NURTURING QUALITY IN HIGHER EDUCATION THROUGH IQAC

Editors

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International E – Publication

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PROCEEDINGS

OF

THE ONE DAY NAAC SPONSORED SEMINAR

ON

NURTURING QUALITY IN HIGHER EDUCATION THROUGH IQAC

11TH JANUARY 2014

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2014
International E - Publication

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International E - Publication

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ISBN: 978-93-83520-40- 4

Foreword

It give an immense pleasure to release proceedings of one day National Seminar on "Nurturing Quality in Higher Education Through IQAC" sponsored by NAAC (National Assessment and Accreditation Council), Bangalore. The event was organized on 11th Jan, 2014 by the IQAC of the College. The basic objective of organizing the event was to disseminate our learning as a "A" grade college to the participants and at the same time to strengthen our understanding about the quality and excellence. I am happy to state that the program had a grand successes and the credit goes to IQAC and VP family as a whole. I must take this opportunity to thank NAAC and Dr. Ganesh Hegde who came from all the way to Vallabh Vidyanagar to deliver the Key note address on the occasion. I also express my heartfelt gratitude to Dr. C.L. Patel, Chairmen CVM and all the authorities of CVM for their kind support and guidance.

Dr Bhavesh Patel
Principal & Convener

Dr Nikunj Bhatt

Coordinator, IQAC

Agnihi :Purvebhirishibhridyonutanairuta I

sadevamehavaksati II (2)

We believe *"Vedas"* are the first organized book in the world, *"Veda"* is "knowledge" and the motto of *"Veda"* is to transform knowledge.

The broad meaning this 2nd*Shloka from "Rigveda"* is, 'every citizen has right to get an excellent education in an excellent institute in which the fundamental cause of providing the basic logical thinking process in the mind by creating new thoughts that provide creative solutions. In other words the knowledgeable person must transform their knowledge to the society (without prejudice)'.

The Above *shloka* does not justify the behavior of *Guru Drona* towards *Eklavya.* He was not allowed to get a good education from a good institute. It was the part of the politics because no one should be better than *Arjuna*. But as a teacher it was an unethical decision. Let's switch over from *Satayuga* to *Kalyuga,* today neither the teacher nor institution can refuse to give knowledge.

In our country 1.3million primary and more than 30,000 higher education institutions are impartig education to the youth. If you are aware towards the educational phenomenon with common man attitude your answer to the number of best institutes is restricted to IITs, IIMs, NITs and probably some deemed and autonomous institutions. These numbers are very few i.e 16 IITs, 13 IIMs and 30 NITs. If someone asks you, list out the best arts, commerce and science colleges, it is hammered job. Why we are not aware with these colleges? Because these are not well marketed Colleges, they never propagate the student who awarded a gold medal, national scholarships and other achievements in sports and culture etc. College never expresses pride of their learned and devoted teachers, even

though they might be renowned scientists. NAAC never counts only classroom teaching and high results but they also observe the potential for overall excellence in the institution.

UGC not only allots the grants for general developments but it also identifies the few institutes out of 33000 colleges from India with great Potential for Excellence under the scheme "The College with Potential for Excellence" (CPE). Under this scheme, selected colleges l receive extra grants of Rupees One and a half *crore* for the entire developments of college. The status of CPE will open all limits of quality and through this beneficiary institute can show overall growth.

Government is also targeting such institutions which are poor and substandard as well as those which are preparing for accreditation from NAAC. They have also decided to give better facilities and enough teachers to the college which acquire good grade.

All efforts toward the betterment and excellence are achieved, if the human machinery of college works in the proper direction in a self-disciplined manner without any personal prejudice. The torque generated to the institutional power house is the internal Quality Assurance Cell (IQAC). This cell is established by the head of the institution by engaging teachers who are well aware with UGC, MHRD and state government policies.
Excellence never comes by a magic stick, huge architectural construction and glorious history; rather, it is a long term holy worship towards education, commitment to the institution and loving attitude towards students.

Sparkling words:

RTE: Right to "*educate*"

Dr. Nikunj Bhatt

Coordinator

IQAC

Dr Charudutt Gurjar
Organizing Secretary

About the Seminar

Quality is a measure of excellence in any given field. A highly globalized economy is driven by fast evolving technologies which put a lot of demands on the educational institutions to produce well qualified and skilled human resource. If institutions do not come out of their inertia, they would be rejected by the students. India is fortunate to have large percentage of her population that is below the age of 23. If we want our youth to be in global reckoning, we will to reinvent and invest in improving the quality of educational instructions, resources and engagement to produce globally competitive man power. What has worked till now will not work in the future. Curriculum Planners, Educators and educational administrators will have plan for future needs in the world because it this group from institutions of higher education that will drive the economy. Besides, it is our responsibility to deliver employable and socially responsible human resource to the society. That is why the IQAC has such an important role to play post accreditation in an institution. With the objective of sharing ideas and inputs from various experts we conducted this Seminar on Nurturing Quality in Higher Education. We had included the following themes for the seminar.

- NAAC,IQAC and their scope
- Enhancing quality in education through ICT
- Teaching learning methodology in 21st century
- Role of IQAC monitoring the path of Excellence.

The seminar under the convener ship of Dr Bhavesh Patel and coordinator ship of Dr Nikunj Bhatt registered 140 participants and had 36 oral presentations. The keynote address was delivered by Dr Ganesh Hegde Adviser and Regional Coordinator, NAAC, Bangalore. The other invited speakers were Dr Subhash Bhrambhatt, Principal H K Arts College, Ahmedabad, and Dr R P Jadeja, Director, H M Patel Institute of English Training and Research, Vallabh Vidyanagar.

I take this opportunity to express gratitude on behalf of the IQAC to our management Charutar Vidya Mandal, Principal Dr Bhavesh Patel, and the entire teaching and non teaching staff and student volunteers who have cooperated whole heartedly.

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Teaching Practices Every 21st century teachers should do

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Teaching is not only a job but is a way of life.It is a sublime task one can ever be entrusted with. Teachers educate generations of learners and in their hands lays the faith of any nation. A well developed country is a country whose citizens are well educated and this is done only by effective teaching strategies.

Teachers have also their peaks and valleys, happy moments and sad times. A small conjugal problem can severely affect how a teacher perform in the classroom. Teaching is such a sensitive job that embodies the entire societal, intellectual, and cultural values and being an effective teacher is a challenge that every single player in this field recognizes as the most daunting task.

1- Maintain good communication skills

A successful teacher is one that is able to build a rapport with his /her students, one that can easily connect with his learners and feel their needs as individuals. Open and clear communication is the key to develop a healthy friendly learning atmosphere inside your class.

2- Getting students engagement

There is nothing as challenging as getting students engagement and holding their attention. Today's students are multitasked and can hardly maintain a long concentration. They can easily get bored and therefore disconnected. There are many ways you can fight off this problem : Use interesting educational games and activities, use technology and multimedia resources and finally make your teaching student-centred and try your maximum to relate what you teach to students immediate environment.

3- Use Humour

Relevant doses of humour to spice up your teaching are highly recommended. Forget about the authoritative and coercive style of teaching , for experience proved that it only disheartens learners and kills their motivation. Use humour at appropriate times; this can lead to students engagement and build up their confidence. You need, however, to maintain the right balance between instruction and joking and don't let your whole class become an hour long comedy routine. Avoid the off-colour jokes and be sensitive to the cultural backgrounds of your students.

4- Act don't react

Students are very smart and it is part of their juvenile nature to try to get you. You are, for them, like a computer screen, they keep trying out all the keyboard buttons to find your weak point. Learn their game and play it with them carefully. Sometimes ignoring a disruptive behaviour is way better than reacting to it and in case it becomes repetitive or serious then make sure to talk it out with the student involved alone and not in front of the whole class.

5- Be clear and precise in your instructions

Remember you are teaching digitally focused students with short attention span. Several of the problems some teachers face are due to ambiguous and unclear instructions. Cut off on the clutter and be to the point. Show them the red lines and explain to them classroom ethics and what you can tolerate.

6- Give room to individualized learning

Not all students are equal in their comprehensive powers. Students learn in different ways, like seeing, hearing, and experiencing things at first hand. Research has even proved that students can perform better on test if they change study habits to fit their own personal learning styles.Therefore, some students are slow learners and others are quick, some kinesthetic (learn by experience or doing) others are auditory or visual. Keep these considerations in your mind and do your best to tend to every kind of learner you might have in your class.

7- Positive feedback

"good job, excellent,..ect" are simple words that might not mean anything to you but they mean the whole world to students. Think back to the days when you were a student and how a positive feedback from your teacher would make both your and your parents whole day. Publicly praise positive behaviour and show your students that you are celebrating their achievements as well.

8- Involve students in decision making

Students tend to do great when they feel they are trusted and that they are real parts in the learning / teaching operation. Use voting and polling to invistigate about a certain topic or classroom assignment. Try from time to time to give them the wheel and let them lead. This is a great way to inspire students to increase their productivity.

9- Use peer learning

Peer learning is a form of cooperative learning that enhances the value of student-student interaction and results in various advantageous learning outcomes. For peer learning to be effective, the teacher must ensure that the entire group experiences positive

interdependence, face-to-face interaction, group processing, and individual and group accountability. Here are some of the strategies to help you facilitate successful peer learning as stated in this article :

- Buzz groups : This is a large group of students subdivided into smaller groups of 4-5 students to consider issues surrounding a problem.
- Affinity groups : Groups of 4-5 students are each assigned particular tasks to work on outside of formal contact time
- Solution and critic groups ; One sub-group is assigned a discussion topic for a tutorial and the other groups constitute critics who observe, offer comments and evaluate the sub-group presentation
- Teach-Write-Discuss : At the end of a unit of instruction, students have to answer short question and justify their answers. After working on them individually they can then compare their answers with each others.

10- Love your subject/ job

The best way to get students interested in your subject, from sciences to language to arts, is to love it so much that your passion for the field shows in your attitude. Students positively respond to authenticity. And as Abraham Lincoln once said " Love the job you do and you will never have to work a day ".

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- www.educatorstechnology.com/.../6-***learning-methods***-*every-**21***...
- educationnext.org/**21st-century-teacher**-education/

Is Flubaroo = Rubaroo? : An introduction to the e-assessment tool

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Abstract

English Language Teaching has undergone a paradigm shift in the past three decades due to changing needs for the language use and growing use of ICT in the field of education. The psychological approaches to language teaching have advocated stress free, continuous modes of teaching and assessment respectively. ICT has facilitated teachers to assess the students more frequently. The paper inquires about the free online facilities for teaching and assessment with special focus on the google script Flubaroo as a tool to assess the students' performance.

Introduction

The education system in India is undergoing major paradigm shift. Newly introduced semester system at higher secondary, under graduate as well as post-graduate level and the CBCS (Choice Based Credit System) at under and post-graduate levels, are shaking the classroom encounters. Along with the courses, syllabus, time-tables and curriculum transaction modes, the assessment system is also undergoing change.

The role of a teacher as a coach/facilitator seems very simple to describe than to perform. However, the same is desirable and expected. How enjoyable the teaching learning process will become if the teachers become 'coach'! Teaching/learning will become a play! The learners will enjoy it and then no one cannot learn!

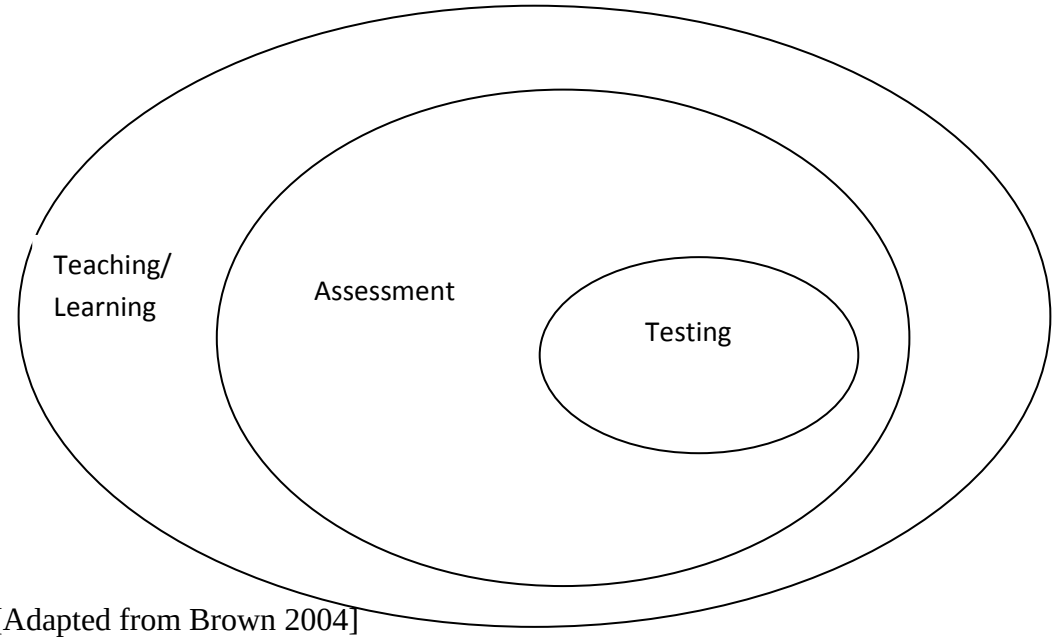
Assessment has been a major concern of Indian education system. The assessment patterns have promoted rote learning and memorization. The behaviorist model of teaching learning is still enjoying wide spread practice. If we talk of the system at the school level, national and international level boards like CBSE (Central Board of School Education) and ICSE (Indian Certificate of Secondary Education) have been able to implement formative assessment in true sense of the term. So far as the state boards are concerned the changes have been introduced but not implemented as expected. The students are given two tests before the summative assessment but they get only marks without feedback to improve. The same is the case at college level in most of the universities across the country. The assessment patters have remained formal at school and college level leading to boredom and stress of examinations. Semesterization and CBCS are steps towards Constructivist model teaching and stress free learning.

Is assessment = teaching?

Before thinking deep, let's try to answer some simple questions:

- What is the relationship between assessment, testing and teaching?
- Can assessment motivate learner/learning?

A common understanding in our education system separates teaching from assessment. It is so deep rooted that in many school and college level courses/programmes students and teachers do not focus on tests only rather than process i.e. teaching. The grade is the only goal. The following diagram shows the relationship between the above mentioned three elements of the teaching – learning process.



[Adapted from Brown 2004]

As shown in the above mentioned diagram, teaching/learning being the larger part of the process, assessment and testing are contributory to it. Testing facilitates assessment and together testing and assessment facilitate Teaching and Learning. Therefore, the second question is more significant. If testing and assessment can motivate, they become tools for teaching.

The principles of assessment also advocate this aspect of testing. A good assessment considers the following principles.

a. Practicality,
b. Reliability,
c. Validity,
d. Authenticity, and
e. Washback.

Practicality refers to the practical aspects like feasibility of testing depending upon the logistics and conditions available. Where reliability refers to the reliability of the scores the test gives, validity assures whether the test assesses the intended skill. Authentic assessment reflects natural uses of language. Washback is the most important for our purpose here. It

refers to the outcomes of the assessment for the learner, the teacher and the teaching context. Positive washback from the assessment can motivate the learner. It can positively influence the teacher in what and how to teach and can improve the classroom environment for more learning. However, it must be noted that it is the immediate feedback that improves washback effect.

Effectiveness of washback effect can be determined by asking ourselves simple questions like:

- What are the different ways we assess our learners?
- What are the different reasons we assess our learners' performance?

If we put grading the students as the last goal, the assessment helps the teacher take decisions at various levels such as:

- To decide what to teach and how to teach,
- To decide what needs to be reviewed at student's and the teacher's level,
- To decide whether the students learnt what I expected,
- And ultimately, to decide how can I improve my testing & teaching.

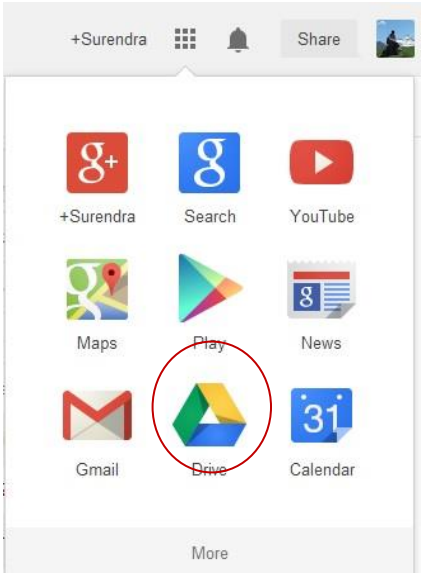
In teaching of any course, it is important to determine the quality and effective ways of testing followed by a good feedback mechanism. Only testing doesn't help improve the students' performance. It is the feedback that helps the students and the teachers.

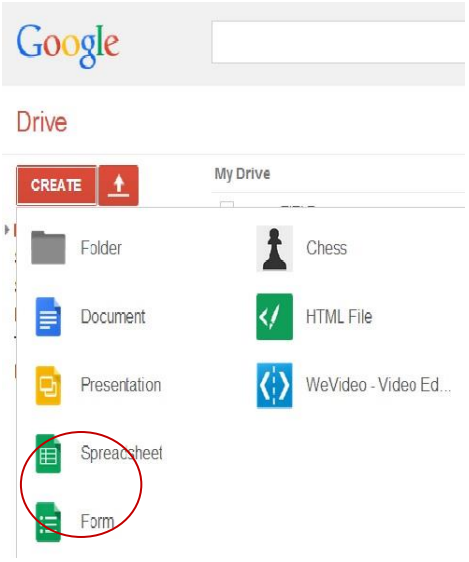
Among various types of assessment, formative assessment offers a lot of freedom for experimentation following the fact that it may not be graded strictly like the summative assessment. It helps the students see their weak areas so that they can learn more. However, the challenge in Indian context is to offer formative assessments to the large classes followed by giving individual feedback to improve. The task becomes more difficult in case of language assessment where the target groups are widely heterogeneous.

With the growing constraints, the technological tools have come very handy to the English teachers. Google Apps for education are very handy and user friendly. This paper discusses uses of Google Form and Flubaroo script coupled with many other educational uses of +Google for teaching and assessment on the basis of an experiment carried out at H M Patel Institute of English in the year 2012-13.

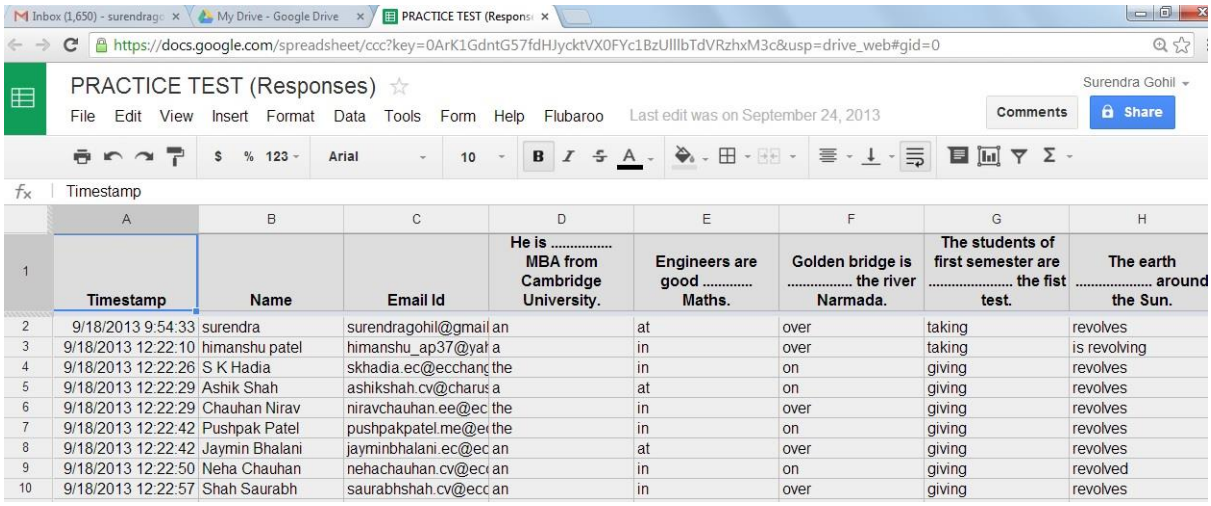
Google mail facility includes an online storage facility through Cloud technology called Google Drive. The Google Drive is not only an online storage. It also helps create various types of documents in collaboration and share the existing one's with other.

The Create tab in Google Drive offers many options for collaborative creations. Form is one of them. The form offers various types of question like one line answer, long answers, multiple choice and many other objective type tests. Use of Flubaroo is possible through creation of an online test using Google Form that can be shared with the students through email, web or social networking site. We would not discuss creative of a test using Google Form here. The readers may explore Google Apps for learning the same in detail.

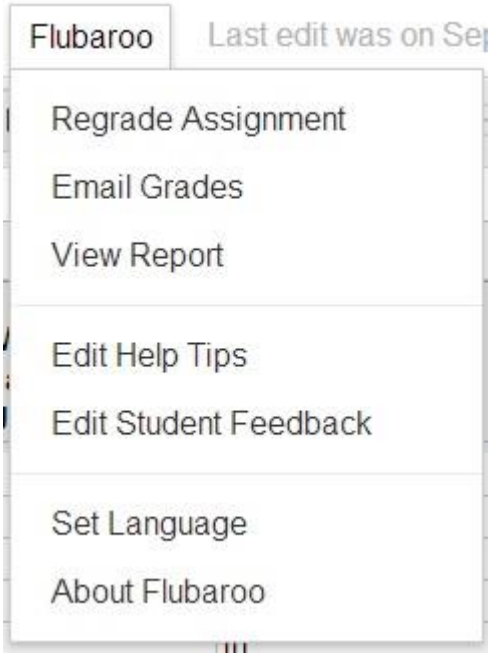




The responses are received online in a Response file in Google Drive, generally in an Excel Worksheet that has Insert as one of the Menus. The last option in Insert is Scrip. By clicking on Insert > Scrip, the Script Gallery opens. There are many scripts. The process is very user friendly as just search and install can provide an additional Menu called Flubaroo in the Response Sheet.



