments and essays
Questioning	Games	Projects and reports
Note-making	Role play, drama and simulations	Independent learning

Whatever be the methods a teacher uses to intervene we should focus on making innovations in all the above mentioned methods in order to increase the efficiency. It‘s not about making innovations just for the sake of doing it or just to make use of the latest technologies; a teacher should always think whether it suits his students. Whether it is going to be really useful for them. Whether it is going to be effective than the already used methods and so on.

So let‘s now discuss about some of the innovative teaching m

Creative Thinking

Now a day‘s teachers prefer to enhance creative thinking in students. This can be done with the help of creative tools to stimulate creativity. We can include playful games or forms of visual exercises that will excite the young minds and capture their interest. This will help to identify young student‘s creative abilities and encourage creative contributions. Bring aspects of creativity into all subjects. Encourage different ideas of students and give them freedom to explore.

Audio & Video Tools

Most of us prefer to see and hear to events rather than mere monologues. So teachers can incorporate audio-visual materials in the sessions. Textbooks can be supplemented with models, filmstrips, movies and pictures. These methods will not only develop their ability to listen, but will also help them understand the concepts better.

Real World Learning

Teachers can try to link the lessons to real world learning. Infusing real world experiences into the instructions will make teaching moments fresh and enrich classroom learning. Relating and demonstrating through real life situations, will make the material easy to understand and easy to learn. It will spark their interest and get the children excited and involved.

Brain Strom

It will be always good if a teacher can make time for brainstorming sessions into classrooms. These sessions are a great way to get the creative thoughts flowing. When we have multiple brains focusing on one single idea, we are sure to get numerous ideas and will also involve everyone into the discussion. These sessions will be a great platform for students to voice their thoughts without having to worry about right or wrong.

Classes outside the Classroom

Some lessons are best learnt, when they are taught outside of the classroom. Teachers can organize field trips that are relevant to the lessons or just simply take students for a walk outside of the classroom. The children will find this fresh and exciting and will learn and remember the things taught.

Role Play

Teaching through role play is a great way to make children step out of their comfort zone and develop their interpersonal skills. The role playing approach will help the student understand how the academic material will be relevant to his everyday tasks.

Storyboard Teaching

When things are told in form of stories it's always very easy to listen and memorize .Storyboarding is a great way to teach any subject which requires step-by-step memorization or visualization highly-conceptual ideas. Such visually stimulating activity will ensure that even complex ideas are easily put across to students.

Stimulating Classroom Environment

A classroom environment that is well-decorated, fun, and engaging will help stimulate a student's mind and will help think and learn better. Children, especially young ones cannot be expected to sit all day and learn. Such creative and stimulating environment will help them explore and will encourage them to learn about the subject. An environment that positively impacts the children is beneficial for the teacher as well.

These are a few innovative methods of interventions. A teacher can bring many more according to his/her ideas. But whatever method we adopt it's always good if a teacher remember that his profession is really noble. Teacher should always consider teaching not just as profession, but there should be certain degree of passion to be involved. Teachers should not be concentrating on salary packages, personal benefits and many such other things, but should always be sincere and genuine with students. If a teacher is sincere in what he or she is doing irrespective of all the learning methodologies students

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A STUDY OF EFFECIENCY OF ICT WITH SPECIAL REFERENCE TO GOOGLE CLASSROOM

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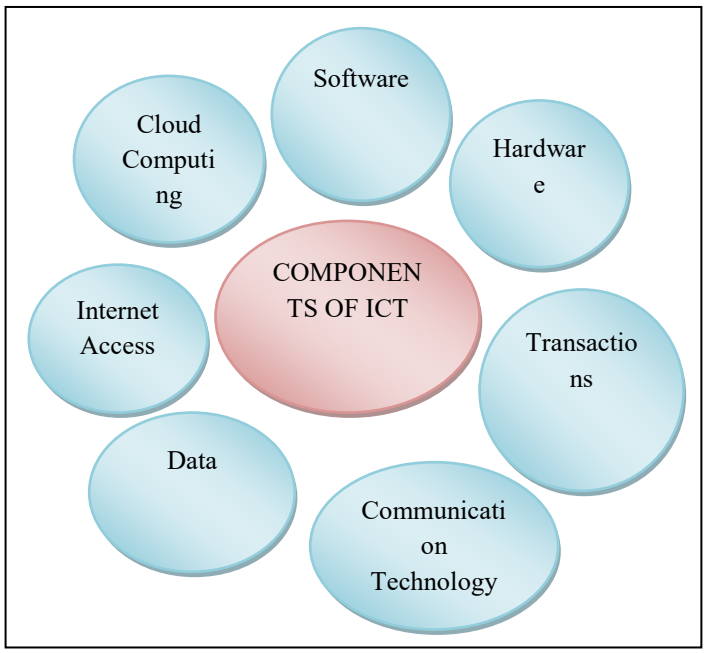
1. INTRODUCTION