	A	B	C	D	E	F	G	H
1	Timestamp	Name	Email Id	He is ..... MBA from Cambridge University.	Engineers are good ..... Maths.	Golden bridge is ..... the river Narmada.	The students of first semester are ..... the fist test.	The earth ..... around the Sun.
2	9/18/2013 9:54:33	surendra	surendragohil@gmail	an	at	over	taking	revolves
3	9/18/2013 12:22:10	himanshu patel	himanshu_ap37@yal	a	in	over	taking	is revolving
4	9/18/2013 12:22:26	S K Hadia	skhadia.ec@ecchang	the	in	on	giving	revolves
5	9/18/2013 12:22:29	Ashik Shah	ashikshah.cv@charus	a	at	on	giving	revolves
6	9/18/2013 12:22:29	Chauhan Nirav	niravchauhan.ee@ec	the	in	over	giving	revolves
7	9/18/2013 12:22:42	Pushpak Patel	pushpakpatel.me@e	the	in	on	giving	revolves
8	9/18/2013 12:22:42	Jaymin Bhalani	jayminbhalani.ec@ec	an	at	over	giving	revolves
9	9/18/2013 12:22:50	Neha Chauhan	nehachauhan.cv@ec	an	in	on	giving	revolved
10	9/18/2013 12:22:57	Shah Saurabh	saurabhshah.cv@ecc	an	in	over	giving	revolves



The Flubaroo Script

- The script helps the teacher:
- Assess and grade the objective type test,
- Evaluate the scores,
- Email the grades to the students immediately to the individual students with desired feedback on each test item.

In addition to this, the use of the scrip also helps the teachers check effectiveness of each test item as it offers analysis of the students' performance on each item.

Limitations:

- It is an online facility. Hence works better with online forms. However, data of any objective type test can be analyzed using Flubaroo.
- Only objective type tests can be assessed.
- The quick access requires internet connectivity for the teachers and the students.
- Works in Google Chrome Browser effectively.

Advantages:

- Reduces burden of offering and assessing the tests.
- Saves time for creative works.

- No restrictions on number of students.
- Provides immediate feedback like real class situation.
- Offers freedom to teachers and students as assignments can be regarded as and when students take the test according to their convenience.
- Error free assessment of the tests.
- Offers detailed analysis of the test items and individual students' overall performance as well as performance in each test item.
- Offers paperless testing and grading.

Thus, the Flubaroo is a real time achiever. It is like Rubaroo i.e. face to face interaction. It offers creative freedom to teachers and students for giving and taking the tests respectively along with smooth assessment.

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Use of ICT in Teaching Learning process for Enhancing quality

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Abstracts

Higher education in recent years has undergone important paradigm shifts, especially shift from the teacher-centric to a learner-centric system. The application of ICT to the process of teaching and learning has resulted in crossing the boundaries of a country and evolved international competition among HEIs. The learners of today now enjoy many options regarding their choices of institutions and courses. In this scenario, it is imperative for HEI's to offer quality programs and satisfy their learners completely. Otherwise, these institutions will lose their credibility and soon they will be out of business. Information and Communication Technology (ICT) is now the modern means of improving teaching and learning in higher education. This has become imperative in a way because ICT culture has come to stay globally in all HEIs. Information and Communication Technology is now the modern means of improving teaching and learning especially in the University system. This paper evaluates the use of ICT in improving teaching and learning process. The ten emerging technologies in education sector are discussed in the paper which can play an important role in enhancing quality in teaching-learning process.

Key words: Information and Communication Technology (ICT), Perception, Teaching and Learning

Introduction:

Information and Communication Technology (ICT) plays a vital role in the development of any nation. It has been an instrument for achieving social, economic, educational, scientific and technological development (Adedeji, 2010). ICT has greatly influenced the educational sector especially on teaching, learning and research. The application of Information Communication Technology (ICT) is not only emphasised in corporative business and the industrial sector, but it is an essential part of education at all levels (Allen, 2011). ICT, including computers, is generally believed to foster cooperative learning, provide more information and, through simulation, make complex learning experiences easier to understand. Therefore, the use of ICT cannot be ignored either by teachers or by students. This sentiment is stressed by Van der Westhuizen (2004) who points out that, in relation to the use of ICT for learning, technology holds a promise of improved access to information and increased interactivity and communication between teachers and their students.

Information and Communication Technology (ICT) encompasses the effective use of equipment and programs to access, retrieve, convert, store, organize, manipulate and present data and information (Gay and Blads, 2005). E learning, which is described as the use of ICT to enhance or support learning and teaching in education, has become increasingly important in tertiary education (Adedeji, 2010).

Information and Communication Technology (ICT) and information technology (IT) can be used interchangeably. Information can be seen as "idea" conceived in the human mind, while communication is the transfer of that information from the original source to the destination where it is needed with the intention to producing a change in behaviour of the receiver (NCET, 1995; Ekinghwo, 1998; Adekomi, 1999). When information and communication drifts away from the orthodox verbal and print media towards the more recent electronic media then the concept is known as ICT. This is why Badru (2002) defines "ICT" as the science and activity of processing, storing and sending information by using computers. She further defined Communication Technology as the use of hardware and software to enhance communication. In other words, there is an overlap between the function of Information Technology and Communication Technology. According to her, it is due to this great similarity in the function of "IT" and "CT" that the two became fused into ICT. ICT, therefore, is the means of accessing or receiving, storing, transferring, processing and sending ideas, perception or information through computers and other communication facilities (NCET, 1995). The teaching-learning process is inevitably involved in information passage from the teacher (sender) to the learner (receiver) and vice versa on a regular basis. This has been done over the years in communication and to the most recent electronic communication. Hackbarth (1996) reported that teachers used manuscripts to teach.

Concept of ICT:

Information and Communication Technology (ICT) plays a vital role in the development education sector as a whole especially on teaching, learning and research. ICT encompasses the effective use of equipment and programs to access, retrieve, convert, store, organize manipulate and present data and information (Gay G, 2005). ICT and IT can be used interchangeably. Information can be seen as “idea” conceived in the human mind, while communication is the transfer of that information from the original source to the destination where it is needed with the intention to producing a change in behavior of the receiver (NCET, PO, & AA, 1995; 1998; 1999). When information and communication drifts away from the orthodox verbal and print media towards the more recent electronic media then the concept is known as ICT. Thus, Badru (2002) defined “ICT” as the science and activity of

processing, storing and sending information by using computers. She further defined Communication Technology as the use of hardware and software to enhance communication. In other words, there is an overlap between the function of Information Technology and Communication Technology. According to her, it is due to this great similarity in the function of "IT" and "CT" that the two became fused into ICT. ICT, therefore, is the means of accessing or receiving storing, transferring, processing and sending ideas, perception or information through computers and other communication facilities (NCET, 1995).

ICT in Education:

While the impact of ICT on sectors such as banking, tourism, medicine, engineering etc. have been enormous, the uptake of ICT in education is fraught with difficulties (Oliver, 2002). Lack of funding, training among practitioners, motivation and perceived need among teachers to adopt ICT as teaching tools impede the required uptake of ICT in education (Starr, 2001). Although India's spectacular — by the yardsticks of the country's bullock-cart economy — IT revolution is almost three decades old and has transformed the grammar of Indian industry, the impact of its spin-off ICT (information and communications technology) has been much less dramatic. Despite the buzz and hype generated by new technologies education companies and government about ICT revolutionising Indian education, the reality in the classrooms and lecture halls of India's 1.30 million schools, 611 universities and 31,000 colleges is very different. ICT education companies — hitherto blue-chips of the stock exchanges — are flooding the market with teaching-learning equipment such as interactive display boards, language laboratories, digital content and educational software. According to industry sources, the ICT in education market in India is estimated at Rs.285,000 crore ($50 billion) and expected to grow to Rs.570,000 crore ($100 billion) by 2014. Surprisingly even in top-ranked institutions of higher education, faculty tends to be hesitant about introducing new technologies. Rajendra Pawar, promoter-chairman of NIIT Ltd (revenue: Rs.1,576 crore in year ended March 31, 2012) — India's largest IT training company — recalls a face-off with Prof. Bakul Dholakia, former director of the country's top-ranked IIM-Ahmedabad, when the company through its NIIT Imperia Centre for Advanced Learning wanted to introduce executive management programmes via video conferencing in 2005. "When we suggested this idea to Prof. Dholakia seven years ago, he strongly resisted the proposal arguing that online teaching will not work in premier management institutes such as the IIMs. But after one year of experimentation and regular engagement with the IIM-A faculty, we jointly designed an online executive develop-ment programme for working profess-ionals which has proved very successful," recalls Pawar (Fabunmi).

Undoubtedly, if digital and ICT technologies have become ubiquitous in the country's premier schools, colleges and universities, a major share of credit for this beneficial development should accrue to the country's multi-plying number of new technology education companies. Driven by tech and marketing savvy entrepreneurs, a host of nexgen ICT corporates are flooding the education market with equipment such as interactive white-boards, laptops, curriculum-mapped digital content, school management, teaching and assessment software, science, maths and language labora-tories and a plethora of other products and services

The Central-government funded Jamia Millia Islamia University (JMI, estb. 1920) provides 3,200 personal comp-uters and 6,500 internet points on its 210-acre campus in south Delhi. "All hostel rooms also have internet points with some wi-fi enabled. We plan to unveil the first Smart board in our economics depart-ment this academic year. Given the easy availability of internet connectivity on campus, faculty and students are able to access the vast amount of open source material available on the web including videos posted by teachers worldwide. Moreover, we have digitised all administration, admission and financial records through an ERP system — a commendable feat for a 100-year-old institution," says Dr. Z.H. Khan, professor of physics and director of the Centre for Information Tech-nology at JMI.

The country's premier and top-ranked Delhi University (DU, estb.1922) houses an Institute of Life Long Learning on its north campus with an audio-video laboratory where any DU professor can record video lectures and post them online for viewing by students in 80 affiliated colleges. Moreover, under an ambitious first-of-its-kind initiative branded Meta University, in association with three other Central varsities — Jamia Millia Islamia, Jawaharlal Nehru University and IIT-Delhi — DU is set to roll out inter-disciplinary programmes such as B.Tech in humanities and dual Ph Ds in the online mode. Dinesh Singh, DU vice chancellor, made a detailed presentation on the concept and objectives of Meta University at the 59th CABE meeting held in Delhi on June 6. "There is a nationwide shortage of quality teachers. New digital and online technologies have to be used effectively to address this challenge. Through Meta University we want to beam lectures of the best teachers to students countrywide through virtual classrooms," says Singh ((Chennai) & (Bangalore), 2012).

Emerging Technologies in Education:

Technology ushers in fundamental structural changes that can be integral to achieving significant improvements in productivity. Used to support both teaching and learning, technology infuses classrooms with digital learning tools, such as computers and hand held devices; expands course offerings, experiences, and learning materials; supports learning 24 hours a day, 7 days a week; builds 21st century skills; increases student engagement and motivation; and accelerates learning. Technology also has the power to transform teaching by ushering in a new model of connected teaching. This model links teachers to their students and to professional content, resources, and systems to help them improve their own instruction and personalize learning.

Online learning opportunities and the use of open educational resources and other technologies can increase educational productivity by accelerating the rate of learning; reducing costs associated with instructional materials or program delivery; and better utilizing teacher time (ED.gov).

The emerging technologies in teaching and learning are changing the landscape of education sector. The ten emerging technologies that will impact education over the course of the next five years are: cloud computing, mobile learning, learning analytics, open content, 3D printing, MOOCs, virtual and remote laboratories, games and gamification, tablet computing, and wearable technology.

1. Cloud Computing

There was a time when, to use files (word processing files, spreadsheets, etc.) on different computers, you needed to save your files on a thumb drive or CD-ROM disk. The drive or disk then travelled around with you so that you could load your information onto other computers while holding your breath until the document or PowerPoint slide was actually retrieved! Not any longer. The safety, stability, and ease-of-use of cloud computing in education are resulting in widespread adoption in educational institutions of all sizes and types.

2. Mobile Learning

By the end of this year, the mobile market is expected to consist of over 7 billion accounts (equating to about 3.4 billion users, or one in every two people on the planet); mobile traffic on the Internet is expected to surpass desktop traffic; and mobile users will have downloaded 70 billion apps across smartphones and tablets. Educational apps are the second-most

downloaded in iTunes of all categories, surpassing both entertainment and business apps in popularity.

3. Tablet Computing

It is so easy for students to carry tablets from class to class, using them to seamlessly access textbook and other course material as needed, that schools and universities are rethinking the need for computer labs or even personal laptops. A student's choice of apps makes it easy to build a personalized learning environment, with all the resources and tools they need on a single device. With their growing number of features, tablets give traction to other educational technologies— from facilitating the real-time data mining needed to support learning analytics to offering a plethora of game-based learning apps. Vanderbilt University graduate students are designing an Android app that enables visually impaired students to learn math. Using haptic technology integrated into new touchscreen devices, the vibrations and audio feedback help students feel and hear shapes and diagrams.

4. MOOCs

MOOC stands for Massive Open Online Courses. It is an online course aimed at large-scale participation and open access via the internet. They are similar to university courses, but do not tend to offer academic credit Although there has been access to free online courses on the Internet for years, the quality and quantity of courses has changed. Access to free courses has allowed students to obtain a level of education that many only could dream of in the past. This has changed the face of education.

5. Open Content

While open content has been available for a long time, the topic has received increased attention in recent years. The use of open content promotes a skill set that is critical in maintaining currency in any area of study—the ability to find, evaluate, and put new information to use. The same cannot be said for many textbooks, which can be cumbersome, slow to update, and particularly costly for K-12 schools. More educators are tapping into the wealth of content within open repositories and familiarizing themselves with the Creative Commons protocol.

6. Learning Analytics

While analyzing student data is not a new practice, the field of learning analytics has only recently gained wide support among data scientists and education professionals. In the

coming years, as learning analytics platforms become increasingly complex and effective, outcomes of learning analytics will have a significant impact on the evolution and refinement of both K-12 and higher education, especially in the design of personalized and online learning platforms.

8. 3D Printing

While 3D printing is four to five years away from widespread adoption in schools, it is easy to pinpoint the practical applications that will take hold. Geology and anthropology students, for instance, can make and interact with models of fossils and other artifacts, and organic chemistry students can print out models of complex proteins and other molecules through rapid prototyping and production tools. Even more compelling are institutions that are using 3D technology to develop brand new tools.

9. Virtual and Remote Laboratories

Virtual and remote laboratories reflect the current trend in K-12 education toward more authentic online education. Though technology is four to five years away from mainstream use in schools, the benefits of implementation are already clear. Virtual and remote labs offer flexibility, as students can run experiments as many times as they like, both in and out of school. Because these labs are designed to allow for easy repetition of experiments, students feel less pressure to execute perfectly the first time. In the controlled environments of these labs, students are safe, even if they make an error (htt2).

10. Wearable Technology

Perhaps the least educationally applicable but most complex technology of the NMC report is wearable technology. Google's "Project Glass" is one of the most talked-about current examples. One of the most promising potential outcomes of wearable technology in higher education is productivity: tools that could automatically send information via text, e-mail, and social networks on behalf of the user—based on voice commands, gestures, and other indicators— that would help students and educators communicate with one another, keep track of updates, and better organize notifications.

Conclusion:

ICT can be useful for learners of all kinds, because of the resources available on the Internet, applications that make it possible to explore subjects and the possibilities of networking among learners and teachers.

Nevertheless despite India's ICT-in-education initiatives struggling in choppy waters, they are collectively moving in the right direction. Certainly they have awakened all stakeholders — government, private education techn-ology companies, schools, colleges, universities, teachers and students — to the immense possibilities of digital technologies to upgrade and rejuvenate Indian education.

The limited ICT revolution spear-headed by the country's private schools and perceptive ICT companies now needs to expand its bandwidth to include languishing government schools, colleges and universities of small town and rural India. For cruelly neglected Indian primary, secondary and higher education, new information and communications technology offers a magical opportunity to rapidly create 21st century learning environments. It must not be missed.

Students of arts and science colleges, as compared to students of professional courses, do not receive exposure to ICTs since their courses are largely modeled on conventional pedagogy. The three year graduation course does not involve any ICT related activity. There are no ICT programs to build on the capacity of the students as visualized by the UGC at the college level. Efforts in this direction are ad hoc, and not systematized.

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ICT - A Change Agent for Indian Education System

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Abstract :

Education is a very socially oriented activity. As a measure of excellence, Quality is required in a good education system that is prerequisite for overall prosperity of the nation. A highly globalised economy which driven by fast evolving technologies may put many demands on the educational institutions to produce well-qualified and skilled HR.

The use of Information and Communication Technologies (ICT) has fundamentally changed the practices and procedures of nearly all forms of endeavor within business and governance.

Importance of education in almost all walks of life that has increased with the supportive use of ICT and has fundamentally changed the working of education. In the current environment-conscious world, the importance of education and acceptability of ICT as a social necessity has been increasing.

This paper is considering the rapid spread of ICT applications has brought about markedly drastic technological, social and economic transformations. The sustainability of a nation in the era of knowledge economy depends on the effective educational system. It attempts to present ICT initiatives in higher education in India with major challenges.

Key Words : Information and Communication Technology, ICT , Quality & Higher Education, Role of ICT in Indian Educational System, Challenges to ICT in Sustainable Growth.

INTRODUCTION

As a measure of excellence, Quality is one of the essentials in higher education system that is required for overall prosperity of a nation. 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.

A highly globalised economy is driven by fast evolving technologies that put a lot of demands on the educational institutions to produce well-qualified and skilled HR. Therefore, it is the time for institutions to reinvent and invest in improving the quality of educational instructions, resources and engagement to produce globally competitive manpower.

Importance of education in almost all walks of life has increased with the supportive use of *Information and Communication Technologies* (ICT) which has fundamentally changed the working of education. In the current environment-conscious world, the importance of education and acceptability of ICT as a social necessity has been increasing. Education as a qualitative development is not confined within the classroom structure. The modern tools of ICT are much sought after by the students as well as by the institutions.

ICT is basically an umbrella term that encompasses all communication technologies such as internet, wireless networks, cell phones, satellite communications, digital television etc. that provide access to information [1]. (UNESCO, 2002)

In the field of higher education, if we make our learning more engaging with the use of ICT, it can completely change how our education system works. Also, we should examine the challenges of cost-factor and availability of trained teachers in the process of dissemination of education with the help of ICT. India is developing as a knowledge economy and it cannot function without the support of ICT.

In education, 87% of information enters our brain through eyes, 9% by ears and 4% via other senses. Educators strongly feel that ICT is the most valuable tool to overcome the problem of illiteracy. The use of ICT in education lends itself to more student-centered learning settings.

ICT is a vehicle to enhance the quality of the education. As the world is moving rapidly into digital media and information, the role of ICT in education is becoming more important in the 21st century.

ICT ENABLES EDUCATION

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 presentations and lectures; academic research; administrative support, student enrolment etc.

In the current Information society, there is an emergence of lifelong learners as the shelf life of knowledge and information decreases. 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 earning power. It gives him a sense of well being as well as capacity to absorb new ideas, increases his social interaction, gives access to improved health and provides several more intangible benefits.

ICT & HIGHER EDUCATION

Higher education in the country is experiencing a major transformation in terms of access, equity and quality.

At the same time, the introduction of ICT in the higher education has profound implications for the whole education process ranging from investment to the use of technologies in dealing with key issues of access, equity, management, efficiency, pedagogy and quality [2].

The ICT Policy in higher 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.

ICT is potentially a powerful tool for extending educational opportunities and can provide remote learning resources. ICT encourage students to take responsibility for their own learning and offers problem centered, inquiry based learning that provides easy access, and information based resources. It is necessary to acquire the ability to use technology as a tool to research, organize, evaluate and communicate information and the possession of the fundamental understanding of the ethical or legal issues and use of information [3].

Success of ICT-based education depends upon the teacher's ability to keep pace with the developments since teachers are responsible for quality control, improvement of learning and the aggregate effectiveness of the learning process [4]. The main role of teachers will not be to transmit information and culture, but rather to act as experts and leaders to motivate learning.

The integration of ICTs would not only help in promoting personal growth but also in developing "knowledge societies". The call of the hour is the need to provide education for Everyone, Anywhere, and Anytime. Lifelong learning has become the driving force to sustain in the contemporary competitive environment. Therefore to strengthen and/or advances this knowledge-driven growth, new technologies, skills and capabilities are needed.

Benefits of ICT Through Education

Employers

- High quality, cost effective professional development in the workplace
- Upgrading of employee skills, increased productivity, portability of training
- Development of a new learning culture
- Sharing of costs and of training time with the employees

Governments

- Increase the capacity and cost effectiveness of education and training systems
- To reach target groups with limited access to conventional education and training
- To support and enhance the quality and relevance of existing educational structures
- To ensure the connection of educational institutions and curricula to the emerging networks and information resources

Students (Learners)

- Increased access and Flexibility of content and delivery
- Combination of work and education
- Learner-centred approach
- Higher quality of education through new ways of interaction by promoting innovation and opportunities for lifelong learning

ICT IN INDIA : AN OVERVIEW

In the 21st century, India needs a large number of talented youth with higher education for the task of knowledge acquisition, knowledge imparting, knowledge creation and knowledge sharing.

India is a knowledge economy that depends on the development of its educational sector.

Higher education drives the competitiveness and employment generation in India. However, research findings have shown that the overall state of higher education is dismal in the country. There is a severe constraint on the availability of skilled labour. There exist socioeconomic, cultural, time and geographical barriers for people who wish to pursue higher education. Innovative use of ICT can potentially solve this problem. ICT has changed the dynamics of various industries as well as influenced the way people interact and work in the society.