1.1 Information and Communication Technology (ICT)

Information and communications technology is the infrastructure and components that enable modern computing. Although there is no single, universal definition of ICT, the term is generally accepted to mean all devices, networking components, applications and systems that combined allow people and organizations (i.e., businesses, nonprofit agencies, governments and criminal enterprises) to interact in the digital world. Following are the various components of ICT.



1.2 Google Classroom

Google Classroom is a feature that has recently been added to the suite of Google Apps for Education. It provides a collaborative course space with a series of features that are similar to what one would find in a typical Learning Management System (LMS), but with a more simplistic approach. By streamlining the interactions and communication processes students and instructors engage in, the focus can be placed on learning. Google Classroom is considered as one of the best platforms for enhancing teachers' workflow. It provides a set of powerful features that make it an ideal tool to use with students. Classroom helps teachers save time, keep classes organized, and

improve communication with students. It is available to anyone with Google Apps for Education, a free suite of productivity tools including Gmail, Drive and Docs.

2. SIGNIFICANCE OF THE STUDY

The use of technology has changed our daily lives. To update ourselves to follow these changes, educators have to learn new technology and programs available to support students and encourage their learning in different ways. Technology-based instruction provides an opportunity for students to learn and practice in a visual and virtual environment. This study is designed to evaluate technology-based instruction using Google Classroom for students in learning social. The goal is to investigate the effectiveness of Google Classroom as a computer program on teaching and learning social studies.

3. OBJECTIVES OF THE STUDY

3.1 To study the benefits of Google Classroom.

3.2 To evaluate students satisfaction with the use of Google Classroom Programe.

3.3 To evaluate to evaluate teachers' satisfaction in designing and implementing the Google Class room program in teaching.

4. RESEARCH METHODOLOGY

4.1 Method of data collection: Primary data and Secondary data

4.2 Sampling framework: For the purpose of study, 25 teachers and 35 students were selected from three graduate colleges from Navi Mumbai area.

4.3 Tool of data collection: Questionnaire, Interview and Observation

4.4 Tool of analysis: Percentage

5. BENEFITS OF GOOGLE CLASSROOM

Janzen, M., (2014)[8]*,* points out the following benefits of using Google Classroom.

5.1 Easy to use: It is very easy to use. Google Classroom is design to simplify the instructional interface and options used for delivering and tracking assignments; It enable to communicate with the entire course or individuals through announcements, email, and push notifications.

5.2 Saves time: Google classroom is designed to save time. It integrates and automates the use of other Google apps, including docs, slides, and spreadsheets.

5.3 Cloud-based: Google Classroom presents more professional and authentic technology to use in learning environment as Google apps represent a significant portion of cloud-based enterprise communications tools used throughout the professional workforce.

5.4 Flexible: This app is easily accessible and useable to instructors and learners in both face-to-face learning environments and fully online environment. This enables educators to organize the distribution and collection of assignments and communications in multiple instructional methods.

5.5 Free: Google Classroom itself is not necessarily available to learners without access to an educational institution. But anyone can access to all the other apps, such as Drive, Docs, Spreadsheets, Slides, etc. simply by signing up for a Google account.

5.6 Mobile-friendly: Google Classroom is designed to be responsive. It is easy to use on any mobile device.

6. DATA ANALYSIS AND INTERPRETATION

6.1 Teachers Perspective

i) Use of Google Classroom for teaching

[8] Janzen, M., (2014), Hot Team: Google Classroom. Retrieved from *tlt.psu.edu/2014/12/04/hot-team-google- classroom*

Table 1 Use of Google Classroom for teaching

Use of Google Classroom	No. of Respondents	Percentage (%)
Yes	15	60
No	10	40
Total	25	100

Table 1 show that 60 percent teachers use Google Classroom for teaching and 40 percent don't use because of students reluctance and fear to use technology.

ii) Reasons to use Google Classroom

Table 2 Reasons to use Google Classroom

Reasons	No. of Respondents	Percentage (%)
Easy to use	2	8
Saves time	3	12
Cloud based	1	4
Free & Flexible	2	8
Mobile Friendly	2	8
All the above	15	60
Total	25	100

Table 2 show that 60 percent respondents have opinion that they use Google Classroom for teaching as it offers many benefits such as easy to use, saves time, Cloud based, etc.

iii) Reasons for not using Google Classroom

Table 3 Reasons for not using Google Classroom

Reasons	No. of Respondents	Percentage (%)
Reluctance of students	8	32
Fear of technology	10	40
Both	7	28
Total	25	100

Table 3 shows that majority of teachers respondents are not using Google Classroom as they have fear of technology. 32 percent respondents are of opinion that students are not in the favour of use of Google Classroom for teaching and 28 percent respondents don't use because of both the reasons.

6.2 Students Perspective

i) 71 percent students agreed that Google Classroom is effective and easy to use. As students have been given Gmail id from their colleges, they can join the class by using class code from anywhere and anytime**.**

ii) 75 percent students are of opinion that that high speed internet is mandatory to upload files. Most of the time, it takes long to submit their assignments from college computers.

iii) 50 percent students feel that they need training on Google Classroom and its effective features so that they feel motivated to use regularly. Regular use can improve their understanding of the lesson.

iv) 30 percent students comment that teachers should use it regularly and give positive feedback about students' participation in Google Classroom i.e. reply to the students' comments or inquiries on time.

v) 80 percent students confess their academic dishonesty regarding posting the copied assignments.

7. FIDINGS AND CONCLUSIONS

i) It is found out that most of the teachers use Google Classroom as it reduces paperwork and an excellent source of instructions.

ii) 40 percent of teachers are not willing to use Google Classroom as it does not provide the feature of learning through personal environment. Low internet speed is also one of the bars to implement Google Classroom effectively.

iii) Two teachers out of the total respondents prefer Moodle which is free and open source software learning management system.

iv) One teacher of the total respondents reported that Google Classroom is very helpful to complete the assigned syllabus as sometime it is really difficult to finish syllabus on time due to political issues or national holidays. But through Google Classroom, teacher can conduct the class virtually from anywhere and anytime.

v) Majority of the student complained on low internet speed in college computer as uploading of assignment take long time and sometime it misplaces after uploading.

8. SUGGESTIONS

i) The teachers & students should be provided with adequate training and orientation to use the programme efficiently.

ii) The management of the colleges should evaluate the availability of the resources like mobile phones, data packs etc, to make the use of the Google Classroom.

iii) The applicability of the app should be verified before implementing to any subject/course.

iv) There should be a methodology to check the plagiarism of the assignment work submitted by students**.**

v) ICT technique is subjected to change of attitude both at learners and teachers side as **‗CHANGE IS THE LAW OF NATURE'**

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ROLE OF INTERNAL QUALITY ASSURANCE CELL IN ACHIEVING QUALITY IN THE HIGHER EDUCATIONAL INSTITUTIONS

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Abstract

Quality has become the key word in the higher education and improving the quality is the biggest challenge before the higher education system. Access to the global economy will depend more on the quality and productivity. Higher education requires special emphasis and has major role to play in determining the quality of life and the pace of development of a nation. It is the responsibility of the higher education system to ensure that the skills, understanding and output of the students are equal to the best in the world. Quality education is the education that best fits the present and future needs of the learners. It is the education that provides students with the tools to deal with and find solutions to challenges confronting mankind.Quality education can never be a neutral process, it will always be value based The Indian system of higher education has always been undergone so many changes and tackled with challenges since independence. One of such substantial changes came in the form of National Assessment and Accreditation Council (NAAC) which was established by the UGC at Bangalore in 1994 in India to ensure and enhance the quality of Indian higher education. NAAC has introduced Internal Quality Assurance Cell (IQAC) to all the college and institutions as a post-accreditation quality sustenance measure. As quality enhancement is a continuous process, the IQAC has to become an integral part of the institution's system and needs to work towardsfulfillment of the goals i.e. quality enhancement and sustenance in almost all the core elements. The role of IQAC in maintaining quality standards in teaching, learning and evaluation becomes crucial, and thispaper is therefore undertaken on a smaller scale to examine the status and functioning of IQAC and its outcome. Some suggestions for making IQAC more vibrant and active in the higher educational institutions have also been included.