Adoption of ICTs in education requires establishment of infrastructural facilities, acquisition of technologies and their periodic updating, management and professional support services [5].

Involvement of ICTs in different dimensions of the Indian education system is taking place at a fast pace.

India is making use of the powerful combination of ICTs such as open source software, satellite technology, local language interfaces, easy to use human-computer interfaces, digital libraries etc. with a long-term plan to reach the remotest of the villages. Community service centres have been started to promote e-learning throughout the country

The use of satellite in education started as *Satellite Instructional Television Experiment* in 1975-76 through initiation of the countrywide classroom of the UGC. Presently these programmes are continuing as *Vyas Channel* supported by the CEC and various EMRCs, *Gyandarshan II* of the IGNOU, Open School and NCERT broadcast channel.

Notable initiatives of use of ICT in education in India include :

- Indira Gandhi National Open University (IGNOU) uses radio, television, and Internet technologies.
- National Programs on Technology Enhanced Learning: a concept similar to the open courseware initiative of MIT. It uses the Internet and television technologies.
- Eklavya initiative: Uses Internet and television to promote distance learning.
- IIT-Kanpur has developed ‘Brihaspati’, an open source e-learning platform (Virtual Class Room).

- IIM-Calcutta have entered into a strategic alliance with NIIT for providing programs through virtual classrooms.
- Jadavpur University is using a mobile-learning centre.
- IIT-Bombay has started the program of CDEEP (Centre for Distance Engineering Education Program) as emulated classroom interaction through the use of real time interactive satellite technology.
- ERNET & EDUSAT (GSAT-3) systems - to provide support to Tele-education system of Distance learning to reach the un-reached people of India in every nook and corner.
- INFONET and CEC (Consortium for Educational Communication) services of University Grants Commission are supporting E-content, E-learning and E-course systems.
- Information and Library Network (INFLIBNET) Centre is an Autonomous Inter-University
- Centre (IUC) of University Grants Commission (UGC) involved in creating infrastructure for sharing of library and information resources and services among Academic and Research Institutions.

The increasing use of information and communication technologies (ICTs) has brought changes to teaching and learning at all levels of higher education systems (HES) leading to quality enhancements in India.

CHALLENGES OF ICT IN INDIA

The challenges before the education system in India are of the following nature:

1. **Access to Education -** There exist infrastructure, socio- economic, linguistic and physical barriers in India for people who wish to access education
2. **Quality of Education -** This includes infrastructure, teacher and the process quality. For any nation, the level and quality of education is one of the most significant parameters of development.

3. **Tremendous Improvement -** Now, as India strives to compete in a globalised economy in areas that require highly trained professionals, the quality of higher education becomes increasingly important.

4. **Resources Allocated -** There exist drawbacks in general education in India as well as all over the world like lack of learning materials, teachers, remoteness of education facilities, high dropout rate.

The major challenges faced are lack of awareness and mindset, lack of top-level commitment for the progress in ICT integration, a systematic method of ICT implementation, cost of bandwidth and efficient utilization of ICT [6].

The barriers for the usage of ICT like lack of technical support, insufficient knowledge, gender and age of teacher and lack of motivation, enthusiastic nature of teacher towards the usage of ICT, ICT policies, budget, educational management and skill training plays an important role in the integration process of ICT.

The obstacles towards the use of ICT Tools in Teaching and Learning of Information Systems are fast change in ICT tools, extra time and effort needed to integrate ICT tools in teaching, poor network connectivity, improper evaluation in integration of ICT tools in teaching etc [7].

ICT in Indian Universities and Colleges, Snehi Neeru indicates transformation of higher education in the country in terms of access, equity and quality due to usage of ICT in education. In this regard the opportunities and challenges posed by integration of ICTs in various aspects of higher education in the present scenario are discussed [8].

Allah Nawaz et al highlights demographic implications for the user-perceptions of e-learning in higher education Institutions of Pakistan. The factors highlighted are age, gender, qualification, perceptions, experience and organizational characteristics that plays an important part in implementation of ICT in teaching-learning purpose. Further e-learning efforts are reported to be associated with problems in the construction, use and progress of the eLearning environments in the institutions for teaching, learning and administrative purposes. He also states the application of ICT in Teaching and Learning at University Level highlighted the importance of ICT support in teaching, learning and research activities in higher education [9].

R. Krishnavani highlighted the usage of ICT for Administration in Higher Education Institutions in terms of general administration, payroll and financial accounting, administration of students data, personnel records maintenance and library system [10].

The importance of governments role to increase funds for education in order to face challenges of e-learning education and explore the strategy to increase training, motivation and awareness programs for successful implementation of e-learning in higher education [11].

The important factors for successful implementation of ICT in teaching-learning are ICT skills, confidence to use computer, infrastructure and availability in hardware and software.

FINDINGS

From the above discussion, it is clear that use of ICT for education is a horizontal activity that requires elements from different verticals to come together to enable meaningful learning experiences for the students.

The following major aspects need to be addressed in a Policy for ICT in Education:

1) Content/Digital Resources
2) Capacity Building
3) Monitoring and Evaluation Framework
4) ICT for Education Management
5) Implementation Plans
6) Financial Allocations
7) Political and Administrative support
8) Community Demand for ICT
9) Adapting a change in learning Processes
10) Staff Development and Training Programs

Integration of ICT in higher education is inevitable. In the coming years the thrust will be on the use of ICT to strengthen the system in the mode of opens and distance learning. The wide adoption of ICT calls for mindsets and skill sets that are adaptive to change.

CONCLUSION

The human layer of the earth has now become a vast downloadable, searchable, writable surface.

Students are comfortable with and have access to latest technology. They are aware of the pros and cons of technology. Students are extensively using ICT for various activities, but have limited usage of ICT for learning purposes and still relay on class room teaching and textbooks for academic requirements. They extensively use ICT to communicate with friends and families using emails, chats and various social media.

Even though students are using ICT tools for many academic related activities, its usage is limited and they still give more priority to face to face interaction with teachers. Apart from using ICT to enhance knowledge, students are using ICT for other related sub activities like circulating materials, arranging meeting and passing information.

Teachers are gradually moving from lecture based teaching to interactive teaching using multiple media. Teachers prefer to use PowerPoint presentations for teaching and are open to online submission of assignments and doubt clarification. Teachers are not only actively incorporating ICT in teaching but are also active web content provider for the Engineering lectures. Teachers have expressed that infrastructure inability, Syllabus pressure, lack of appreciation and training as barriers in implementing ICT in higher education.

Teacher's use of technology will promote student learning. Based on the above findings, it is recommended that academicians pay more attention regarding the use of ICT resources as a major component in classroom teaching and to incorporate students in ICT based learning by communicating the importance of educational content available online.

The impact of ICT in education in India, however, has been far less and slower. Now the paradigm of education and learning has changed. ICT can be perceived as a big change agent for education. In order to use technology to help achieve the goals of education in a better and more effective way, one has to be first of all clear about what our expectations are from the education system, what and how do we want our students to learn and what type of individuals our classrooms should produce.

The use of ICT in education lends itself to more student-centered learning settings. However, 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.

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Teaching through Technology: A step Towards Futuristic Education

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Abstract

It is well known and well accepted fact that teaching is a divine profession and only those who have the inner call or the true aptitude for teaching can be good teachers. Now the scenario has changed. Besides this inner call, professional competency is the need of the time for a teacher to be effective and successful. We are in an era of technological advancement, business and fast changes. So the upcoming generation should be trained to be ready to accommodate with the fast changes in the global level and real life. The old methods of teaching have become a subject of the past. Educational technology has completely changed the process of teaching the future generation. All the teaching material such as classroom, blackboard, books, pens have assumed a new shape with the help of technological assistance.

Technology has redefined education. Teaching, in coming generation can be fantastic and fruitful when their energy and determination can be harnessed. For that technology should be embraced and education should adapt. The 'Net generation' can be motivated, involved and imparted joyful learning experience by wise integration of technology in leading. The paper will highlight role of technology in nurturing quality of higher education system.

Introduction

"Teaching in the Internet age means we must teach towards skills today"

- Jennifer Flemming.

Teaching through technology sometimes turned EdTech, is the study and ethical practice of facilitating e-learning, which is the learning and improving individuals performance by technical sources to gain knowledge in easiest way, anytime and anywhere.

In today's global world, technology has been playing an indispensable role in teenagers' life. "And this is seen teenagers" obsession of using Facebook, whatsapp, Cell phones, internet, computers, Ipads etc. The involvement of technology in teenagers' life has changed their perception towards the world completely. Technology has entered the life of this generation very swiftly as it marks their life more convenient, interactive and pleasurable and helps them to maintain social contacts where frequent face to face conversation is not possible so often. Now in this regard, technology has not only helped to maintain social ties but it has also contributed to teaching and learning experience in the academic field as it accommodates students and teachers to have easy access to a wealth of information and ideas just one clock. To cope up with fast growing young minds of this internet age, teaches have been taking aid of technology like laptops, internet, overhead projectors, podcasts etc. to enhance the students learning experience and making it an interesting approach. It is also believed that use of technology in the classroom can transform teaching into interactive and live learning. Not only teachers have revolutionized and rejuvenated their teaching through technology but also the students have found technology a better medium in learning and gaining knowledge.

"Technology is just a tool in terms of getting the kids working together and motivating them, the teacher is most important". Bill Gates

21st century is the century of technology. Without the use of technology human existence becomes unbelievable. Now with audio – visual aids satellite communication and digital technology is used for better teaching- learning process at most of stage of learning. To make Human learning enjoyable and fruitful various tools they have invented like, e-learning, overhead projector, ICT, OMR sheets, online learning as an extension to teaching – learning beyond classroom etc. They are nothing but a past of technology. Today it is an era of technological revolution in the field of education. Technology offers assistance to teacher. The process of evaluation of merit of an individual has also undergone a deep change. We take help of computer, software, hardware etc in the examining and evaluating the merit of the teens. Teaching- Learning with technology not only saves the time but it also gives better understanding of information and gives qualitative knowledge for life time. There are several cost- effective ICT tools at the disposal of the modern teacher. These tools make the teaching – learning process less tedious and more effective.

"We need technology in every classroom and in every student's and teacher's hand; because it is the pen and paper of our time, and it is the lens through which we experience much of our world."

David Warlick.

We are living in multilingual, multicultural world. Everyone has seen shifts in paradigm where different methods have gifted us with novel ways of learning: right from the teacher a translator to the teacher as a facilitator to technology. The old ways of traditional teaching-learning process to a self direct learning. Looking at this 'Internet age', if we teach the way we taught… we rob the leaders of tomorrow. For that first learning and then teaching of that learning to next generation is very important. Under these circumstances besides the good aptitude, the teacher should be an ambitious and disciplined student with a very good knowledge on the use and application of technology for the effective discharge of responsibility towards the present student. Vast growth is technology and use of it for learning purpose has matured the quality of individuals. ICT as an aid in teaching and learning has integrated higher education. Task based teaching – learning, project based learning, online learning, using social media as a tool for teaching- learning etc. have helped in self directed learning. That has made teams independent thinker, path maker. Learning-teaching has no limits of classroom or/and pen-paper now. Its beyond classroom or book.

We can see significant adoption of these technology in further and higher education, and in commercial training and updating. EdTech learning is any sort of learning which take place when the learner is not a fixed, predetermined location or learning that happens when the learner take advantage of the learning opportunities offered by technology. Distance education is a recent concept, which makes individual to carry on his educational pursuit. This could be made possible only due to technological development in the field of education. EdTech has provided an on hand easiest platform that **"Anytime Anywhere Anything can be learnt".** Thus EdTech is successful vast step towards futuristic education.

"It is not about the technology; It's about sharing knowledge and information, communicating efficiently, building learning communities and creating a culture of professionalism in schools. There are the key responsibilities of all educational leaders"

Marion Ginopolis

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The Role of Information and Communication Technology(ICT) in Higher Education for the 21st Century

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ABSTRACT:

This paper attempts to highlight the role of ICT in higher education for the 21st century. In particular the paper has argued that ICTs have impacted on educational practice in education to date in quite small ways but that the impact will grow considerably in years to come and that ICT will become a strong agent for change among many educational practices. It is evident from the study that use of ICT in education is increasing very rapidly in various states of India. One of the most common problems of using Information and Communication Technologies (ICTs) in education is to base choices on technological possibilities rather than educational needs. In developing countries where higher education is fraught with serious challenges at multiple levels, there is increasing pressure to ensure that technological possibilities are viewed in the context of educational needs. The use of ICT in education lends itself to more student-centred learning settings 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 and this importance will continue to grow and develop in the 21st century. Thus, the paper suggests that ICT in higher education is not a technique for educational development but also a way of socio-economic development of the nation.

Keywords:

(ICT, Education, Socio-Economic Development)

INTRODUCTION :

Ensuring universal service and access to information and communication technology is a top national objective in many countries, often enshrine

in laws that govern the sector. One of the distinctive features of human beings is their ability to acquire knowledge, and what makes this knowledge an ever-thriving entity is man's ability to 'impact' this knowledge to others. Transfer of knowledge, which is one of the foundations of learning, is among the most fundamental social achievements of human beings. Building strong relationships with students is something that frequently explains why faculty takes pleasure in the challenge of working at a small university. The concept of moving the traditional classroom of desks, notebooks, pencils, and blackboard to an online forum of computers, software, and the Internet intimidates many teachers who are accustomed to the face-to-face interaction of the traditional classroom. In the past 10 years, online instruction has become extremely popular as is evident in the rise of online universities, such as University of Phoenix Online and Athabasca University (Canada), and on-campus universities offering online courses and degrees, such as Harvard University and University of Toronto. For many students who find it difficult to come to campus due to employment, family responsibilities, health issues, and other time constrains, online education is the only option. Advancements, standards, specifications and subsequent adoptions have led to major growth in the extensibility, interoperability and scalability of e-learning technologies. E-learning is fast becoming a major form of learning. Computer multimedia offers ideal opportunities for creating and presenting visually enriched learning environments. The latest technologies associated with virtual reality will also play an important role in not too distance future. Management institutes and educators have attempted an increased incorporation of collaborative group work, problem-solving and decision-making through technology as an integral component of pedagogy. There is no doubt that technology-based tools can enhance student's cognitive performance and achievements if used appropriately, in accordance with knowledge learning and as part of a coherent educational approach. Computer-based systems have great potential for delivering teaching and learning material. The rapid development of Information and Communication Technology (ICT), particularly the Internet, is one of the most fascinating phenomena characterizing the Information Age. ICT powers our access to information, enables new forms of communication, and serves many on-line services in the spheres of commerce, culture, entertainment and education. Over the last decade in the United Kingdom there has been growth in support for the use of technology within teaching and learning in Higher Education (HE). In particular, since 1993 the Teaching and Learning

Technology Programme (TLTP) has promoted the creation of technology-based materials for use across the HE sector.

About ICT:

Information and Communication Technologies (ICTs) are referred to as the varied collection of technological gear and resources which are made use of to communicate. They are also made use of to generate, distribute, collect and administer information. ICT is a force that has changed many aspects of the way we live. Information and Communication Technologies consist of the hardware, software, networks, and media for collection, storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services. ICTs can be divided into two components, Information and Communication Infrastructure (ICI) which refers to physical telecommunications systems and networks (cellular, broadcast, cable, satellite, postal) and the

Services that utilize those (Internet, voice, mail, radio, and television), and Information Technology (IT) that refers to the hardware and software of information collection, storage, processing, and presentation. The concept of a "Digital Divide" has been around almost as long as ICT has been publicly available. While traditionally it has come to mean a division in society, based on socio-economic factors, this does not 'paint the entire picture' Introducing ICT as a tool to support the education sector has initiated substantial discussions since the late 1990s. A decade ago the emphasis was on Technical and Vocational Education and Training and training teachers. During the last few years an increasing number of international development agencies have embraced the potential of ICT to support the education sector. UNESCO has played a major role in spearheading the Education for All initiative to harness the potential of ICT. The widely subscribed Dakar Framework for Action recognizes that, 'these technologies (ICTs) have great potential for knowledge dissemination, effective learning and the development of more efficient education services'. When looking at the integration of ICT to support the achievement of educational objectives, it can be found that after almost a decade of using ICT to stimulate development, it is not yet fully integrated in development activities and awareness raising is still required. The main objectives of the paper are to evaluate the importance of ICT in higher education and to analyse the government initiatives for development of ICT in higher education.

ICT AND HIGHER EDUCATION:

The major teaching and learning challenges facing higher education revolve around student diversity, which includes, amongst others, diversity in students' academic preparedness,

language and schooling background. Education is perhaps the most strategic area of intervention for the empowerment of girls and women in any society and the use of information and communication technologies (ICTs) as an educational tool in the promotion of women's advancement has immense potential. The application of ICTs as a tool for effective enhancement of learning, teaching and education management covers the entire spectrum of education from early childhood development, primary, secondary, tertiary, basic education and further education and training. Integrating ICT in teaching and learning is high on the educational reform agenda. Often ICT is seen as indispensable tool to fully participate in the knowledge society. ICTs need to be seen as "an essential aspect of teaching's cultural toolkit in the twenty-first century, affording new and
transformative models of development that extend the nature and reach of teacher learning wherever it takes place" (Leach, 2005). For developing countries like Vietnam, ICT can moreover be seen as a way to merge into a globalizing world. It is assumed that ICT brings revolutionary change in teaching methodologies. The innovation lies not per se in the introduction and use of ICT, but in its role as a contributor towards a student-centered form of teaching and learning. The Information and Communication Technology (ICT) curriculum provides a broad perspective on the nature of technology, how to use and apply a variety of technologies, and the impact of ICT on self and society. Technology is about the ways things are done; the processes, tools and techniques that alter human activity. ICT is about the new ways in which people can communicate, inquire, make decisions and solve problems. It is the processes, tools and techniques for:

1.gathering and identifying information
2.classifying and organizing
3.summarizing and synthesizing
4.analyzing and evaluating
5.speculating and predicting

Enhancing and upgrading the quality of education and instruction is a vital concern, predominantly at the time of the spreading out and development of education. ICTs can improve the quality of education in a number of ways: By augmenting student enthusiasm and commitment, by making possible the acquirement of fundamental skills and by improving teacher training. ICTs are also tools which enable and bring about transformation which, when used properly, can encourage the shift an environment which is learner-centered. ICTs which can be in the form of videos, television and also computer multimedia software, that merges sound, transcripts and multicolored moving imagery, can be made use

of so as to make available stimulating, thought provoking and reliable content that will keep the student interested in the learning process. The radio on the other hand through its interactive programs utilizes songs, sound effects, adaptations, satirical comedies and supplementary collections of performances so as to induce the students to listen and get drawn in to the training that is being provided. The use of online pedagogy within universities and management institutes is increasing. The introduction of the Wi-Fi system too has led to the growth of hi-tech education system, where accessibility and accountability of subject matter is made readily available to the students. The students can now study and comprehend the related information at their own convenient time.

ICT IN RESEARCH:

Applications of ICTs are particularly powerful and uncontroversial in higher education's research function. Four areas are particularly important: The steady increases in bandwidth and computing power available have made it possible to conduct complex calculations on large data sets. Communication links make it possible for research teams to be spread across the world instead of concentrated in a single institution. The combination of communications and digital libraries is equalizing access to academic resources, greatly enriching research possibilities for smaller institutions and those outside the big cities. Taking full advantage of these trends to create new dynamics in research requires national policies for ICTs in higher education and the establishment of joint information systems linking all higher education institutions. The application of ICTs in academic research has grown steadily in the past 10 to 15 years in both developing and developed countries, although there are wide variations in usage both within and between countries and regions. The most straightforward use of ICTs in research is in data processing. The unprecedented growth in bandwidth and computing power provide opportunities for analyzing/processing huge amounts of data and performing complex computations on them in a manner that is extremely

fast, accurate and reliable. Computer data processing not only frees researchers from the cumbersome task of manually analyzing data but more importantly facilitates quick and accurate analysis of huge amounts of data from national samples or even multi-national samples covering tens of thousands of respondents. Another important dimension of ICTs in research is the use of online full text databases and online research libraries/virtual libraries which are the direct outcome of the growth in telecommunications networks and technology. These databases and libraries provide researchers with online access to the contents of hundreds of thousands of books from major publishing houses, research reports, and peer-reviewed articles in electric journals.ICT has also played a major role in university and

industry partnership in Europe. The University of Minnesota's MBB Net (a web portal of the state's virtual biomedical and bioscience community) in collaboration with Zurich Med Net (a web based information source covering 400 universities, companies and institute) offers links to more than 1,300 organizations in the area of technology transfer.

ICT IN TEACHING :

Academics have taken to the use of computer in teaching much more readily than they adopted earlier audio-visual media. This is because the strength of computers is their power to manipulate words and symbols - which is at the heart of the academic endeavor. There is a trend to introduce eLearning or online learning both in courses taught on campus and in distance learning. Distance education and e-Learning are not necessarily the same thing and can have very different cost structures. Whether eLearning improves quality or reduce cost depends on the

particular circumstances. ICTs in general and eLearning in particular have reduced the barriers to entry to the higher education business. Countries and those aspiring to create new HEIs can learn from the failures of a number of virtual universities. They reveal that ICTs should be introduced in a systematic manner that brings clarity to the business model through cost-benefit analyses. ICT according to a number of commentators, enhance teaching, learning, and research, both from the constructivist and instructive theories of learning. Behind this increasing faith in the role of technology in higher education however, lies implied acceptance of technology by various commentators, either as neutral and autonomous, neutral and human controlled, autonomous and value laden, or human controlled and value laden. In many countries, demand for higher education far outstrips supply and Governments and institutions are turning more and more to the use of ICTs to bridge the access gap. It is too early to say whether the role of ICTs in the teaching function of higher education is truly transformative, or whether it is imply a repackaging of previous pedagogy. 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. 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, for example, may be accessed 24 hours a day, 7 days a week. 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 any time of the day and unlimited number of people. Effectiveness, cost, equity, and sustainability are four broad intertwined issues which must be addressed when considering the overall impact of the use of ICTs in education. 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. The constitution of the United Nations Educational, Scientific and Cultural Organization (UNESCO) was adopted by 20 countries at the London Conference in November 1945 and entered into effect on 4 November 1946. The main objective of UNESCO is to contribute to peace and security in the world by promoting collaboration among nations through education, science, culture and communication in order to foster universal respect for justice, the rule of
law, and the human rights and fundamental freedoms that are affirmed for the peoples of the world, without distinction of race, sex, language or religion, by the Charter of the United Nations. UNESCO's principles on ICT in education can be summarized as follows:

1.Old and new technologies need to be used in a balanced way. On-the-air and off-the-air radio/radio-cassette, television and offline video-assisted technologies are still considered valid and cost-effective modes of education delivery, as important as more interactive computer/Internet-based virtual education or online distance learning.