Keywords*: Higher Education, Quality Education, Employability, NAAC, Internal Quality Assurance Cell, IQAR,*

INTRODUCTION:

Quality of a Nation depends upon quality of citizens, in turn depends upon education, and ultimately depends upon quality of teachers. There is a common saying which says, ―The king's respect is limited to his own kingdom whereas a learned man is respected everywhere" (Swadeshpujyate Raja, VidvamSarvatraPujyata). That is why in our country, from ancient times, education (Vidya) was considered to be ―the third eye' of man, which not only gave him insight but also mental strength and equilibrium of material and spiritual life. Various religious scriptures and number of philosophical thought in India too have highlighted the importance of education right from the early days of human civilization and claimed that salvation is attained through obtaining the true knowledge.

In the modern age of civilization Swami Vivekananda too is of the view that a nation cannot progress without proportionate growth in education of a person. According to him a society cannot be transformed into a strong nation with moral and cultural values only through education of the society. In his own words, ―Education, Education can unlock all doors for a progress ―A nation advances in proportion to education and intelligence spread among masses." If India is to grow to her full potential as a strong, united, prosperous nation, a nation attuned to the highest and ethical moral values, true to the genius of her cultural and spiritual heritage; it is possible only through transformation and regenerative power of education only-a truly creative endeavor. It can help India to grow into her full potential as a strong united nation with strong moral and cultural values".

Therefore knowledge has become more powerful and essence of any developed society. It has strategic importance for everyone because it facilitates in modifying and replacing the factors that narrow the social development of any society. Knowledge thus is the foundation and basis of growth

and development of any society in the world. If we want to play strategic role in world at large it is necessary however to view education seriously from its generation, scientific, technical and the structures that facilitate in increasing the capacities and capabilities.

IMPACT OF LIBERALIZATION ON HIGHER EDUCATION:

Globalization may be defined as the interdependence and interconnectedness of the modern world through an increase in the flow of goods, services, information and capital both human and physical. Globalization and liberalization as practiced and advocated world over has resulted in the perception of higher education as commercial product, with dealings in it being governed by market forces and principles of demand and supply. Though higher education exists to serve the society yet actual development in world over indicate that education is treated as a commodity that could be traded beyond the national boundaries in the form of service. The reality of liberalization in India has led to a mushrooming of private institutes of higher education, offering multiple vocational courses of suspicious quality. Some even offered degrees of foreign Universities to the innocent customers. This situation has brought about a situation on the one side where market forces moved by profit and quick profit alone, neglected the task of knowledge generation through the promotion of basic sciences and quality education.Therefore, quality assurance in higher education is need of the hour with opening up of the educational frontier.

EDUCATION FOR EMPLOYABILITY:

As a result of quantitative expansion in higher education institutions, the educational institutions in India generating number of students every year. However, the economic situation of our country is not in a position to generation employment opportunities to absorb the graduates passing out from the educational institutions. This is leading to increase in educated unemployed and underemployment. Therefore a multi-pronged strategy is needed to make education more attractive, qualitative and simultaneously create employment potential.

NEED FOR QUALITY EDUCATION:

Quality may be defined in terms of excellence, perfection, standards and value for money, competencies for work, consistency and relevance. On the quality of education, a policy perspective (1985) entitled ‗Challenges of Education', it is said that―aquality-conscious system could produce people who have the attributes of functional and social relevance, mental ability and physical dexterity, efficacy and reliability and exercise initiative and make innovation and experimentation with new situations. To these personal attributes, one could add the dimension of a value system, conducive to harmony, integration and the welfare of the weak and the disadvantaged."

Quality therefore defines the goals and purposes of education. Quality impacts the content of higher education, its processes, its output or product, as it seeks to develop human resources with required skills and excellent in performance. The quality of knowledge in a society depends upon the quality of education it provides. Quality makes the knowledge relevant in individual and social needs. Quality makes education socially and individually relevant but if the quality of education is not assured then the education, which is advocated as a solution to social problems, may itself become a problem. Quality education thus is required today, to enable persons, societies and nations to acquire the skills and competencies required for living meaningfully in a competitive global world. The World Conference on Higher Education (UNESCO 1998) had rightly stated that each higher education institution should define its mission to provide access to quality education the basis of human rights and democracy.

ROLE OF TEACHING FACULTY:

It is said that the destiny of India is dependent upon the talent, skills, hard work, commitment, foresight, patriotism, missionary zeal, quest for knowledge of the teachers. And ―We the Teachers of World" can shape the destiny of our country and the world. No educational institution thus can maintain and sustain the quality if the teaching faculty does not believe in the importance of quality in higher education. Teachers should be convinced intensely within them that teaching is not a profession or occupation rather a distinctive mission. Like William Lyon (1970) every teacher should say that ―In my mind, teaching is not merely a life work, a profession, an occupation or a struggle but a passion. I love to teach as a painter loves to paint, as a musician loves to play, as a singer loves to sing and as a strong man rejoices to run a race". Unfolding the same line of thinking Rabindranath Tagore said, ―A teacher cannot teach unless he is teaching himself. A lamp cannot burn another lamp unless it continues itself to burn." One has to acknowledge about the fact that teacher's role is highly sophisticated professional mission which requires adequate know-how with regard to all programmes of social engineering. It is imperative therefore the teachers have to play a vital, active and decisive role in fostering universal education and promoting and developing the values and vision in the society. Here comes the importance of Internal Quality Assurance Cell which maintains quality standards in teaching, learning and evaluation.

INDIAN HIGHER EDUCATION AND ESTABLISHMENT OF NAAC:

The Indian system of higher education has always been undergone so many changes and tackled with challenges since independence. One of such substantial changes came in the form of National Assessment and Accreditation Council (NAAC) which was established by the UGC at Bangalore in 1994 in India to ensure and enhance the quality of Indian higher education. As suggested in guiding principles that the functions of NAAC incorporate -performance evaluation, assessment and accreditation and quality up gradation of institutions of higher education. And the prime objective of the accreditation process is to develop a quality conscious system in higher education institutions where excellence, relevance to market needs and participation by all stake holders are ensured.

INTERNAL QUALITY ASSURANCE CELL (IQAC):

NAAC has introduced Internal Quality Assurance Cell (IQAC) to all the college and institutions as a post-accreditation quality sustenance measure. As quality enhancement is a continuous process, the IQAC has to become an integral part of the institution's system and needs to work towards fulfillment of the goals i.e. quality enhancement and sustenance in almost all the core elements.The establishment of Internal Quality Assurance Cell (IQAC) by accredited institutions (after the first cycle) is a major step in pushing long-term quality standards.

ROLE OF IQAC IN ACHIEVING QUALITY IN HIGHER EDUCATION:

IQAC in any institution is a significant administrative body that is responsible for all quality matters. It is the prime responsibility of IQAC to initiate, plan and supervise various activities that are necessary to increase the quality of the education imparted in an institution or college. The role of IQAC in maintaining quality standards in teaching, learning and evaluation becomes crucial.Internal Quality Assurance Cell is a post-accreditation quality sustenance measure. Since quality enhancement is a continuous process, the IQAC will become a part of an institution's system and work towards realizing the goals of quality enhancement and sustenance. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the performance of institutions. The IQAC will make a significant and meaningful contribution in the post-accreditation phase of institutions. During the post-accreditation period, the IQAC will canalize the efforts and measures of an institution towards academic excellence.

Quality is primarily the responsibility of higher education itself, although the government has a special responsibility regarding quality assurance.In the international scenario one of the aims of the

associations of South East Asian Nation Universities Network (SEANUN)-quality assurance is to help its member institutions in most countries have a more or less well developed system of IQAC.IQAC consists of systems, resources and information devoted to setting up, maintaining and improving the overall quality and standards of an institution.Thus, if quality is required to be assured we need a structured quality assurance mechanism that makes it possible to monitor, improve and evaluate quality.Therefore, each and every institution will have to build its own IQAC keeping certain objectives in mind namely monitoring, evaluation quality assurance for specific activities and instruments for quality assurance.

BASIC PURPOSES OF THE IQAC:

The basic purposes of the IQAC in any higher educational institution are as follows:

- To ensure continuous improvement in the entire operations of the institution
- To assure stakeholders connected with higher education – namely, students, parents, teachers, staff, would-be employers, funding agencies and society in general - of the accountability of the institution for its own quality and probity.