2.Meeting the international education goals by 2015 will require huge investments in teacher training institutions.

3.The demand for higher education cannot be met in both the developed and developing world without distance or virtual modes of learning

4.Vocational training needs cannot be met without virtual classes, virtual laboratories, etc.

5.Educational goals cannot be met without gender sensitivity. Wherever possible, the proposed indicators will address the need to measure the gender gap.

Large Class The growth of mass higher education has made large classes an endemic feature of several courses at higher education institutions. Large class sizes make it difficult for

teachers to employ interactive teaching strategies or to gain insight into the difficulties experienced by students. Large classes pose problems for all students but students who are under-prepared are particularly affected. It is these contexts that provide useful opportunities for educational technologies. Increasing access to education ICTs are a prospectively prevailing tool for developing educational opportunities, both prescribed and non-prescribed.

1.Whenever, wherever:

One important characteristic of ICTs is their capability to go beyond time and space. ICTs make it feasible to achieve learning which is exemplified by a time delay involving the deliverance of instruction and its receipt by students which is termed as asynchronous learning. Course materials can be retrieved and used 24 x 7. An example that can be discussed here is that of Hughes Net Global Educations Interactive Onsite Learning platform which strives to characterize the future level of education which is called as Real Time Interactive education.

2.Access to reserved educational capital:

With the advent of the internet and the World Wide Web, it is now possible to gain access to an unlimited amount of data and educational materials. Data in almost any subject and in diverse forms of media can be accessed from any place at different times of the day and by an unrestricted number of individuals. This is predominantly important for various educational institutions in the developing countries, and also for those educational institutions in developed countries that have restricted and outdated material in their libraries. ICTs, also enable access to the opinions of professionals, experts and researchers all over the world and allows one to be in direct communication with them. External factors influencing the inner life of higher education institutions, including the use of ICT, can generally be distinguished into: economic, social, cultural, and technological factors as well as the changing role of governmental policy. ICT is both driving and enabling the processes toward a knowledge-driven global economy. It allowshigher education providers to accommodate the specific needs of students in termsof mode, pace, place and time of study and to cater to different and new target groups and (niche) markets both locally and globally.

BENEFITS AND CHALLENGES OF ICT:

Tools are now available on the Internet to assist both teachers and students to manage writing assignments to detect and avoid the pitfalls of plagiarism and copyright violations. One of the great benefits of ICTs in teaching is that they can improve the quality and the quantity of

educational provision. For this to happen however, they must be used appropriately. While using ICTs in teaching has some obvious benefits, ICTs also bring challenges. First is the high cost of acquiring, installing, operating, maintaining and replacing ICTs. While potentially of great importance, the integration of ICTs into teaching is still in its infancy. Introducing ICT systems for teaching in developing countries has a particularly high opportunity cost because installing them is usually more expensive in absolute terms than in industrialized countries whereas, in contrast, alternative investments (e.g., buildings) are relatively less costly. Using unlicensed software can be very problematic, not only legally but in the costs of maintenance, particularly if the pirated software varies in standard formats. Even though students can benefit immensely from well-produced learning resources, online teaching has its own unique challenges as not all faculties are ICT literate and can teach using ICT tools.

The four most common mistakes in introducing ICTs into teaching are:

i) installing learning technology without reviewing student needs and content availability;

(ii) imposing technological systems from the top down without involving faculty and students;

(iii) using inappropriate content from other regions of the world without customizing it appropriately; and

(iv) producing low quality content that has poor instructional design and is not adapted to the technology in use.

The other challenge faced is that in many developing nations the basic requirement of electricity and telephone networks is not available. Also many collages do not have proper rooms or buildings so as to accommodate the technology. Another challenge is that the teachers need to develop their own capacity so as to efficiently make use of the different ICTs in different situations. They should not be scared that ICTs would replace teachers English being the dominant language most of the online content is in English. This causes problems as in many nations the people are not conversant or comfortable with English. Skills development is another important area in which ICT could be used effectively. Attempts are being made to strengthen the ICT framework for Technical and Vocational Education (TVET). The emerging discourse on the role of skill development in addressing poverty and developmental issues indicates the potential role of ICT4D. ICT can play a major role in integrating skill development as a component of a poverty alleviation strategy.

CONCLUDING OBSERVATIONS :

As move into the 21st century, many factors are bringing strong forces to bear on the adoption of ICTs in education and contemporary trends suggest will soon see large scale changes in the way education is planned and delivered as a consequence of the opportunities and affordances of ICT. It is believed that the 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 systems. Extrapolating current activities and practices, the continued use and development of ICTs within education will have a strong impact on: What is learned, how it is learned, when and where learning takes place, & who is learning and who is teaching. The continued and increased use of ICTs in education in years to come, will serve to increase the temporal and geographical opportunities that are currently experienced. The integration of ICTs in higher education is inevitable. The very high demand for higher education has stimulated significant growth in both private and public provision. ICTs in the form of Management Information Systems are increasingly universal. The strength of computers in teaching is their power to manipulate words and symbols - which is at the heart of the academic endeavour. ICT has also led to the emergence of Open Educational Resources (OERs). The use of ICT creates an open environment which enables the storage and the reuse of information materials as also it enables the interface among the teachers as well as students. Apart from having enabling telecommunications and ICT policies, governments and higher education institutions will need to develop strategies for effective ICT and media deployment and sustainability.

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ICT in 21st Century Classrooms in view of Learners, Teachers, Challenges and Remedies

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Abstract:

The 21st century is the century of the knowledge and skills. The more skills and knowledge you have, the more opportunities will be available for you. Many changes can be seen in 21st century learner and teacher as per demands of global professional world in which information and communications technologies are playing a very vital role. This paper throws glimpses on 21st century learner, teacher, challenges and solutions. It defines 21st century students and teachers and presents the challenges which are faced by educators. This paper also presents solutions to help teachers effectively meet the needs of students while preparing them for the 21st century workforce.

Key Words:

Information and Communication Technology, Global Professional World, Workforce

The 21st century students: Abstract:

The 21st century is the century of the knowledge and skills. The more skills and knowledge you have, the more opportunities will be available for you. Many changes can be seen in 21st century learner and teacher as per demands of global professional world in which information and communications technologies are playing a very vital role. This paper throws glimpses on 21st century learner, teacher, challenges and solutions. It defines 21st century students and teachers and presents the challenges which are faced by educators. This paper also presents solutions to help teachers effectively meet the needs of students while preparing them for the 21st century workforce.

J. S. Brown rightly states in his work Learning in Digital Age that "Today's digital kids think of ICT as something akin to oxygen; they expect it, it's what they breathe and it's how they live."The current generation of students, were born between 1980 and 2000. They are living in virtual world. They listen music; view, create and publish Internet content; play video

games; watch television; talk on mobile phones and instant message every day. As International Education Advisory Board states these young people have the following characteristics

- They do not want to be bound by traditional schedules, and they do not necessarily want to sit in a classroom to learn or in an office to work. Instead, they prefer to use technology to study at any time of the day or night, telecommute from anywhere in the world and define "balance" in their own individual ways.
- In project-based environments, they use technology to complete tasks in new and creative ways. Their need for alternative methods to complete tasks presents challenges when using traditional measurements to define productivity.
- They are connected constantly through social networking. In person, they travel in packs, shopping and playing together. Online, they seek opportunities to identify with other individuals on a smaller scale, joining communities and associating with peers around the world. They are highly collaborative; sharing what they learn with others actually helps them create their own personal identities.
- They have been taught to be tolerant of all races, religions and sexual orientations. They are not limited by the information available at their local library or by linear searches in encyclopaedias on topics. Instead, they use the Internet to search for information worldwide and use hypertext links to divert from original searches and learn about new subjects.
- The Millennial generation is the first to be surrounded by digital media. ICT has always been part of their lives, and because of this access, they naturally gravitate to it. They expect it to support their learning and do what they need it to do. Indeed, they can perform more functions with mobile phones, handheld devices and other wireless equipment than they can with traditional computers. In addition to using the calendaring functions of these devices to prioritize and schedule their lives, they often prefer computer-mediated communication and have developed their own language.
- They like to take risk and grasp opportunities. They shares common attitude: "If this doesn't work out, we'll try again." Some found wealth as a result; others tried and tried again. Their parents do not think this way and are not as likely to take repeated and similar risks.
- They tries to understand how new technology works, marvels at it; generally holds to tradition, rather than adopting new technologies they tries to understand how new technology works, marvels at it; generally adopts new technologies easily.

The 21st Century Teacher:

As per the requirement of learner, teachers have to enter in the classroom with the bundle of skills in their pockets. They have changed their classrooms as they improve their lessons and teaching using technology. Generally, today's educators share the following characteristics:

- They may resist learning about new technology. Coming from the Baby Boom generation and somewhat reluctant to adopt new technology too quickly, some educators feel intimidated by students' knowledge of tools they do not understand.
- They need support and planning time. The number one reason teachers experience dissatisfaction with their jobs, causing them to either leave their profession or transfer to other schools, is lack of planning time.
- New technology takes them out of their comfort zones. Technology requires teachers to play more of a facilitator role rather than a more directive or authoritative one. This new role conflicts with traditional teaching methods and requires teachers to step back and allow learning to happen without their hands-on direction.
- They support the idea of on line learning and believe that technology is fostering student-teacher relationship. (Wisle,2012)
- They have faith on project based learning (PBL) as per the requirement of industry and business world. PBL is the best means for educators to meet the objectives of 21st century skills. (ETML, 2011)

The Challenges of 21st century classroom:

The classroom has changed since revolution of information technology. Curricula evolve, and new teaching methodologies are developed to reach this generation, which spends as much time stimulated by digital media as it does in school. IEAB states that when teachers are engaged and educate with this generation of students, they face the following challenges:

- Learning means more when students understand practical applications for the information they receive. Content must be specific, concise and fast. Students are hungry for information and will search for it on their own if teachers do not present what they perceive to be relevant. Because so much information is constantly available, they do not feel they need to learn everything immediately. Instead, they want to be taught how and where to find what they need when they need it.

- Technology can be distracting. Although students respond best to high technology, these students and more often their teachers may become very distracted by it. ICT in the classroom requires students and educators to be taught how and when to use technology as a tool appropriately and safely.
- Technology can be expensive. The costs associated with implementing new technological resources in academic institutions are daunting. Funding hardware, software, infrastructure, professional development and technical support must be an ongoing priority. ICT costs are recurring, as is the need for teachers to be repeatedly trained and prepared to use technology.
- To effectively engage and teach 21st century students, education systems must be outfitted with a prerequisite of ICT resources, and curricula must be designed to promote a collaborative learner-centered environment to which students will relate and respond. As ICT is integrated into classrooms, educators must have professional development and certification of computing skills. Students must also be taught ICT skills relevant to their entry into the workforce.
- Education systems must outfit classrooms with ICT resources vital to the learning needs of 21st century students. Projector, interactive whiteboard, software, hardware, and digital application should be used in the classroom. When funding does not allow for computers for each student, there may be mounted on wheeled carts to provide access for multiple classrooms to share.
- Curricula should provide opportunities for students to develop creativity, thinking, team-building, multitasking and problem-solving skills employers need. Consider the following characteristics of well-designed video games and ideas for how these characteristics can be applied in the learning environment:
- In the classroom, teachers must set clear, realistic, attainable expectations for success. Not all students will achieve a goal in the same way or at the same speed, but everyone must be given the same criteria for passing. For clarity, provide rubrics, multiple measures and examples, considering how individual students learn.
- In the classroom, allow students to complete portions of assignments and submit them for review. Give them opportunities to correct work and resubmit it. Be patient with their attempts, allowing students to learn from their mistakes and try again.
- In the classroom, utilize group projects and peer review. Allow students to introduce themselves to their groups so classmates can see who they are working with, identify areas of shared interests and discover how they are individual, different and unique. Physically arrange classrooms to allow for collaboration and idea sharing.

- By showing how specific skills are relevant to jobs, students should be allowed to experience organizational situation. More group tasks will develop their leadership quality, decision making power and professionalism.
- Exposure to computers in the classroom or at home and use of mobile technology does not always equal understanding or efficient use of ICT. Core digital literacy must be taught and validated to ensure students have current and relevant skills to enter institutions of higher learning and per- form productively in the workplace. Indeed, with employment on the horizon, students must be able to demonstrate a solid foundation of computing skills and experience.

Conclusion:

Best education practice, education resources and ICT will be very useful tools to shape and enhance the learning environment in the classroom. Teachers using digital technology with certified computing skills will be the most powerful educators in the 21st century.

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Learning in the 21st Century: Teaching Today's Students on Their Terms

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Through its research, the National Education Association has determined today's teachers are generally white, female, 43 years old and married. They are more educated and experienced than teachers of the past; more than half hold advanced degrees and have 15 years or more of experience. And, of course, these teachers are seeing their work and their classrooms transform as they improve their lessons and teaching using technology.

Generally, today's educators also share the following characteristics:

- They may resist learning about new technology. Coming from the Baby Boom generation and somewhat reluctant to adopt new technology too quickly, some educators feel intimidated by students' knowledge of tools they do not understand.
- They work in environments where professional development is underemphasized and undervalued by their employers. Of the 75 percent of teachers who participated in educational technology integration professional development courses, the majority—more than 60 percent— spent less than eight hours in a 12-month period in this type of training. When so few hours were dedicated to this training, 87 percent of teachers said they did not experience a lot of improvement in their teaching.
- They need support and planning time. The number one reason teachers experience dissatisfaction with their jobs, causing them to either leave their profession or transfer to other schools, is lack of planning time.
- New technology takes them out of their comfort zones. Technology requires teachers to play more of a facilitator role—rather than a more directive or authoritative one. This new role conflicts with traditional teaching methods and requires teachers to step back and allow learning to happen without their hands-on direction.

THE CHALLENGES OF TEACHING MILLENNIALS

The classroom has changed since Millennials began moving through today's school systems. Curricula evolve, and new teaching methodologies are developed to reach this generation, which spends as much time stimulated by digital media as it does in school. As teachers work to engage and educate this generation of students, they face the following challenges:

Learning must be relevant to students. Learning means more when Millennials understand practical applications for the information they receive. Content must be

specific, concise and fast. Millennials are hungry for information and will search for it on their own if teachers do not present what they perceive to be relevant. Because so much information is constantly available, Millennials do not feel they need to learn everything immediately. Instead, they want to be taught how and where to find what they need when they need it.

Technology can be distracting. Although Millennials respond best to high technology, these students and—more often—their teachers may become very distracted by it. ICT in the classroom requires students and educators to be taught how and when to use technology as a tool appropriately and safely.

Technology can be expensive. The costs associated with implementing new technological resources in academic institutions are daunting. Funding hardware, software, infrastructure, professional development and technical support must be an ongoing priority. ICT costs are recurring, as is the need for teachers to be repeatedly trained and prepared to use technology.

Millennials risk being over-schooled and overworkedxiv. The most scheduled generation ever, Millennials are pushed to succeed unlike any previous generation. High school students who excel arrive at college to find themselves unchallenged, sometimes finding no use for the first two years of higher education.

CONCLUSION

Technology already serves as an extraordinary tool to shape and enhance the learning environment. Along with equipment, digital literacy skills are absolutely necessary to ensure the technology is used to supplement—and not substitute for—high-quality instructional methods. Undeniably, the instruments in our hands are not as important as how they are used to effectively shape the learning environment for today's students. Great teachers using digital technology with certified computing skills will be the most powerful educators in the 21st century.

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Smartphone – An innovative educational tool in the 21st century

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Abstract:

M-learning focuses on the mobility of the learner, interacting with portable technologies, and learning that reflects a focus on how society and its institutions can accommodate and support an increasingly mobile population. There is also a new direction in m-learning that gives the instructor more mobility and includes creation of on the spot and in the field learning material that predominately uses smart phone with special software such as AHG Cloud Note. Smartphones have changed the way we live and communicate and this also affects young people: 80% of teens have a smartphone and 25% of children between 2 and 5 years already use the internet without the help of their parents. This paper brings out the various uses of smartphones for the purpose of education and focuses on its advantages and disadvantages.

Keywords: M-learning, smartphones, technology.

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Introduction

The term m-learning or "mobile learning" has different meanings for different communities, covering a range of use scenarios including e-learning, educational technology and distance education, that focuses on learning with mobile devices. Mobile learning is defined as "learning across multiple contexts, through social and content interactions, using personal electronic devices". M-learning technologies include handheld computers, MP3 players,

notebooks, mobile phones and tablets. M-learning focuses on the mobility of the learner, interacting with portable technologies, and learning that reflects a focus on how society and its institutions can accommodate and support an increasingly mobile population. There is also a new direction in m-learning that gives the instructor more mobility and includes creation of on the spot and in the field learning material that predominately uses smartphone with special software such as AHG Cloud Note.[1]

Every day, more and more people are buying gadgets to connect to the digital world. Gadgets are everywhere: Smartphones, music players, tablet computers, laptops, netbooks, etc. If one of them is used for educational purposes and productivity, that's mobile learning.

Learning does not only happen inside the four walls of the classroom, it can happen anywhere: On a bus, in a museum, at the zoo, in the living room. Portability is important for a gadget, but a gadget is most praised for its ability to connect to academic resources with just a swipe of a finger.[2]

Nearly every student, staff and faculty member has a cell phone, and in the past years there's been a push to harness the technology for educational enhancement. But now an even more advanced mobile technology is becoming ubiquitous–smartphones. Many students are the proud owners of these devices. In addition to standard cell phone features of calling and texting, smartphones make it easy to browse the web, play games, check the news, study for a test, and much more all thanks to different applications that can be installed on the phone. With technology constantly advancing, it may be only a matter of time until cell phones are replaced completely by smartphones. It's no wonder, considering possession of a smartphone is having knowledge & resources at your fingertips (literally). This brings to mind the idea of smartphones in the classroom. Want to get the latest on a current event? Open a news app. Need to spell check something? Use the dictionary on your phone. Looking for background information on a topic? Open Wikipedia for a quick review.[3]

Pulling a cellphone out during class used to mean likely confiscation; now, a growing number of schools in the world are turning to the smartphone as a learning tool. Technology is one of the many ways teachers can open for children on their path to success. Students are asked to bring their smartphones to school as an instructional device that can be used to enhance learning in the classroom.

Smart phones are high end mobile phones which combine the features of personal digital assistants (PDAs) and mobile phones creating a powerful, portable communication tool. They carry a variety of features within a small, often light weight frame.

Smartphones are powerful tools for education, since they enhance the involvement of young people and bring contents to a device that they are constantly using. This is one of the conclusions drawn from the conference "Mobile Technology and Learning", organized by Kid's Cluster with the support of Mobile World Capital, and held in Barcelona Activa on October 10. Torrents Pere, mEducational manager of Mobile World Capital - GSMA (MWC), gave some information about how we are using phones, and explained that Spain is the world leader in smartphone penetration, with a 66% rate, and that in the world there are 7 billion of connected devices: "When the figure reached 4 billion, there were more connected devices than toothbrushes", he said. It is estimated that in 2020 there will be five of these devices per person.[4]

The smartphone owner population is growing. Multi-functionality, portability, and connectivity are opening doors for learning. No wonder students harness smartphone technology to help them in education. These tiny pocket computers keep students connected to the Internet, improving their academics.

A user can now take notes and transfer them to a laptop or share them online with a study group. Teachers can create presentations or flashcards. A learner has instant access to numerous websites for questions needing answered. For video assignments, students can record their films using a smartphone and send them to a computer for editing.

Despite the great built-in features of a smartphone, a student can only explore its full potential by using apps. Here are some of the useful smartphone apps for studying.

1. **Google Chrome -** Among all Android browsers, Google Chrome is the best because of its smooth user interface. If students have problems with a website, they can just check “Request Desktop Site” to view the site the way it is on desktop. This feature makes Chrome the best.
2. **Team Viewer -** If a student forgets an assignment on their computer at home they can use this app to control their Windows, Mac or Linux computer.
3. **Drop box or Google Drive -** It is very important for students to have their files synced across all their devices. Using Dropbox or Google Drive on their smartphone, students can rest assured that their files will always be available.

4. **Recordroid -** Students who are tired of transcribing their teacher's lessons can use Recordroid to create audio recording notes. Files created will be sent to their desktop computer via e-mail, so they can review what the teacher said at home.
5. **myHomework -** This app lists the deadlines for homework. It also tracks the difficulty level of assignments, so students can do the easier ones first.
6. **Dictionary.com -** Some dictionaries are too thick to carry. The smaller ones are not even complete. Download the Dictionary.com app and a student can have about 2 million words available with just a swipe of a finger.
7. **Instapaper** - If a student finds something very useful on the Internet but doesn't have the time to read it now they can get Instapaper. This app turns any webpage into readable offline content, so students can read it later, even without an Internet connection.[5]

Reasons to use Smartphones in the Classroom.