FUNCTIONS OF THE IQAC:

The main functions of IQAC are given below:

- Development and application of quality benchmark/parameters in various activities of the institution.
- Acting as a nodal agency of the institution for quality–related activities.
- Preparation of the Annual Quality Assurance Report based on the quality parameters/assessment criteria developed by the relevant quality assurance body (like NAAC) in the prescribed format.
- Dissemination of information on quality aspects.
- Organization of discussions, workshops, seminars and promotion of quality circles.
- Recording and monitoring quality measures of the institution.
- Facilitating the creation of a learner-centric environment conducive for quality education
- Arrangement for feedback responses from students, parents and other stakeholders on quality-related institutional processes
- Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles.
- Documentation of the various programmes/activities of the HEI, leading to Quality improvement.
- Bi-annual development of Quality Radars and Ranking of Integral Units of HEIs based on the AQAR.
- Interaction with SQACs in the pre and post accreditation quality assessment, sustenance and enhancement endeavors.
- Development and maintenance of Institutional database through MIS for the purpose of maintaining /enhancing the institutional quality.
- Development of Quality Culture in HEI.

FOLLOW UP WORK OF THE HIGHER EDUCATIONAL INSTITUTIONS:

- The AQAR shall be approved by the statutory bodies of the HEIs (such as Syndicate, Governing Council/Board) for the follow up action for necessary quality enhancement measures.
- The Universities shall regularly submit the AQARs to the NAAC/other accreditation bodies. The Colleges shall regularly submit their AQARs to the affiliating University, state level quality assurance bodies, NAAC / other accreditation bodies.

- All HEIs shall submit AQARs and/or Quality Radars and follow up reports of AQARs to the UGC as and when called for.
- The IQAC must create its exclusive window on its institutional website, to regularly report on its activities, as well as for hosting the AQAR.

MECHANISMS AND PROCEDURES OF IQAC FOR ENSURING THE FOLLOWING ASPECTS:

IQAC should organize and deliver lecturers from time to time to make the students aware of the changing global scenario. Students should be given supports services in seeking jobs opportunities not only locally but also globally. It is the duty of the IQAC to cultivate skills, competencies and value among students. These should be imparted to the students through courses and activities. IQAC should also see that partnership with overseas and other institutions will help in training and developing students and to make our students internationally competitive. Partnership & collaboration with industries will help in linking with the world of work. All these things will make students innovative, creative and entrepreneurial.

IQAC should see that the activities in the HEI must be student centered. Students need to have greater say in the decision making process in education. Students must be given responsibilities on academic and administrative bodies. It is in the HEI that students should get opportunities to develop qualities of leadership among them. Freedom should be given to students to lead, plan and organize various activities on their own where teachers will be only supervisors. As such, it will produce double results - personality development of students and minimizing other problems relating to students such as absence in the class and misconduct in the college campus.IQAC has a role in the functioning of development programme of the Non-teaching staff who is also a stakeholder in HEI.

Suggestions for Making IQAC More Vibrant and Active in the Institutions:

Following are some of the suggestions for making IQAC more vibrant and active in the institutions:

- Maintenance of event register.
- Display the mission of the institute.
- Feedback forms from students about quality of the institution.
- Student‘s counselors can be appointed.
- A two member research advisory committee can be constituted to guide for research projects.
- Periodic meetings on various projects can be held to sort out problems.
- The cell should work out certain strategies or steps for checking the progress of work
- Student information system should be available which provides all type of data related to each student.
- The Head of an institution should create an atmosphere of cooperative partnership in achieving quality.

CONCLUSION:

Quality of a Nation depends upon quality of citizens, in turn depends upon education, and ultimately depends upon quality of teachers. Therefore sustaining quality in this crucial sector which will mould the future of our upcoming generation is a prime responsibility of our education system. It will be possible only through continuous monitoring with the support of IQAC of every Higher Education Institution. The role of IQAC in higher education is distinct and important as it works towards improving and maintaining the quality higher education.IQAC is the process to include all those who work for Higher Education to think about how to raise the standards for sustaining quality and improvement in it.

Thus, the role of IQAC is very instrumental in bringing about so many positive changes in and around the college premises. Moreover, IQAC can create a very good academic atmosphere in the premises so that the quality is maintained and enhanced time to time.Therefore, each and every

institution will have to build its own IQAC keeping certain objectives in mind namely monitoring, evaluation quality assurance for specific activities and instruments for quality assurance.

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