- **Students learn in a way they are comfortable.** There is a widespread use of smartphones by younger children. More and more students know how to use them and they are becoming the most used tools by children.
- **Students are able to get answers quickly.** Smartphones provide the ability to get answers quickly. A student may not ask for clarification to a question he or she has in an open classroom hence the use of a smartphone in a classroom setting can provide those answers.
- **Audio and video can bring learning to life within the classroom.** The audio and video capabilities of smartphones can bring learning to life within the classroom. This can be done through video images, music and voice. In addition, students can even be allowed to connect with other students from around the world, hence expanding their learning world.
- **The use of the smartphones allows for social learning.** Smartphones can allow students to work in groups on projects, sharing information and discoveries. Therefore, the students can move toward a common goal, in a format they are comfortable using.[6]

Use Smartphones to Collaborate

- Have students peer-assess their classmates' essays through a Google Form embedded on teacher page, and allow them to view real-time constructive criticism. Afterwards, polish up the spreadsheet and share with students.

- Allow texting in class to peer-edit and offer constructive criticism for writing projects. Just imagine students sharing thesis statements and introductory paragraphs without ever saying a word. This is just one of the strategies we use to create a quiet and successful writing atmosphere in Studio 113.
- Make brainstorming visible via a projected image with Polleverywhere.com and Wallwisher.com. Using these two sites really is too simple. Although Wallwisher requires an internet connection, students may use a cell phone for Polleverywhere.com.
- Create a shared list of notes by making a Google Form available. I usually embed Google Forms on my teacher page for easy access. Afterwards, I make the spreadsheet of notes available to all students.
- Have students post relative links of videos, websites, etc. for a unit of study. I like to think of this as the Army of Talent completing a task in a fraction of the time it would take one teacher hours to finish. This strategy is highly effective as it invites students to co-create their learning environment and unit. A Google Form would easily serve this purpose.
- Make thoughts visible by having students post videos and text or by having them phone in their answers to Voicethread.
- Engage readers in real-time as they work through the assigned reading by collaborating with their peers via Twitter hashtag, Polleverywhere.com, Todaysmeet.com, or Wallwisher.com.
- Have students call in-class peers during an interactive learning structure.

Use Smartphones to Communicate

- Use Face Time on the iPhone to add outside audience members during class discussion or learning activity. This is perhaps one of the coolest things we have recently done in class.
- Allow students to read from their smartphones during SSR (Silent Sustained Reading) while sharing interesting articles via Polleverywhere.com.
- Allow students to video or audio record your assignment instructions.
- View student exemplary products from school You Tube channel.
- Augment lessons with excellent videos from Ted.com or RSA.
- Use a Twitter hashtag to augment the in-class lesson or extend the conversation after class.

- Establish a Twitter class account to share class assignments and reminders. If students do not want a Twitter account, make it easy. Embed the Twitter feed on your teacher page.
- Send students reminders in-class/after-class through Class Parrot and Remind 101.
- Have a silent discussion via Todaysmeet.com.
- Capture learning moments. Ever had a student raise a hand, make a connection, and say, "Have you seen the video that….?" Ask students to e-mail pertinent links during class and show the video in minutes.
- Have students assess the teacher through a Google Form.
- Use Google Translate to break down language barriers.
- Use Instagram or Twitter to advertise class projects.

Use Smartphones to Create

- Write with apps such as My Writing Spot and Ever note.
- Set up a portable writing station by connecting a keyboard to smartphone via Bluetooth.
- Use dictionary and thesaurus apps.
- Use Dragon Dictation for struggling writers.
- Write on-the-go during a field trip or active lesson on campus with Tripline.
- Create "How-To" guides using apps such as Snap Guide.
- Write to Blog Post via the Blogger app.
- Persue playlists while double-checking the lyrics on the internet to create a soundtrack that applies to current studies.
- Create Twitter parodies of certain characters, historical figures, chemical equations, geometry theorems, and animals of study in Biology class.
- Create a mini-presentation, skit, or formal response to a prompt and e-mail the video to teacher's Posterous blog spot.

Use Smartphones to Coordinate/Curate

- Relax and write with apps like Nature Music or iZen Garden.
- Listen to music as source of inspiration for creative projects.
- Have students access their peers' blogs by sharing a Symbaloo webmix on teacher page.

- Point students in the right direction for creative tech tools.
- Save time and paper by accessing documents on teacher's website.
- Share spreadsheets of notes with Google Drive.
- Get to know your students by having them complete a Google Form.
- Research key sites to bolster students' projects.
- Manage students' knowledge of current lessons by having them take a quiz directly from their smartphones via Socrative.
- Allow students to check their grades via on-line grade book or learning platform.
- Have students question peers outside class and send their recorded opinions to Voice thread or Posteriors.
- Use apps like Reminders and Pocket Life Calendar to plan study times and project times. The Weather Channel app is handy for avoiding weather conflicts during outside project time.
- Use the calculator app to calculate scores during gamified learning structures.
- Use the stopwatch and timer apps to manage class time.[7]

Advantages

- **Educational Support:** Using smartphones and tablet computers, students have easy access to knowledge. They use their devices as supportive educational tools. They now have access to diagrams, articles, essays and other academic information which can improve student performance in the classroom.
- **Interaction:** We all know that when a teacher calls upon a student, the student gets the jitters, thinking that he or she might be in trouble. With mobile learning, communication between teacher and student is easy. It can even encourage shy students to communicate more openly when they are in class. Teachers can also use mobile devices to interact with students that require special attention.
- **Management:** No two students are the same. Each has their own way of absorbing information. Several educators note that each student requires different pedagogies or strategies for learning. Through mobile learning, students are able to learn in their own way. They can now personalize and enjoy learning.
- **Wider Access:** Other than having access to educational tools online using their smartphones and tablet computers, students now have access to industry experts. Students can read reviews and blogs by field experts. They can also follow conferences and "webinars" (online seminars). They also now have a chance to

interact with professionals even from their homes or classrooms. Using gadgets, they can overcome distance and expenses too.

- **Special Education:** More and more gadgets are being developed every day to help students with learning disabilities. Mobile technology can also benefit those with special needs. Now that there are several apps that cater to learning disabilities and physical impairments, we can say that learning-challenged students have a chance to be equal to those who are normal.

Disadvantages

- **Cost:** Cost is one great disadvantage of mobile learning. How can students be part of mobile learning if they do not have a mobile device? Moreover, technology changes very fast. Students have to upgrade devices frequently. Other than the device, there are monthly data charges from mobile providers, so downloading large files not only takes time but also costs a lot.
- **Size of Device:** The size of the gadget is also a disadvantage. It is so small that they can be lost or stolen easily. Moreover, the screen is just too small and it can strain the eyes of those who use it for a long period of time. Also, on a screen so small, only a small amount of information can be displayed.
- **Battery Life:** Most gadgets only have about 2 to 4 hours of productivity. Once the battery runs out, the student will have to plug it in for recharging. Mobile learning is then no longer mobile.
- **Technology:** Although technology is still progressing, what we have now is still limited. Most gadgets have limited storage for storing large or many files. A student has to spend more in order to have bigger storage space, and that goes back to the first disadvantage of mobile learning. Moreover, there are several operating systems or platforms out there. Content isn't all equal. So if students are Apple users, they use iOS; if Android users, they only like Android.
- **Usability:** Mobile devices are difficult to use because of the small buttons. They can be tricky to use even for students. Although detachable keyboards are available, that costs money. [8]

Conclusion

Though mobile learning, which includes the use of devices like computers, laptops, tablets, smartphones, etc. can really help a student in studying, but it can be limiting, as only the privileged few can afford having a mobile device. Yes, smartphones and tablet computers are

great tools for learning, but then again, students have to consider the budget to see if mobile learning is really worth it or not. Smart phones can be used as supportive educational tools but one cannot fully rely on them due to the technological accessibility.

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Problems and Root Causes in Teaching Learning Methodology and Probable Solutions: A Brief Study

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Abstract:

It is believed that education is the most powerful weapon which can be used to change the world. But at the same time it's equally true that education system needs to change itself to cope with time and prevailing society. It is high time now to have academic reform in the system to meet the socio-politico-economic goals of the day. The chief facet of the education system – teaching-learning methodology – has gained much attention by the educators but even after having a sea change in the management and schemes, the result of quality remains insignificant. So in the proposed paper, the teachers – who are on the stage –, and the students – who are at the receiver's end and resulting output –, challenges rose due to their perceptions and behavior are taken into consideration.

Introduction:

Since in this time of globalization interdisciplinary approach is mandatory, the proposed paper focuses on different aspects of the central theme of the seminar – "Nurturing Quality in Higher Education Through IQAC". Education means and relates not only to a degree pursuing process but it effects, affects, influences, dominates and also govern *quality* of a person, a society, a country and/or a civilization. It is a bit late but wise decision to focus on the quality of education rather than the percentages of literacy. To have a problem based analysis, I would like to present the present state of higher education in India and in general, problems and challenges in teaching learning methodologies and probable potential solutions and strategies adaptable to Modern Education System by IQAC. To have a general analysis and identical solutions for all the countries, states, region, universities, colleges and students are not possible due to a wide spectrum of their categorization.

Current situation of Students and Teachers:

Current students in higher education institutions are born between 1985 and 2005. On average, many students who have the facility spend 6.5 hours each day saturated in print, electronic, digital, and broadcast and news media. They listen to and record music; view, create and publish Internet content; play video games; watch television; talk on mobile phones and instant message every day. Yes, it is equally true that in some part of the world and particularly India still this state of living is just like a dream, but here a general view is taken into consideration.

There are many basic problems facing higher education in India today. These include inadequate infrastructure and facilities, large vacancies in faculty positions and poor faculty, low student enrolment rate, outdated teaching methods, declining research standards, unmotivated students, overcrowded classrooms and widespread geographic, income, gender, and ethnic imbalances. But the major issue is teaching-learning methodology which depends largely on the attitudes and aptitudes of prevailing students and teachers.

Keywords: *Methodology, Attitudes and Aptitudes of students and teachers, practicality.*

Attitudes and aptitudes of students of the day:

1.Students like to have control over working ways:

Students do not necessarily want to sit in a classroom to learn or in an office to work. Instead, they prefer to use technology to study at any time of the day or night, telecommute from anywhere in the world. In Short they like to have control flexibility of means and scheduling their work and study.

2.Students like to have alternatives in study methods:

In project-based environments, Students use technology to complete tasks in new and creative ways. Their need for alternative methods to complete tasks presents challenges when using traditional measurements to define productivity. Here they have smart techniques and ways to get the assigned thing done.

3.Students are inclusive and hopeful for new things:

They have been taught to be tolerant of all races, religions and sexual orientations by current situations and prevailing system. They are not limited by the information available at their local library or by linear searches in encyclopedias on topics. Instead, they use the Internet to

search for information worldwide and use hypertext links to divert from original searches and learn about new subjects.

4.Technology: an inseparable part of today's youth:

John Seely Brown has said in *Learning in a Digital Age* "Today's digital kids think of ICT as something akin to oxygen; they expect it, it's what they breathe and it's how they live."

ICT has always been an inseparable part of these students' lives. They expect it to support their learning. Indeed, they can perform more functions with mobile phones, handheld devices and other wireless equipments than they can with traditional computers. In addition to using the traditional functions of these devices, they often prefer techno-mediated communication and have developed their own language (e.g. SMS language and Facebook language), which consists of acronyms like "LOL" ("Laughing out loud"), "ATM" ("At the moment"), "BTW" ("By the way") and other Internet slang. Today's technology allows them to express their opinions in ways unlike the past.

As opposite to this, today's educators share following characteristics:

1.Teachers work in environments where professional development is underemphasized and undervalued by their employers.

Of the 75 percent of teachers who participated in educational technology integration professional development courses, the majority—more than 60 percent— spent less than eight hours in a 12-month period in this type of training. When so few hours were dedicated to this training, 87 percent of teachers said they did not experience a lot of improvement in their teaching.

2. New technology takes Teachers out of their comfort zones.

Technology requires teachers to play more of a facilitator role—rather than a more directive or authoritative one. This new role conflicts with traditional teaching methods and requires teachers to step back and allow learning to happen without their hands-on direction. And some educators often feel intimidated by students' knowledge of tools they do not understand.

3. Unwilling to have adventures:

After reaching at certain age generally people expect peace and comfort in their life and work and want others – their children and students – to live a smooth life only. In doing so, directly or indirectly they say no to new experiments, findings, research and other this kind of

adventure. This is one of the reasons why real research work doesn't reach at an expected level.

These attitudes and aptitudes of students create such challenge and problems:

1.Learning seems to be irrelevant to students.

In this age of utilitarianism, learning means more when the students understand practical applications for the information they receive. Content must be specific, concise and fast. Students frequently ask "why to learn this?" If they don't find direct connection of the topic in the practical world, they generally tend to lose interest.

2. Technology can be distracting:

Although the students respond best to high technology, these students and—more often—their teachers may become very distracted by it. ICT in the classroom requires students and educators to be taught how and when to use technology as a tool appropriately and safely.

3. Technology can be expensive:

The costs associated with implementing new technological resources in academic institutions are daunting. Funding hardware, software, infrastructure, professional development and technical support must be an ongoing priority.

4. Examination-centered approach:

Because of this result oriented attitude, teachers lack in enthusiasm and interest in teaching properly. In the same way students keep concern with marks only. Because of this reason, *quality education* seems at stake.

5.Quality of education delivered in most institutions is very poor:

While India has some institutions of global repute delivering quality education, such as IIMs and IITs, we do not have enough of them.

6.Teachers fail to create a bridge between knowledge and its seekers:

Sometimes because of the generation gap, their ignorance towards technology and lack of proper methodology teachers fail to reach students and so the expected quality level of education cannot be reached.

7.More emphasis on memory than understanding, analyzing and applicability:

Prevailing teaching-learning and assessing methodologies tend to emphasize more on capacity of memory instead of understanding, analyzing and problem solving aspects. Only what they study theoretically, can't help them in their professional life.

Probable Solutions:

Much has been discussed about the new roles teachers and students play in learning environments created by using new technology and the types of skills required of students in this century. But what primarily requires for achieving and sustaining a quality of education is not only to guide for or teach what is prescribed in syllabus but also other soft skills like team building, cooperative communication strategies, self-direction, and the academic skills of critical and applied thinking, new knowledge construction and collaborative learning techniques.

Here comes the chief role for IQAC : to take certain steps to assure quality of education. The cell can promote measures for institutional functioning towards quality enhancement. There remains a deep valley between the result of HEI evaluation and real quality of education in them. So to equalize both of them,

- There should be three dimensional learning: 1. Project-based learning 2. Problem-based learning 3. Inquiry based learning. All fit well with technology which is used to facilitate learning and can be a tool to search for new information and organize and present ideas.
    1. **Project-based learning:** This kind of learning enhances and focuses on invent and create new things and is also applicable to majority of all the fields of education.
    2. **Problem-based learning:** Problem-solving skill includes a whole process which contains understanding a problem, analyzing, evaluating, giving solution and at last its application. So this skill can help them in their professional field.
    3. **Inquiry-based learning:** Instead of depending on given information, they should be encouraged to inquire a problem as it generates a deep critical thinking.
- And to materialize all these skills in them institutes should organize different exhibitions, activities and competitions.
- Active participation in this kind of co-curricular activities should be encouraged and motivated by considering them as an important criterion of evaluating overall performance of students and the institutes also.

- Projects and assignments should be given to students in which they can use community sites and other social media, techno-resources and skills so that they can relate and feel close to study content in their life outside the institutions which inspires them to stay connected to it as a whole and inspire them to contribute something new and original.
- To meet this goal a great up gradation in infrastructure, techno-facilities, terms and rules and thinking frame of students-teachers and management will be essential initiative.

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Progressive Teaching Tools 21st Century Shaping Innovative Learning

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ABSTRACT

This paper is based on various teaching tools adopted in 21st century. Technological tools have helped learners to understand the various concepts and theories delivered in the classroom session. This paper exhibits various aspects of technology and its effect on the youth. The boom in the sector of technology is quite evidential. Various technological tools have supported the teaching and learning process. These tools have developed various skills such as interpersonal, intrapersonal and technological skills. Innovative technological knowhow has taken birth during this century and their wise usage has created wonders. This is an era of liberalization, privatization and technological advancement and technological mobility. Ideas are splurging up every second and these ideas are put in the forms of different gadgets and teaching tools. The blackboards and chalks are converted into interactive smart boards and electronic laser pens. This technological era has provided ample of opportunity to teachers and learners. Listeners listen and experience knowledge through new innovative technological gadgets. It has ease not only the sharing but has also provided accurate evaluative methods. There are certain barriers in this regards which is not only related with the attitudinal problems but also related with the technical illiteracy and adaptability towards this change.

Introduction

"Teaching in the Internet age means we must teach tomorrow's skills today." – Jennifer Fleming

Present age is dedicated to more of learning age and advancement. It is said that even the teachers are today's learner. This is age of knowledge gradually shifting towards the age of communication. Thought and ideas are playing a crucial role in the present 21st century. The period when the denial and ignorance was the answer to the learner's inquisitiveness has no solution. The answer to these questions is the technology which has solved problem to very much extend. People call such kind of change where teachers are supported with the technological tools to prove their worth. It does not say that previous centuries teachers were not efficient or they do not have that kind of knowledge. In the present time, the knowledge has the support of the technology to explore. The learners are satisfying their requirements to the larger extend. The technological tool such as internet has shown great difference. The use of videos and photographs, 3D picture support, animations and documentaries and use of computers especially has changed the whole scenario. The most advanced version we have seen are the mobiles and the various applications which are loaded in mobile has taken the world in strong fist. The laptops are converting into the interactive machines which are loaded with n number of facilitation.

Previously, it was just the blackboard boring classroom environment where the students have nothing interesting except listening to the lectures of the teachers. Now a days, they have lot

many things to do as the classroom activity. There is no constrain of space or place, these learning process can be adopted anywhere and anytime. The classrooms are converting into the chat-rooms where the student can remain in touch with teachers always and anywhere. This has brought the learner and student to the proximity. It has bridge the gap of learning and teaching. The black color of blackboard is turned into white board and interactive board has so many options. Schools and classroom plays a very vital role in teaching and learning.

The need of present hour is teachers should go for redesigning our teaching strategies and facilitate our learners in as best manner as possible. This kind of transformation in the countries like India has to think many a tons times. We are still struggling with as our education standards that do not match with the global standards. It was the assumption of our experts with the internal quality assurance we will be able to gain everything. It included infrastructure and faculty's higher grades performance and their education. As a torch bearer, it becomes the equal responsibility of the learners to make the best use of the knowledge imparted to them. It is not just technology but we need to restructure the whole process once again to take utmost benefit from such situation.

In India, we are facing lot number of problems in education sector because of unemployment, weak spur among students and digital illiteracy. Technology can become the solution to these questions to certain extent. It is the factor which can create conducive environment to study and read. It can also curtail down the dropout cases, unrest and indiscipline in campus as well as duping standard of education to certain extent. In this context the organization like University Grant Commission, NAAC and AICTE and other such bodies are trying to maintain the stands, even World Bank Organization and UNESCO has also been contributing to provide some financial assistance to the educating bodies. This will help to upgrade the classroom and learning procedure to certain extent.

Redefining Learning-Teaching Essentials

Presently it is an era where technological changing each six months, many new applications and many new programs are built compelling the teacher and learner to advocate them. The responsibility of both has increased to the large extent. There are certain basic facts which we need to keep in mind such as given below:

1. **Awareness:** It is the demand of the 21st Century that whatever incidences or changes are occurring should be known to the person. This is an age communication, the message, idea and knowledge sharing is taking place with great speed. People are forming and deforming their opinions very fast. A learner has to act on it and find out the real cause and effect of the environment around.

2. **Flexibility:** The readiness is where one has to welcome the changes and he should be skilled enough to adopt different applications and new developing programs. It is the responsibility from the teaching side that we should make the learner realize the facts that everyday there is advancement and there is new technology standing in front of us. So we have to be flexible enough to understand the change and implement new technological changes.

3. **Polychromatic age:** This is age of multiple tasking. We necessitate doing many tasks at one time. Time management factor plays a key role. With the advancement of technology, a teacher is managing many tasks as well as the learner. They are not confined to relate themselves with only learning in the classrooms but also they are performing the other activities such as handling different projects and even taking assistance or giving assistance at the same time to the different learners in the different places.

4. **Attitudinal Change:** Changing the attitude of learner is very important because his readiness will only depend upon using the teaching gadgets effectively. The basic behavior of the person such as egoistic approach towards learning will not help them to change their basic attitude.

5. **Technology literacy:** Technology up gradation is needed. People remain using the old technology of teaching. One has to understand the best use of technology while teaching and learning. One has to understand the customs for improvisation of technology and use of gadgets in a better way and for concept building and discovering the new facts to develop better ways of living.

6. **Inquisitiveness and investigative:** Learners can espouse the technology by developing the investigative attitude to learn in a better manner and in the better ways. They need to find out something new every time and need to adopt them with its best of the usage and better understanding.

7. **Motivated and enthusiasm:** Curious and enthusiastic behavior of the person can lead him to learn and adopt the various gadgets and applications. When there is no enthusiasm and self motivation, it hampers the intellect growth of the person. As this is the learner's age and even teachers are also learning with the students each day. So, the need to bring in some basic changes to adopt the teaching learning new technological tools.

21st Century Various Technological Gadgets

We are supported by technology in parting the ideas and knowledge. It is all about how we can use the whole technological infrastructure for the use of learners. Invention of computer has brought the boom in the industry. Education is termed with professionalism. It juggles with the technology and knowledge is not the skills confined to few people. It has the upper hand and respectable place, when a person is collaborating knowledge with different gadgets. In India the institutions like IIT and IIM are catering the needs of Information and technology enabled classrooms. Many of private institute has developed their IT classrooms from the traditional classroom. It is a common scene in the classroom to have computer with speakers, multimedia projectors, wifi routers. Every learner in this century knows about these various gadgets.

YouTube has supported with the related videos where the videos of the professors are uploaded and can be watched by the students. It has provided a cutting edge to the excellence learning. PowerPoint presentation has supported the teacher to talk about their specific ideas in better ways. It has increased the room for the interaction with the students. It has also helped the students to understand the complex concepts with lot of edge.

Laptops, Mobile phones and Tablets have opened the immense possibility to learn and teach. It has the whole world of their knowledge and knowledge sharing for better experience and understanding. There are various applications such as emailing, voice mailing, chat options, social networking sites and other facilities in the form of What's App has supported the teacher to maintain better connectivity and solve the various concept related and even personal queries of the students.

The applications like flubroo and other e- resources to collect and upload the material has made the survey based or experimental based research easier to certain extent. Blogs are another best ways to remain connected with the learners and where learners can share their own views. The teachers can post the view points, their own videos and can also write their own view point or knowledge. Students also becomes the part of such kind of learning and it is not confined to the classroom students, even other students from over the world can check the blogs and post their comments. Students reaching to the classroom are becoming old concept and now a day classroom is reaching to the students. It is a great support to the students who live in the remote regions. Even now with the help of internet facility and mobile applications they have got the chance to discover the knowledge and express their own viewpoints.

Lot of research work and project are now virtual and they are been supported by different technologies. Chat rooms and virtual apps have enhanced a sense of community and community learning and teaching programs. The various professional courses demand the technological skills for the better understanding of machinery and man. It has helped in pedagogy controlled by teachers and standardized evaluation methods. It has become choice based curriculum and supported the flexi coursers. The World Wide Web has opened a new arena and new vistas the social networking sites such a face book and Twitter has helped to develop the concept of micro blogging and short messages. The various gadgets and apps are working wonderfully in solving the problems of the students as well as communicating with the teachers. Every pocket has a computer now and students and teacher have started using it to their expertise.

New Technology Impact on Learner

Innovation and creativity is all the definition to technological teaching. The key idea is not only to generate the various required skills among the students. It has given a chance to learners to better understand about the concept and with the realistic approach. It is not the just showing the various tools but with the pictures and videos support, it helps to understand the diagrams and working of machines and various humanities and scientific models in the best of its ways. It has also reduced the various behavioral problems of the learners. It has strengthened the process of rethinking and reconceptulizaiton. The change is visible and seen with the tag line such "you cannot teach me" "teach me more" and "I want to learn". This change is compelling the students to experiment and develop various working models and

new applications. Knowledge is not confined to the caste based or class based criterion. It is adopted by everyone.

Technological tools, such as, I pad and Mobile phones has facilitated the learner to develop and know the basic concepts acquire at least the basic knowledge. It has facilitated the teachers to teach many students from one place even of the different countries. Skype, like applications has made the experts of one country available for others. The same way internet communication has compelled the learners to e-learning technology. It has helped to learn about the geography, culture and ethics of other countries as well. It has helped the learners to develop critical thinking, power of reasoning so well that they have the answer to questions even before the topic is taught to them in the classroom. The exhaustive use of internet has supported the process with information creation, managing, integrating and evaluating. This has facilitated a remote learner to reach to the right person. Technology based society has organized the work in the more systematic and organized manner.

Technological proficiency among the learner has made innovative and critical thinking arena wider. Imagination has been supported by the virtual world. It has developed a new kind of techno-savy and techno-crate learners and teachers. It has also helped to find out the remote places and to learn about their social and cultural needs. The skill development has given more stress. The technological skills have especially developed through these gadgets. Technological changes have also reduce the burden of the teachers as it has also the equipped with self learning and self directional applications. Civic and Ethical responsibility and awareness can be seen through the various social networking sites. It has provided the knowledge of rights and raising the voice for their own ideas. This has developed among the learner he is now very well aware of his right and power of expression. Internet has given the power of expression to the reader and learner. He can get immediate solutions to his problems and can email and voice mail to the professors. He can also ask for the instant messages and submit his assignments. The seminars and conferences are now turning into web-conferences and webinars. A learner can link up at a time with many of the colleagues in different countries or different places through data storage and data sharing.

A learner and teacher can also get support thorough multiliteracy projects taking technological support. Computers have given sustainability to teacher as they can prove the accountability of their knowledge. It has provided sustainability to different subject hierarchies also. The basic work of imparting knowledge in an effective and authentic manner has been achieved. It has given the chance to work in groups and team and has helped to develop community learning program. This is an ear of liberalization and globalization. This has brought lot many responsibility to the learners also and even to the teachers also to impart the kind of education which can generate the ethics of global citizen and the concept of global humanism. Technology as learners has taught us to develop the global ethics and feeling of oneness.

Conclusion

21st century teaching tools are doing the great work to gear the teaching and learning process. It is helping to effective, accurate pedagogy presentation. Learners are having ample of options too to explore the world of knowledge. It depends on the learners to take the most of the benefit of technology. Teaching tool has worked as a great facilitator for the teachers to

deliver lectures and lessons in the best and innovative ways. We have a learner now who is more experienced and knows the concept in depth and his ideas and vision is a new mature thinking. It has opened new avenues to teaching and learning process. It is helpful in developing a kind of multiple intelligent and multi skilled learners.

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ROLE OF IQAC IN PLANNING AND EXECUTION OF QUALITY ENHANCEMENT IN EDUCATION

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ABSTRCT

Quality of Education now offered in many institutions of higher education, both general and technical, requires a thorough review and correction by the agencies concerned like NAAC of UGC, NBA of AICTE.

Higher education in India is undergoing a transformation. The reason for transformation is mainly due to the expansion of higher education in India and the new demand on system. Education has always been recognized as a major instrument to achieve the objective of social, economic and political development of a nation. Higher education provides leadership by supplying a well developed human resource which ultimately takes the responsibility of operating the systemic developments in India. There have been a number of good human beings, eminent personalities in many fields who have contributed to the inventions, project, developments, arts and culture, science and technology, socio economic and other areas.

KEY WORDS: Higher Education, Quality of Education, Human Resource, NAAC.

Introduction:

Higher education in India is undergoing a transformation. The reason for transformation is mainly due to the expansion of higher education in India and the new demand on system. Education has always been recognized as a major instrument to achieve the objective of social, economic and political development of a nation. Higher education provides leadership by supplying a well developed human resource which ultimately takes the responsibility of operating the systemic developments in India. There have been a number of good human beings, eminent personalities in many fields who have contributed to the inventions, project, developments, arts and culture, science and technology, socio economic and other areas.

Internal Quality Assurance Cell (IQAC) is established as a post accreditation quality sustenance measure. Since quality enhancement is a continuous process, the IQAC has become a part of the 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 has made a significant and meaningful contribution in the post-accreditation phase. During the post-accreditation period, the IQAC has channelized the efforts and measures of an institution towards academic excellence.

The basic purposes of the IQAC:

a) To ensure continuous improvement in the entire operations of the institution, and

b) 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 IQAC:

As highlighted in the UGC Guidelines, the goals of IQAC shall be: 1). To develop a quality system for conscious, consistent and catalytic programmed action to improve the academic and administrative performance of the HEIs; and, 2). To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices. To attain these goals, the functions of IQAC shall be:

- Development and application of quality benchmarks/parameters for the various academic and administrative activities of the HEI;
- Facilitating the creation of a learner-centric environment conducive for quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process;
- Arrangement for feedback responses from students, parents and other stakeholders on quality-related institutional processes;
- Dissemination of information on the 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 of the HEI, leading to quality improvement;
- Acting as a nodal agency of the HEI for coordinating quality-related activities, including adoption and dissemination of good practices;
- Development and maintenance of Institutional database through MIS for the purpose of maintaining /enhancing the institutional quality;
- Development of Quality Culture in HEI;

- Preparation of the Annual Quality Assurance Report (AQAR) of the HEI based on the quality parameters/assessment criteria developed by the relevant quality assurance body (like NAAC, NBA, AB) in the prescribed format;
- Bi-annual development of Quality Radars (QRs) 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.

Benefits of IQAC:

- Ensure heightened level of clarity and focus in institutional functioning towards quality enhancement
- Ensure internalization of the quality culture;
- Ensure enhancement and integration among the various activities of the institution and institutionalize good practices;
- Provide a sound basis for decision-making to improve institutional functioning;
- Act as a dynamic system for quality changes in the HEIs;
- Build an organized methodology of documentation and internal communication.

Quality Enhancement Activities in education:

i) Academic Activities:

Semester System, Choice Based Credit System (CBCS),several new courses at PG level and ridge Courses have been introduced.. 5-year Integrated P.G. courses in Physics and Chemistry have been introduced. Language labs have been established to impart training to students in communication and soft skill, modernizing the class rooms and laboratory facilities. An Academic Calendar provides the entire academic schedule including the dates for internal tests and external examinations. Examination results published within 2-3 weeks. Implemented the teachers' evaluation by the students which served the teachers to enhance their performance.

(ii) Research Activities:

University provided functional autonomy to the faculty by way of simplifying the administrative procedures concerning the execution of research projects. Research in thrust areas like Bio pesticides, for Rural Development. The faculty, who secure major research projects, are provided an incentive. Faculty is encouraged to participate in or organize

seminars / conferences/ workshops in India and abroad. Qualified faculty in the affiliated colleges are encouraged to guide the candidates pursuing Ph.D. and M.Phil. programmes. University Research Board has been constituted to periodically monitor the quality of research work carried out by the research scholars and encourage them to undertake research in potential areas. University has embarked on a proactive strategy of forging collaboration with the industries and research organizations all over the world, keeping in view the challenges of globalization demands of the society. University is bringing out research journals in areas of specialization encompassing major disciplines.

iii) Extension Activities:

University has organized seminars/conferences/workshops to elicit the views of various sections of the society in the form of University-Community interaction, University – Industry Partnership and University-Farming Community meet. Students have been actively involved in the community development programmes in the villages adopted by the University. Among various programmes undertaken by the University include health awareness, child labour l seminar eradication, family planning drive, environmental protection and literacy campaign. A Viral Diagnostic Centre was established in the University (Department of Virology) to diagnose plant, animal and human viral diseases. All the students are actively involved in the "Clean and Tidy Programme" in the campus on fourth Saturday of every month. Under the "Open House" concept and Exhibition, University has showcased the activities and potentialities of the University in various fronts for developing awareness among the public and creating interest among students in pursing higher education. University Law Department offers counselling to the public on legal issues; Psychology department on Psychiatric problems and Home Science on health and Nutrition.

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Modern Methodology To Teach Mathematics

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Abstract:

In 21st century, teachers need to match students' knowledge of technology to make them understand what real learning is. Teachers should show, inform and make them understand to find, use, manage and evaluate the information effectively. With the help of technology students will be able to develop critical thinking skill over the problems.

Students need to experience how to use technology as a tool for research, to organize, evaluate and analyse the problem and develop their skills. These skills are vital for everyone's success in our times, and global competition, increased access to technology, digital information and tools are only increasing the importance of these 21st century knowledge and skills.

Introduction:

As living and working have undergone a sea change in the last decade and keeps on changing, today's students need new thinking, technical, and Communication skills to survive and thrive in the future. Fortunately, the pursuit of knowledge has never been as exciting as it is today. The ability to learn through mobile, connected environment affords students and educators the ability to participate in a new paradigm of technology-enabled education.

Keywords:

How does teaching and learning methodology help to learn mathematics?

- Representing and connecting representation

  - One can make models, draw graph and make them visualizing the things. One can use some mathematical software like.....
  - MATLAB is widely used proprietary software for performing numerical calculations. It comes with its own programming language, in which numerical algorithms can be implemented.
  - Scilab is advanced numerical analysis package similar to MATLAB or Octave.
  - O-Matrix - a matrix programming language for mathematics, engineering, science, and financial analysis.
  - IGS, one starts construction by putting a few points and using them to define new objects such as lines, circles or other points. After some construction is done, one can move the points one started with and see how the construction changes.
  - Mathematica, maple etc are also useful as mathematics software.
  - You can use Corel draw to represent different properties of various mathematical structures.

- Mathematical language and defination

  - We can use some known abbreviations to make students understand the mathematical terminology.
  - Use mathematically appropriate and comprehensible definitions.

- Mathematical reasoning and justification

  - Mathematical reasoning happens through making conjectures, investigating and representing findings and explaining and justifying conclusions.
  - Reasoning can be thought of as the process of drawing conclusions on the basis of evidence or stated assumptions, Sense making can be defined as developing an understanding of a situation, context, or concept by connecting it with existing knowledge.
  - Maths games are useful for creating a context for developing students' mathematical reasoning. They provide motivation to compare different strategies. There are so many good maths games around and are fairly easy to come by.

- Design mathematically accurate explanations that are comprehensible and useful for students.
- Represent ideas carefully, mapping between a physical or graphical model, the symbolic notation, and the operation or process.
- Good sense about mathematical precision

  - Interpret and make mathematical and pedagogical judgments about students' questions, solutions, problems, and insights.

- Mathematical curiosity and interest

  - Be able to respond productively to students' mathematical questions and curiosities.
  - Make judgments about the mathematical quality of instructional materials and modify as necessary.
  - Be able to pose good mathematical questions and problems that are productive for students' learning.

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Effective Teaching-Learning process by Reducing risk and increasing panic for student

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ABSTARCT

Students think they are desire to learning. But what is the meaning of learning? Teachers often assume that, because they are "teaching," students must be learning.

Students assume that, because they have read their text and memorized facts, they have learned something. But is it so? What are the roles of students and teachers in the teaching-learning process? This topic is discussed in this paper.

INTRODUCTION

Teacher: I taught him how to use technology.

Xyz: I never see him using technology.

Teacher: I said I taught him. I didn't say he learned it.

So this is the thing that done sometimes in teaching-learning process. Many factors are affecting in this process.

At the side of teachers, how they are teaching?, what method they applied?, how to convince students?, how apply ICT in them methodology?

At the side of students, how they are learning?, what type of methods they are prefer?, what type of risk they face?

Meaning of Learning

"Unless you try to do something beyond what you have already mastered, you will never grow."

-Ralph Waldo Emerson

People learn when they are in pain. People learn when they are having fun. But People don't learn when they are in a state of indifference. Learning is four stage sequence process.

1. Listen

2. Think

3. Understand

4. Appropriate

The first process *Listen* is the base. Teachers should have clear pronunciations and student should have concentration in listening process. The whole further process is depends on the listening.

The second process *Think* is about what you listening? Sometimes it happens in classroom student can't say to teacher even they can't listen properly.

The third process *Understand* is fact about what you listen? It can be derived from thinking. They can understand when they think.

The fourth process *Appropriate* can be done after understanding. If the students does not listen, think, and understand properly, they must appropriate it. They should clear the fault. The fault may occur when they listen, think or understand.

Method of Learning

Students focus on grades rather than learning. Student surveys indicate that courses are not interesting, that students fail to recognize the value of what they are learning, and that many faculties rely too heavily on lectures for transmitting information.

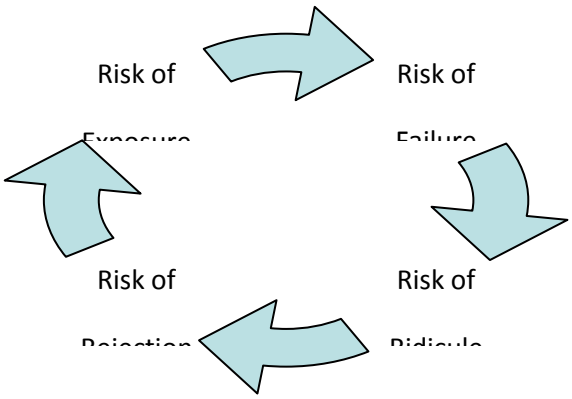
Learning involves risk. Students have fear when they are learning. Students can't say or ask anything to teacher.

Sometimes they even not ready to give the answer because lake of confidence. Overall students have fear and they don't want to take risk.

"The purpose of learning is growth, and our minds, unlike our bodies, can continue growing as long as we live."

– Mortimer Adler

Some Types Of Risk Given Below Which Students Hesitate To Take.



1. Risk of EXPOSURE

Many times students are not aware because of interest. But sometimes it happens in classroom that students are aware that something is going wrong during the lecture. But they hesitate to say to lecturer. They think if they try to say, they will be exposed.

Many times students think if they correct once, other times lecturers expect more from him and other time they may not able to correct it.Students must understand that this type of risk can help him to learn more rather than to avoid it.

2. Risk of FAILURE

This type of risks can have in majority students. Students have major fear to failure. It is not about only asking question but also about giving the answer. Sometimes failure of students to giving answer reduces confidence. Students may try to give the answer, and if they fail to give right answer, they don't try more again. It is good to ignore the failure for the students.

3. Risk of RIDICULE

Students always don't want to be reason of laugh. They feel very bad if it is so. This is the reason they don't want to communicate with lecturer. They avoid to asking question and giving answer and also discussion.Teacher must be handling this type of situation. They should feel to student that they are not part of joke and any ridicule situation.

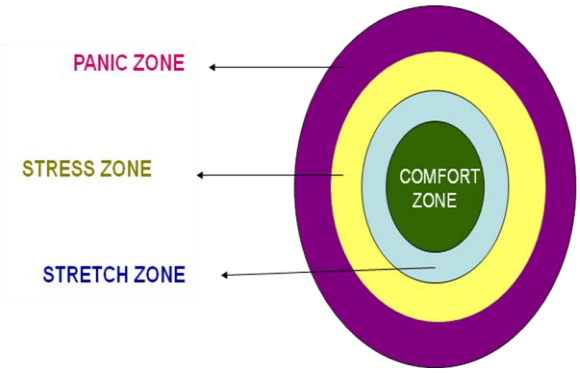
Risk of REJECTION

Teacher not internationally denial students but sometimes it happens. At that time students afraid from rejection. They are trying to stay away from it.Teacher should help them and motivate them to give answer even they reject. Also teacher should take care about rejection type of student question or answer.

Method of Teaching

Many faculties rely too heavily on lectures for transmitting information. But *Teachers' Work* has been prepared to present a clear and detailed description of the work.Fundamentally, a teacher's task is to facilitate student learning. Teachers are professional educators who have a repertoire of curriculum and leadership skills. They work collaboratively with colleagues, parents/care givers and departmental personnel to facilitate student learning and engage in educational reform. Teacher's important role is to motivate students to communicate. They should treat each student politely for communication and strictly for discipline.

Effective learning usually happens outside the comfort zone



First time one student come late in class so teacher ask him

Teacher: why are you late?

Student: give some reason.

Teacher: ok take care next time.

Again it happens more times. Every time teacher gives him to comparability so, he doesn't want come in class early. But teacher punished him first time, he doesn't try to do next time.The quote given by Nayamuna Palu, Bhayamuna Visham that "*Effective learning usually happens outside the comfort zone*"

Teacher should not comfortable with which student want to do, but should comfortable with student want learn and for that some panic is needed.

CONCLUSION

Effective teaching-learning process can be done by reducing the risk factor for the student and mounting panic factor to student from teacher.

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Integration of MATLAB Software in Teaching Mathematics

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Abstract

It is a fact that the innovations made in the 21st century have influenced teaching-learning process. The appropriate use of ICT can enhance the teaching and learning of mathematics. It is also an expectation of the National Curriculum that teachers use ICT in teaching mathematics. Computer programmes offer powerful opportunities for pupils to explore mathematical ideas. The present paper briefly discusses the uses of MATLAB and pros and cons of the software.

Keywords: MATLAB applications in Mathematics, merits and demerits of the software

Introduction:

The availability of ICT has changed the nature of teaching and learning in maths. Calculators have become more advanced, allowing users to perform increasingly complex functions. A range of portable devices exists which allow pupils to collect data, and manipulate it using spreadsheets and databases. Multimedia software programs focus on specific units of study, bringing dynamic movement, sound and graphics to pupils' learning.

Multimedia software programs focus on specific units of study, bringing dynamic movement, sound and graphics to pupils' learning. There are number of Mathematical Software designed to fulfill the present educational needs. MATLAB has been integrated as a supplement to the traditional classroom teaching and learning.

- **MATLAB – the Software**

MATLAB is a high-performance language for technical computing. It integrates computation, visualization, and programming in an easy-to-use environment where problems and solutions are expressed in familiar mathematical notation. Typical uses include:

- Math and computation
- Modeling, simulation, and prototyping
- Data analysis, exploration, and visualization
- Algorithm development
- Scientific and engineering graphics
- Application development, including graphical user interface building

MATLAB is an interactive system whose basic data element is an array that does not require dimensioning. This allows you to solve many technical computing problems, especially those with matrix and vector formulations, in a fraction of the time it would take to write a program in a scalar non interactive language such as C or Fortran.

The name MATLAB stands for matrix laboratory. MATLAB was originally written to provide easy access to matrix software developed by the LINPACK and EISPACK projects, which together represent the state-of-the-art in software for matrix computation.

MATLAB has evolved over a period of years with input from many users. In university environments, it is the standard instructional tool for introductory and advanced courses in

mathematics, engineering, and science. In industry, MATLAB is the tool of choice for high-productivity research, development, and analysis.

MATLAB features a family of application-specific solutions called toolboxes. Very important to most users of MATLAB, toolboxes allow you to learn and apply specialized technology. Toolboxes are comprehensive collections of MATLAB functions (M-files) that extend the MATLAB environment to solve particular classes of problems. Areas in which toolboxes are available include signal processing, control systems, neural networks, fuzzy logic, wavelets, simulation, and many others.

- **Benefits of MATLAB**

MATLAB has several advantages over other methods or languages:

- Its basic data element is the matrix. A simple integer is considered an matrix of one row and one column. Several mathematical operations that work on arrays or matrices are built-in to the Matlab environment. For example, cross-products, dot-products, determinants, inverse matrices.
- Vectorized operations. Adding two arrays together needs only one command, instead of a for or while loop.
- The graphical output is optimized for interaction. You can plot your data very easily, and then change colors, sizes, scales, etc, by using the graphical interactive tools.
- Matlab's functionality can be greatly expanded by the addition of toolboxes. These are sets of specific functions that provided more specialized functionality. Ex: Excel link allows data to be written in a format recognized by Excel, Statistics Toolbox allows more specialized statistical manipulation of data (Anova, Basic Fits, etc)

- **Limitations of MATLAB**

- It uses a large amount of memory and on slow computers it is very hard to use.
- It sits "on top" of Windows, getting as much CPU time as Windows allows it to have. This makes real-time applications very complicated.

- **Uses of MATLAB Software**

1. **General Purpose Commands**

1.1 Diary – Save text of MATLAB session.

Once a diary command is issued, all subsequent commands and output are written to a transcript file. diary <frame> open a transcript file named frame. diary off suspends it. diary on turns it back on. Close the transcript file using the diary off command at the end of the session.

1.2 save – Save workspace variables on disk.

save <frame> saves all workspace variables to the binary "MAT-file" named fname.mat.

The data may be retrieved with command load <fname>. save <fname > XYZsave only variables X, Y, and Z. Notice that if you only want to save several variables, make sure to put variable names after command save <fname>.

whos – Lists the variables in the current workspace.

2 Defining Variables

The basic variable types in MATLAB are scalar, vector, and matrix. Variables are defined by typing the name of the variable followed by an equal sign and the value of the variable. The values of a vector or matrix are enclosed by brackets, and rows of matrices are separated by semicolons. For example:

A=1 let a equal a scalar

B=[1 2 3] let b equal a vector

C=[1 2 3;4 5 6;7 8 9] let c equal a matrix

A=eye(3) create a 3 × 3 identity matrix

B=ones(3) create a 3 × 3 matrix of ones

C=zeros(3) create a 3 × 3 zero matrix

D=diag([1 2 3]) create a matrix whose diagonal is 1 2 3

MATLAB is able to calculate simple functions. Some examples are given below:

det(A) calculate the determinant of A

inv(A) calculate the inverse of A

rank(A) calculate the rank of A

3. Conditional and Looping Commands

The format of the **for, while, and if** commands is similar to the format of most computer languages.

For example, the statement

```
for i =1:n
        x(i)=i^2;
end
```

will produce a n-dimension vector x = [12, 22, ..., n2].

The general form of a **while** loop is

```
while relation
        statements
end
```

The general form of an **if** statement is illustrated by

```
if   n < 0
        'Enter natural no only';
elseif  rem(n,2)==0
        'No is even';
else
        'No is odd';
end
```

4. Graphics

4.1 plot

The **plot** command creates linear x-y plots;if *x* and *y* are vectors of the same length, the command **plot(x,y)** open a graph window and draws an x-y plot of the elements of *x* versus the elements of *y*. You can, for example, draw the graph of the sine function over the interval -4 to 4 with the following:

commands:

```
x= -4:.01:4;
y=sin(x);
plot(x,y)
```

MATLAB can execute a sequence of statement stored on diskfiles. Such files are called "M-files" because they must have ".m" as extension name (e.g. filename.m). A M-files consists of a sequence of normal MATLAB statements. If the file has the filename, say, test.m, then the MATLAB command **test** will cause the statements in the file to be executed. Variables in a M-file are global and will change the value of the environment.

In an M-file the user can be prompted to interactively enter input data with the function **input**.
When, for example, the statement

```
iter=input('Enter the number of iterations: ')
```

is encountered, the prompt message is displayed and execution pauses while the user keys in the input data. Upon pressing the return key, the data is assigned to the variable iter and execution resumes.

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The Role of ICT in Education

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ILSASS Vallabh Vidyanagar Introduction

The advent of globalization and technological advances has brought a revolutionary change in human life. Every aspect with which human life is connected has become affected by the global technological changes that have changed the pattern of human work. Right from the field of academics, to business and even the social life, technology have acted as a boon for mankind providing more ease and scope in explorations, inventions and connections. Educational field has also been affected by it on a huge scale. ICT that includes internet, computer, learning software, radio, televisions etc have been proved to potentially powerful tools to bring educational reforms and have changed the face of conventional education that stresses on the transfer of prescribed information from a teacher to the student. This is because education in 21st century aims at knowledge creation. Thus the present paper would focus on the role of ICT in enhancing teaching and learning process.

ICT and Education

ICT stands for information and communication technologies. It refers to any set of technological tools and resources that are used as an aid in teaching or learning process that adds to the understanding of a particular concept.

ICT has affected the field of education in a tremendous way where it has accelerated, enriched and deepened the process of learning and teaching. The conventional methods of teaching and learning focused on the passing of information from one source to another and the entire process was centred on the text books. But ICT has changed the face of education as it has motivated the trainers to emphasize the capabilities that are concerned with how to use information. The integration of technology in the curriculum has revitalized both the teachers and students as teachers have got different tools and techniques to make their

teaching more interesting and students get the knowledge through e resources that make things easy for them to understand.

ICTs have proved to be boon to the individuals who cannot enrol themselves on the campus like population that belongs to rural areas, the girls and boys who are not allowed to receive education in the cities, the old age people, disabled etc because of several reasons like cost, time, locations and social constrains. The greatest advantage of ICT is that it transcends time and space. The learners can involve themselves into the learning process any time as per their conveniences. Participants do not have to meet in person, nor even be in the same country as the teacher. Students and teachers can be anywhere in the world. International sharing is feasible, and in fact, often makes the learning experience richer and more interesting to learners. Individuals can log on at work, home, the library, in a community learning center or from their hotel when travelling.

Teachers and learners get a variety of material and sources to teach and learn from. They no longer have to rely on textbooks, books and other printed material that is usually very expensive or often out of supply. With the help of internet and the World Wide Web, learners get access to the learning material of every field at just one click. Material and books can be referred at any corner of the world and at any time. ICT has not only facilitated the access to the material but also resources like teachers, mentors, trainers etc from all over the world.

ICT has even stimulated the learners to work in a group or with collaboration. For example electronic messaging creates new opportunities for groups to work together; creating shared electronic conversations that can be thoughtful and more permanent than voice conversations.

Issues In Using ICT

ICT can make education lighter and help enhancing its quality. However, the issues related to it are non-negotiable. ‘How effective is it?’ is naturally the first question arises in one’s mind. The answer lies in the way the tools of ICT have been used and for what purpose. ICT plays different roles in serving for different educational purposes and its role differs also as per the situation into which it has been served. In short, it is not the same case everywhere about the effect and result of ICT in enhancing education quality.

While discussing about the nurturing of quality education through ICT the effectiveness of it should be taken into centre. It will be effective only when one use it with a proper method and correct way into a meaningful situation. The excessive use of ICT also can be an obstacle

for enhancing quality. It requires a good manager of all the tools also with a keen interest in all the activities and adequate knowledge about it. To make it effective the teacher who is practicing it should take proper care and while teaching the collaboration of his speech and the use of ICT would be more beneficial in the class.

There is another major issue in the ICT is its quality. Quality of ICT matters a lot since it can be considered to aid the teaching process. The material prepared and delivered through ICT must be qualitative and conducive for certain topic to be discussed and for particular classroom condition. The ICT without excellence is rather harmful. To raise quality of the ICT should be the central purpose of the one who is dealing with it. The use of ICT with the highest quality will be resulted in the highest success that is sure. The quality in ICT can give students ease at study and can make them learn at themselves. This is how if the standard couldn't be maintained, the use of ICT would be futile.

The one more important challenge for using ICT is the cost of it. As in India, we have small schools, with small financial support this is a necessary issue to be thought of. It would be useless if it is much expensive for the schools who do not have big budgets passed for implementation. However, to upgrade a quality and to be up-to-date ICT needs some kind of expenditure which can be thought as an issue in the ICT. It cannot be act perfectly in lesser amount of money. The issue of its expenditure has no other solution than to spend it. This is the reason why some schools cannot afford the education through ICT.

Sustainability of the ICT is also an issue because while starting any ICT programme the promises and profits are shown at grand scale. However, with the passage of time gradually everything evaporated into air and suddenly at some point it had been ceased. Thus, it would be effective and qualitative only if one continuously teaches through ICT. Its success depends on its sustainability. The more it will be radical the more it will find a conducive atmosphere to enhance the quality education in a classroom.

Conclusion

As ICT has enhanced the new leaning environment, the teaching and learning process have become more interesting where knowledge creation takes place rather than knowledge reproduction. It has gained impetus in the academic environment as it has enhanced critical thinking, evaluation skills and research as it gives access to varied information through several different sources. Looking at the use of ICT by digital generation shows that ICT in future will become a an inevitable part of educational process however one thing should be

borne in mind that the tools that ICT has provided or will provide in future to enhance learning process should only be to used as an means to an end. ICT or technological tools should not replace the human resource. In other words if teachers uses technological tools they should not be paralysed if technology is not available.

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TRAINING FOR ACADEMIC DEVELOPMENT

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ABSTRACT

The Universities and the Higher Education team offer many opportunities across a broad spectrum to support one's personal and professional development. When we work with University, institutions to provide open and targeted programmes of developmental activities with a view to enable teachers, administrators and librarians to deal with the challenges of higher education, it is extremely important and necessary to provide training so as to build their capabilities of the highest order. In order to strengthen the capacity and capabilities of human resources and institutions of Higher Education Training requirements for the purpose of implementing initiatives at state level, district level, cluster level or college level have been met with. Also, for the purpose of enhancing the skills, knowledge, attitude and perspectives of teaching and learning role of a teacher, specialized training are envisaged. The objective of training is to create enlightened teachers. The primary objective of training is to prepare Academicians – both new and old, for promotions to positions which require added skill and knowledge. This means that the training may range from highly specific instruction as to steps in the performance of a given job to very general information concerning the economy, education needs and society.

Training for Academic Development

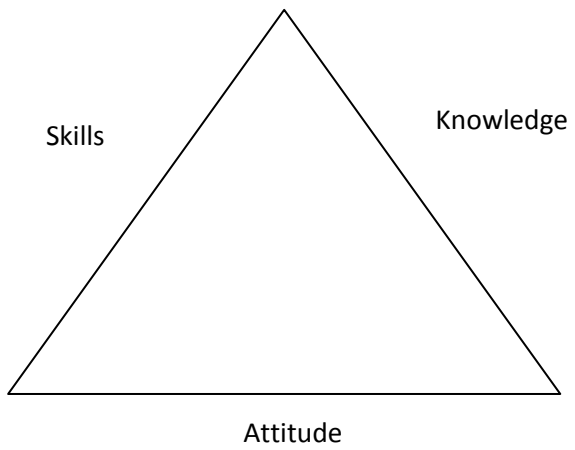
The Universities and the Higher Education team offer many opportunities across a broad spectrum to support one's personal and professional development. When we work with University, institutions to provide open and targeted programmes of developmental activities with a view to enable teachers, administrators and librarians to deal with the challenges of higher education, it is extremely important and necessary to provide training so as to build their capabilities of the highest order. In order to strengthen the capacity and capabilities of human resources and institutions of Higher Education Training requirements for the purpose of implementing initiatives at state level, district level, cluster level or college level have been met with. Also, for the purpose of enhancing

the skills, knowledge, attitude and perspectives of teaching and learning role of a teacher, specialized training are envisaged. The objective of training is to create enlightened teachers. As Sri Aurobindo writes, "Teaching, example, influence- these are the three instruments of the Guru. But the wise teacher will not seek to impose himself or his opinions on the passive acceptance of the receptive mind; he will throw in only what is productive and sure as a seed which will grow under the divine fostering within. He will seek to awaken much more than to instruct; he will aim at the growth of the faculties and the experiences by a natural process and free expansion. He will give a method as an aid, as a usable device, not as an imperative formula or a fixed routine. And he will be on guard against any turning of the means into a limitation, against the mechanizing of the process". This is the underlying philosophy of the training.

TRAINING IN MORDEN ERA

Importance of Training:

Training is a very important part of developing the human resources. Without training the employee can neither develop new skills nor get new knowledge. Training has three dimensions as per the following figure:



Training is very important because of the following reasons:

1) Academicians are unaware about the organization
2) Academicians are unaware about the policy matters.
3) Academicians are unaware about competitions.
4) Academicians have not sharpened administrative skills when they are new or old in the field of education.
5) CHE launches new projects related to education research etc., from time to time; hence they should be made aware about the features of the projects through the training sessions.
6) Academicians need to be trained about procedures, rules, values of the Government funds.

Objectives of Training:

The primary objective of training is to prepare Academicians – both new and old, for promotions to positions which require added skill and knowledge. This means that the

training may range from highly specific instruction as to steps in the performance of a given job to very general information concerning the economy, education needs and society. Therefore, it is necessary to establish the goals of training very cautiously. The objectives of training are as follows

(i) To impart to new entrants the basic knowledge and skill they need for an intelligent performance of definite tasks;
(ii) To assist academicians to function more effectively in their present positions by exposing them to the latest concepts, information and techniques and developing the skills, they will need in their particular fields;
(iii) To build up a second line of competent scholars and prepare them to occupy more responsible positions;
(iv) To broaden the minds of senior by providing them with opportunities for an inter-change of experiences within and outside with a view to correcting the narrowness of the outlook that may arise from over-specialisation;
(v) In a nutshell, the objectives of training are —to bridge the gap between existing performance ability and desired performance. Since training is a continuous process and not a one shot affair, and since it consumes time and entails much expenditure, it is necessary that a training programme or policy should be prepared with great thought and care, for it should serve the purposes of the establishment as well as the needs of society.

Hence, training and capacity building of teachers administrators and librarians so as to enable them to work as facilitator and motivator for students in learner centric education process. In addition it is also planned to impart training with respect to ICT so that they are able to make use of the emerging technologies of 21st century during their teaching methodology.

NEED AND IMPORTANCE OF TRAINING

1. Increasing Productivity

2. Improving Quality

3. Helping an Institution Fulfil its Future Personnel Needs

4. Improving Organisational Climate

5. Improving Health and Safety

6. Obsolescence Prevention

7. Personal Growth

It may be observed that the need for training arises from more than one reason

(i) An increased use of technology in production;

(ii) Need for additional hands to cope with an increased production of knowledge and Services

(iii) Senior need to refresh training to enable them to keep abreast of the

Changing methods, techniques, and use of sophisticated tools and equipment;

(iv) Need for enabling academicians to do the work in a more effective way, to reduce

learning time, reduce supervision time reduce waste and spoilage of raw material and

produce quality and develop their potential.

(v) Need for reducing grievances and minimising problems;

(vi) Need for raising the moral

Justification:

The current education scenario in the world over requires the teachers who have built in capacity to deliver as per the demand. Unfortunately the teachers in colleges and universities are not adequately equipped with required capacity. It is therefore the need of the hour to impart the required training and to build their capacity so as to make them competent enough in imparting education using recent technology. This will also enable the students to learn new technology and will give them an opportunity to use a wide spectrum of learning resource.

Background and Current Situation:

Existing scenario of the capacity of the teachers, administrators and librarians indicate a severe need for strengthening skills and competences to deal with the challenges and opportunities of higher education. Increasing scale and complexities of higher education have been threatening existing structures and resources to be adequately strengthened. Internationalization of higher education, explosion of information and knowledge resources and growth of information and other technological advancements have been compelling us to realign the resources, processes and structures.

Strategy and Action Plan:

The intervention strategy shall be implemented in the manner prescribe below. It is expected that for the purpose of this intervention, technology in general and ICT in particular, shall be adequately used. It is also expected that the intervention shall be implemented through extensive and sustainable collaboration.

- Identification of Training and Intervention Needs:
- Identification of key areas of Intervention:
- Identification of Target Group:
- Designing the training modules:
- Identification of master trainers
- Design and implementation of Training the Trainers Programme
- Implementation of Large Scale Training and Intervention Programmes
- Evaluation of Capacity Building Training and Intervention Programmes
- Distinction between Training - Development

Training	Development
Training means learning skills and knowledge for doing a particular job. It increases job skills.	Development means the growth of a scholar in all respects. It shapes attitudes.
The term 'training' is generally used to denote imparting specific skills	The term 'development' is associated with the overall growth of the academicians
Training is concerned with maintaining and improving current job performance. Thus, it has a short-term perspective.	Executive development seeks to develop competence and skills for future performance. Thus, it has a long-term perspective.
Training is job-centred in nature.	Development is career-centred in nature.
The role of trainer or supervisor is very important in training.	All development is 'self-development'. The educator has to be internally motivated for self-development

- Development refers to those learning opportunities designed to help to grow. Development is not primarily skills-oriented. Instead, it provides general knowledge and attitudes which will be helpful to teachers in higher positions. Efforts towards development often depend on personal drive and ambition. Development activities, such as those supplied by management development programmes are generated.
  - Determining the need and Priorities for Training.
  - Selecting Trainees .
  - Making the Curriculum and Choosing Training Methods.
  - Preparation of training budget.
  - Selecting trainers and providing training to trainers.
  - Using selected training technique.
  - Performance or learning try-out.
  - Evaluation system of training programme.

METHODS OF TRAINING:

The following methods are generally used to provide training:

- ✓ On-the-Job Training Methods :

1. On Specific Job :

   (a) Experience :

   (b) Coaching :

2. Job Rotation :

3. Special Projects :

4. Multiple Management :

- ✓ Off-the-job Training Methods

Following are the off the job training techniques :

- Special Courses and Lectures :
- Conferences :
- Case Studies :
- Brainstorming :
- Laboratory Training :
- Role-playing :
- Induction Training

Goals:

Through this intervention, it is expected that the following outcomes shall be achieved. These goals are expected to be achieved in a phased manner.

Increased awareness:

Increased competence:

Increased level of teaching learning orientation:

Attitudinal and Perceptual Change:

ICT to Augment Teaching- Learning Process in Higher Education

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Abstract

Information and Communications Technology has become an integral part of everyday life in the 21st century. The judicial use of Information and Communications Technology (ICT) in education has the capacity to increase the quality of present day higher education by enhancing teaching and learning. The paper discusses how ICT integration in the classroom can enhance teaching learning process.

Keywords: ICT integrated teaching –learning, Bloom's Taxonomy and ICT

Introduction

In the 21st century, higher education has undergone a paradigm shift from teacher-centred to a learner-centred classroom situation. This shift has forced the teachers to device new methods of teaching. Innovations in the field of Information and Communication Technology (ICT) have given ample scope of opportunities to teachers to adopt innovative educational practices like cooperative and discovery learning activities. These methods of teaching can be facilitated by integrating ICT in teaching environment. The integration of ICT in teaching can help in achieving the goals of the present education system. K. Pushpanandham and Anjali Khirwadkar (2008) rightly point out that ICT can be an important milestone in changing the nature of teaching learning process. Thus the richness of the technology permits the teacher to provide a richer and more exciting (entertaining) learning environment.

- **Advantages of ICT in the Classroom**
- **Conducive Environment**

  ICT helps the teacher to provide conducive environment in the class which is hard to create (Srinivas, 2005). Through ICT learning becomes more fun with graphics, animations, videos etc. ICT provides ample scope of interaction in the classroom.

- **Extending Four Walls of the Classroom**

Computers can bring the whole world into the classroom. The classroom no longer remains limited within the four wall of the classroom but extends its horizons to the nook and corner of the world and makes the teaching-learning process more meaningful (Srinivas, 2005).

- **Repetition at Student's Own Pace**

Many teachers find it difficult to repeat some of the basic information year after year in the same manner, especially for slow learners who need more repetitions. Computers can do this job for the teachers because they can store information and repeat it tirelessly, in the same manner for 'n' number of times required by a particular learner (Kenning and Kenning, 1984 and Srinivas, 2005).

- **Interest and Motivation**

It is often necessary, in a language classroom, to provide repeated practice to achieve important objectives. Because this can be boring, painful, and frustrating, many students lose interest and motivation to learn foreign languages. With the use of ICT, the teacher can teach the language in an attractive and an interesting way through video clips, language games and animated graphics. As a result even tedious drills become more interesting (T. Ravichandra, 2000).

- **Individualization**

Many students need additional time and individualized practice to meet learning objectives. The computer offers students self-instructional tasks that let them master prerequisite skills and course objectives at a speed and level dictated by their own needs. Besides, additional programme can be made available for the students who master objectives quickly.

- **Reaching out Learners' Learning Styles**

Indian English language classroom consists not only of homogeneous learners but of heterogeneous learner's i. e. verbal, visual, audio-visual and kinesthetic learners (Srinivas, 2005). The learning style of each student differs with the other. Thus students differ in their styles of learning. Through ICT the teacher can teach keeping in mind students' learning styles.

- **Immediate Feedback**

  Learners receive maximum advantage from feedback only when it is supplied immediately. Their interest and receptivity declines when the information on their performance is denied. Yet, for various learners, classroom feedback is often delayed and at times denied. A deferment of positive feedback, though important to act as encouragement and reinforcement, may not harm the progress of the learners. The computer can give instantaneous feedback and help the learner ward off his misconceptions at the initial stage.

- **Independence from a Single Source of Information**

  Although students can still use their books, they are given the chance to escape from canned knowledge and discover thousands of information sources. As a result, their education fulfils the need for interdisciplinary learning in a multicultural world (Bulut, 2005).

- **Global Understanding**

  A foreign language is studied in a cultural context. In a world where the use of the internet becomes more and more widespread, an English language teacher's duty is to facilitate students' access to the web and make them feel citizens of a global classroom, practicing communication on a global level.

- **Developing Communicative Competence**

  The aim of any language teaching is to enable the students to communicate in the particular language. The integration of ICT in teaching English helps the teacher to develop communicative competence as ICT provides ample scope of interaction in the classroom.

- **Enhances Student Achievement**

  Computer assisted instruction can help students strengthen their linguistic skills (LSRW) by positively affecting their learning attitude and by helping them build self-instruction strategies to promote their self-confidence.

- **Limitations of ICT**

Kenning and Kenning (1984) has drawn a few limitations of ICT. Technology is not equally suited to all the activities that go in the classroom. One cannot usually roll back or move on

through a computerized lesson as easily as one turns the pages of a book; it is more tiring to read from a screen than from a printed text; for teachers who develop their own material, the time spent on programming and typing in the lessons can be quite lengthy. Technology can't work without electrical energy.

- **ICT and Bloom's Taxonomy**

According to Benjamin Bloom's Taxonomy (1956), as students move through the hierarchy of learning, their studies should progressively move towards developing higher level of thinking skills. Technology can facilitate this progress when integrated within the existing curriculum. With the use of technology, students can shift their focus from acquiring information to task at hand – synthesis, analysis and presentation of information. The teacher must develop a curriculum so that technology can be used appropriately to develop higher level thinking skills. Over the past few decades the roles of the teacher and student have changed significantly. The teacher has become facilitator, coach, guide and also instructor, co-learner, co-ordinator etc.

Figure: 1. Bloom's Taxonomy

The students have become information seekers. The learners are becoming independent learners too. Even the method of imparting knowledge has shifted from teacher-centered to learner-centered teaching. In the traditional model of education, the teacher was responsible for disseminating information to students. The students' primary responsibility was to consume and retain as many of the facts and figures as they could. The most successful students were those who could memorize and regurgitate information in a variety of format – writing papers, oral reports and tests. However these types of skills do not always prepare students for their professional lives. For a student to be successful in today's market, they must be able to assess and analyze information, not merely memorize. The teachers must

realize this fact and adjust the curriculum accordingly – and one way of implementing this change is through the use of technology.

Conclusion

Information and Communication Technology offer ample opportunities to teachers to make the teaching-learning process effective than the traditional chalk and talk method. The teachers must understand that information and communication technology in not the remedy to enhance learning experience.

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Virtual Classrooms for Enhancing Quality of Education

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Abstract:

The traditional education system focuses on the Chalk 'n' Talk method, which is a one-way communication method. The teacher possesses all the knowledge which is partially imparted to the student due to time constraint or memorizing by the student. Hence sharing of knowledge is the prime focus for any educator, such that it has long lasting impact on the minds of the students. Technological revolution has dramatically increased the opportunities that can be tapped in every sphere of the work including mainstream education. With the increase in demand in the job market for specialists and professionals, increased awareness and access to higher education, shortage of experienced teachers and infrastructure facility, it becomes imperative to expand the reach to the students through the use of technology. IQAC plays an important role in facilitating the teaching-learning process by overseeing the various parameters that affect the quality. This paper is an attempt to express the idea on the method of using virtual classrooms for supporting the teaching efforts of the faculty and also in saving the knowledge of an expert permanently, which otherwise would be lost. As a part of the work we have provided the case study of our own institution's setup.

Keywords: Virtual Classroom, eLearning 2.0

Introduction:

The traditional system involves the presence of two entities namely: teacher and student. The teacher would deliver the lectures using the traditional ways like Blackboard and chalk, or OHPs or using pre-prepared charts or by developing models of the same which would be used year over year. This results into imparting of the same knowledge each time. Many a times the knowledge sharing limit starts diminishing to the extent that only what is listed explicitly in the course syllabus will be covered. The teacher, during his gaining and imparting of knowledge goes through a whole bunch of sources like Books, Magazines, Journals; Deliberations with other experts in the same area in Seminars, Conferences, Workshops; Internet surfing, Competitions, Orientation and Refresher programs, etc. But ultimately what is produced will be the refined and limited view out of the knowledge that the

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faculty has gathered. Hence the storage and retrieval of the actual base knowledge which is filtered as expert knowledge from a teacher needs to be captured, so that other teachers and students can both take advantage of it. But the problem is with the acquisition of the knowledge that can be represented in computer form. An alternative would be to capture the imparted knowledge as a whole in its entirety. Another situation in the old teaching method is that once the lecture is over, the students forget 50% of what they learnt in the first hour and almost 30% to 40% of the remaining over a few days after the lecture. This means that the teaching efforts of the teacher are wasted. If there was a method of capturing the lectures itself and supplement the mainstream education, then the student could attend the same lecture whenever and wherever for whatever number of times he wanted.

The teacher is a person who is knowledgeable in his own field or area. If the paradigm of being-present can be shifted to being-connected then the knowledge can be preserved lifelong. The whole idea boils down to the use of ICT in the teaching learning process. ICTs can help by providing alternative possibilities for education [1]. IQAC of an institution should facilitate the implementation of the newer technologies which can improve the overall effectiveness of the teaching-learning process as well as make it more efficient. The current boom in the use of Internet and various technologies can be harnessed for education. Capturing of the lectures in digital format will ensure that the data can be preserved, transmitted, retrieved, searched, edited, merged anywhere. The computer-aided teaching and learning bridges the digital divide amongst students of various socio-economic and geographical barriers.

Teaching Models:

There are three ways of imparting education to the students[3]:

1. Fully Face-to-Face

The traditional method of teaching-learning is synchronous in nature and requires both the teacher and students to be physically present at the same time and place.

2. Distance Learning

This method is asynchronous in nature and involves dissemination of information and knowledge to remote locations

3. Hybrid or Blended Learning

This technique combines both traditional synchronous method of face-to-face interaction and asynchronous distance learning through the use of technology.

Educational Approaches:

There are various approaches implemented for teaching-learning process, which might or might not include the use of technologies[5]:

1. Synchronous and Asynchronous – Synchronous is when the teacher and the students communicate in real-time, either face-to-face or using some technology. Asynchronous is when the student learns at his own pace and communication might take place through some passive mode like emails, blogs, etc.

2. Linear Learning – Refers to the use of PDAs, handheld devices for learning. Also known as CBT.

3. Collaborative Learning – Requires the students to work collaboratively on a task, thus increasing the communication with other learning members.

4. Classroom 2.0 – A method of involving the students of different schools to interact and learn.

5. ELearning 2.0 – It is the use of social media and networking for discussion and learning.

Modes of Education:

There are various technologies that can be useful in e-learning. The relevance of each mode depends on the competence of the teacher in implementing it. Sometimes a combination of the technologies may be useful. Following are some technologies available for Education[3][5]:

1. Audio – Use of internet to stream live or recorded audio.

2. Video – Use of visual aids to show the content through visual method.

3. Computers, tablets, and mobile devices – Allows access to the Internet and helpful in e-Learning and m-Learning

4. Chat rooms - Virtual rooms in which students communicate with each other as well as with the teacher as in real classrooms.

5. Video conferencing – Use of live webcasting to interact with distant learners.

6. Discussion boards or Blogs or Bulletin Boards – Are used to post assignments, questions, case studies, or messages for students to read and respond to asynchronously.

7. Electronic mail – It is sent to a single or group of students. It is a method of asynchronous communication between teacher and student to facilitate learning.

8. Smartboards – Scribbling on the touch screens by both teacher and student.

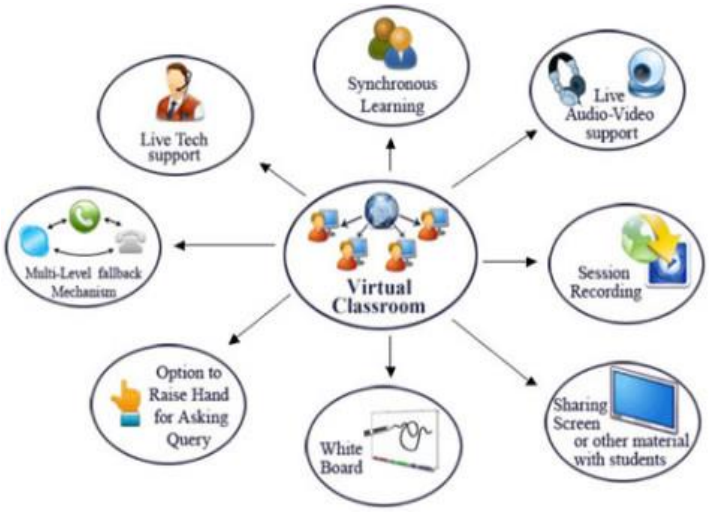
9. Screencasting – Capturing the screen of a teacher as a video and sending it to learners.

10. Virtual classrooms – It is the concept of capturing the real classroom sessions and making it available over the Internet. It might include a combination of two or more of the above technologies.

Virtual Classroom:

A virtual classroom is an online learning environment. This environment can be web-based or software-based[4]. Just as in a real classroom, a student in a virtual classroom can participate in synchronous or asynchronous mode. This means that the teacher and students may or may not be logged into the virtual learning environment at the same time. Virtual classrooms have been the new mantra for the educational institutes providing distance education. Virtual classroom employ multiple such as web conferencing, video conferencing, live-streaming, and web-based VoIP for synchronized learning experience and to provide remote students the ability to collaborate in real time with a more human touch. To enhance the educational process, applications may also provide students with asynchronous communication tools, such as video recordings, screen capturing, message boards and chatting capabilities.

The teacher can improve the course effectiveness by determining the course delivery method, level of learners and subject content. This information can be used in designing the method of instructing, the pace of information delivery, the organization of the lectures, etc. The whole concept of virtual classroom is highly dependent on the technological advancements. It gives the sense of sharing the same physical space in real time with people situated miles away.



Source: nasiknews.com

Basically, a virtual classroom is a teaching-learning environment created through the use of computer softwares and allows for communication through the computer networks. Virtual schools can be categorized into three broad types[6]:

1. Independent – Independent models[2] are asynchronous in nature with no direct communication between a teacher and student.

2. Collaborative – They use facilities like video conferencing and chatting as a mode of communication and collaboration in real time.

3. Broadcast – Allows students to gather lectures and broadcasts on the Internet.

Case study of SEMCOM's asynchronous virtual classroom approach:

At SEMCOM, we have implemented hybrid learning model. Along with Chalk 'n' Talk method, high quality audio-video recording of every lecture is taken up for all the classes in every session. The video can be edited by the respective subject faculty before publishing. Once a video is published, it will be transmitted to the registered device of the student when he/she connects to the Wi-Fi within the campus. It stays with the student in his device till the end of the semester. When the new semester begins, all the videos are wiped out from the students' device to make space for the new videos. However, the video archive is available on the server for later retrieval upon request. Also the capturing of the video is done in a format which does not allow for copying or viewing on any other device or application, hence security of the videos is guaranteed. Also students are able to rate a particular session anonymously, giving the teacher an idea of how many students liked and allowing for self assessment and rectification of the teaching methodology in the coming sessions.

Since this mechanism is implemented before 5 months, we have not been able to identify the quantitative benefits of the implementation. But following are the observations made during informal interactions with students:

1. Students never miss a lecture since it will be downloaded to their devices.
2. Revision of a topic or doubt can be solved most of the times through the re-viewing of the videos.
3. No need to take faculty time or wait for a faculty to get free for extra learning.
4. Going through a specific topic during examination preparation becomes easy.
5. No tension or diffidence of facing the faculty and be scolded for not attending a class.

Observed Benefits of teaching-learning through Virtual Classroom:

There are various benefits to the use of virtual classroom. A few are listed below:

1. Non-recurring expenditure from the institution.
2. World-wide reach, No physical boundaries.
3. Anytime, anywhere learning.
4. Education to educationally backward blocks of the country.
5. Lifelong preserving of the knowledge.
6. Self-paced learning
7. Motivation to get education
8. Interaction between teacher and student
9. No age restriction
10. Open access to the information
11. Lifelong storage of Knowledge
12. Increased enrolment
13. Mass education
14. On-demand lectures

Conclusion:

The use of virtual classroom can supplement the teaching and learning process to a great extent. It can empower not only the teachers with the use of technology, but also students with the information at their disposal anytime. It can foster collaborative efforts of learning. The power of this innovative technology can transform the course delivery methods. Virtual classroom can be used with a particular type of course or students. Especially in the Indian scenario, where the traditional method is predominantly used, the virtual classroom method should be supported with the real classroom method to harness its full potential. Judicious use of virtual classroom with the traditional method can create constructive and creative learners community.

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Role of Internal Quality Assurance Cell (IQAC) in Monitoring the Path of Excellence

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ABSTRACT:

The University Grant Commission established the National Assessment and Accreditation Council (NAAC) in 1994 at Bangalore. The prime agenda of NAAC is to Assess and Accredit institutions of higher learning with an objective of helping them to work continuously to improve the quality of education. Part A of guidelines of XI Plan of University Grants Commission directs all the Higher Education Institutions to have an Internal Quality Assurance Cell (IQAC). The motive behind setting up of IQAC is to maintain the impetus of quality consciousness which is crucial in higher education institutions. IQAC is a mechanism to build and ensure a quality culture at the institutional level, and is meant for planning, guiding and monitoring Quality Assurance (QA) and Quality Enhancement (QE) activities of the higher education institutions.

Quality of Education now offered in many institutions of higher education, both general and technical, requires a thorough review and correction by the agencies concerned like NAAC of UGC, NBA of AICTE. Many Higher Educational Institutions, specially Arts and Science colleges offering science subject and literature subjects are almost forced to shut down as there are no takers.

Higher education in India is undergoing a transformation. The reason for transformation is mainly due to the expansion of higher education in India and the new demand on system. Education has always been recognised as a major instrument to achieve the objective of social, economic and political development of a nation. Higher education provides leadership by supplying a well developed human resource which ultimately takes the responsibility of operating the systemic developments in India. There have been a number of good human beings, eminent personalities in many fields who have contributed to the inventions, project, developments, arts and culture, science and technology, socio economic and other areas.

The University Grant Commission established the National Assessment and Accreditation Council (NAAC) in 1994 at Bangalore. NAAC vision and mission statement clearly specifies its functioning

highlighting quality assurance mechanism in higher education institutions with the combination of self and external quality evaluation, promotion and sustenance activities and initiatives. The prime agenda of NAAC is to Assess and Accredit institutions of higher learning with an objective of helping them to work continuously to improve the quality of education.

Maintaining the impetus of quality consciousness is of crucial importance. Internal Quality Assurance Cell (IQAC), in fact , is conceived as a body which ensures maintenance of momentum created by the accreditation at the institutional level. The NAAC's advocacy of establishment of IQAC by every accredited institution as a post-accreditation measured is thus the first step towards institutionalization and internalization of quality culture. NAAC has given guidelines to all the accredited institutions to establish an internal quality assurance cell (IQAC) to ensure qualitative growth of the institution. The composition of the cell has been clearly defined so as to be representative of all the constituents of the institution

Internal Quality Assurance Cell (IQAC) is established as a post accreditation quality sustenance measure. Since quality enhancement is a continuous process, the IQAC has become a part of the 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 has made a significant and meaningful contribution in the post-accreditation phase. During the post-accreditation period, the IQAC has channelized the efforts and measures of an institution towards academic excellence.

The basic purposes of the IQAC:

I. To ensure continuous improvement in the entire operations of the institution.
II. 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 IQAC:

As highlighted in the UGC Guidelines, the goals of IQAC shall be:

- To develop a quality system for conscious, consistent and catalytic programmed action to improve the academic and administrative performance of the Higher Education Institutions.
- To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices. To attain these goals, the functions of IQAC shall be:

- Development and application of quality benchmarks/parameters for the various academic and administrative activities of the Higher Education Institutions;
- Facilitating the creation of a learner-centric environment conducive for quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process;
- Arrangement for feedback responses from students, parents and other stakeholders on quality-related institutional processes;
- Dissemination of information on the 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 of the higher education institution, leading to quality improvement;
- Acting as a nodal agency of the HIGHER EDUCATION INSTITUTION for coordinating quality-related activities, including adoption and dissemination of good practices;
- Development and maintenance of Institutional database through MIS for the purpose of maintaining /enhancing the institutional quality;
- Development of Quality Culture in HIGHER EDUCATION INSTITUTION;
- Preparation of the Annual Quality Assurance Report (AQAR) of the HIGHER EDUCATION INSTITUTION based on the quality parameters/assessment criteria developed by the relevant quality assurance body (like NAAC, NBA, AB) in the prescribed format;
- Bi-annual development of Quality Radars (QRs) and Ranking of Integral Units of HIGHER EDUCATION INSTITUTIONs based on the AQAR;

Interaction with SQACs in the pre and post accreditation quality assessment, sustenance and enhancement endeavours.

The IQAC has evolved mechanisms and procedures for ensuring the following: Timely, efficient and progressive performance of academic, administrative and financial tasks.

- The relevance and quality of academic and research programmes.
- Equitable access to and affordability of academic programmes for various sections of society.
- Optimization and integration of modern methods of teaching and learning.
- The credibility of evaluation procedures.
- The adequacy, maintenance and proper allocation of support structure and services.

- Research sharing and networking with other institutions in India and abroad.

Benefits of IQAC:

1. Ensure heightened level of clarity and focus in institutional functioning towards quality enhancement
2. Ensure internalization of the quality culture;
3. Ensure enhancement and integration among the various activities of the institution and institutionalize good practices;
4. Provide a sound basis for decision-making to improve institutional functioning;
5. Act as a dynamic system for quality changes in the HIGHER EDUCATION INSTITUTIONs;
6. Build an organized methodology of documentation and internal communication.

Quality assurance (QA) refers to the planned and systematic activities implemented in a quality system so that quality requirements for a product or service will be fulfilled. Two principles included in QA are: "Fit for purpose", the product should be suitable for the intended purpose; and "Right first time", mistakes should be eliminated. QA includes management of the quality of raw materials, assemblies, products and components, services related to production, and management, production and inspection processes.

Internal Quality Assurance Cell:

Part A of guidelines of XI Plan of University Grants Commission directs all the Higher Education Institutions (HIGHER EDUCATION INSTITUTIONs) to have an Internal Quality Assurance Cell (IQAC). The motive behind setting up of IQAC is to maintain the momentum of quality consciousness which is crucial in HIGHER EDUCATION INSTITUTIONs. IQAC is a mechanism to build and ensure a quality culture at the institutional level, and is meant for planning, guiding and monitoring Quality Assurance (QA) and Quality Enhancement (QE) activities of the HIGHER EDUCATION INSTITUTIONs. Complying with the aim of UGC, IQAC has been constituted in the University to review the performance for the entire gamut of academic programmes encompassing the faculty, research scholars and students. IQAC was constituted strictly as per the guidelines of UGC, and Prof. K.V.S. Sharma was given the responsibility to act as the coordinator the cell. IQAC started to function immediately with clarity of vision and plan of action.

Plan of Action

1. To review the performance of the entire array of academic programmes encompassing the faculty, research scholars and students. For this Academic Monitoring Cell was constituted with a senior faculty member as its special officer. It has been involved in the collection of the quarterly self-appraisal reports from the faculty. On the basis of the feedback, Vice-Chancellor used to have interaction with the individual faculty members.
2. To promote research in new and advancing fields of relevance. For this Research and Development Cell and University Research board were instituted. These bodies identified the potential research areas in tune with the current trends. Besides initiating measures for developing basic infrastructure, Vice-Chancellor permitted the Principal Investigators of research projects to utilize 20% of overhead charges for the development of laboratories and other infrastructure facilities.
3. Dissemination of information on the activities of the University for the benefit of general public and elite of the society. For this SVU Newsletter is published regularly which is a mirror of the activities and initiatives taken by the University.
4. Constitution of Quality Circles at all the levels of University to involve the entire cross section of University for the quality improvement.
5. Adoption of a Student Charter in the University to bring awareness among the students of their own responsibilities and the functions of the institution. The charter has been displayed in all the departments of constituent colleges of the University to enlighten the students on the goals and programmes and their role in the process of teaching-learning programme, monitoring & assessment, and other support services provided by University.
6. Obtaining Feedback from the alumni, retired staff and students, and making the analytical data available to the concerned teaching staff and administration.
7. To ameliorate the issues concerning the welfare of student community.
8. It was recognized that the academic activities in the University need to be improved keeping the global perspective in view. For this a set of Academic Reforms were Initiated.
9. Restoration of Academic year and early publication of results.

Quality Enhancement Activities in education:

(i) Academic Activities:

(a) Semester System with internal assessment component was introduced in 2002-03.Unlike the annual examination pattern, Semester system has made the students more attentive towards the academic programme and studies right from their admission into the courses. Further this system facilitated the departments to revise the curriculum as to include the several topics of current relevance.

(b) From the year 2006-07, Choice Based Credit System (CBCS) has been introduced. This cafeteria approach provides flexibility in the choice of courses that enables the students to broaden the interdisciplinary knowledge through opting external electives offered by other departments and thus enhance their career opportunities.

(c) University has introduced several new courses in the emerging areas like Bioinformatics, Nano-materials & Technologies, Instrumentation, Pharmacy, Industrial Microbiology, Cine & Television Arts, Women Studies, Financial Management, Business Economics and Social Work.

(d) Bridge Courses with job-market potentialities have been offered to equip the students with necessary skills meeting the requirements of industry.

(e) With the objective of nurturing basic sciences and imparting special training, 5-year Integrated P.G. courses in Physics and Chemistry have been introduced.

(f) Under Distance Education mode, new P.G. courses in science subjects like Physics, Zoology, Chemistry and Biochemistry, and also M.Phil programmes in various disciplines have been offered.

(g) Language labs have been established to impart training to students in communication and soft skills.

(h) University has initiated measures for modernizing the class rooms and laboratory facilities by providing glass black boards, over head projectors, LCD projectors, computers with internet connectivity.

(i) Scholars and scientists of repute were invited to various departments as visiting professors/fellows for delivering lectures that enabled the students to deeper knowledge in the latest trends and developments of the disciplines concerned.

(j) An Academic Calendar, brought out well at the beginning of academic year, provides the entire academic schedule including the dates for internal tests and external examinations. This enabled the University to streamline the derelict academic schedule of an academic year.

(k) By revamping the entire academic system, it could become possible to get the examination results published within 2-3 weeks after the completion of last semester-end examination.

(l) University has implemented the teachers' evaluation by the students which served the teachers to enhance their performance.

(m)Vice-Chancellor's interaction with the students of each department fostered the commitment of students to accrue the benefits of academic reforms being implemented by the University.

(ii) Research Activities:

(a) University provided functional autonomy to the faculty by way of simplifying the administrative procedures concerning the execution of research projects.

(b) The Vice-Chancellor's one-to-one interaction with the faculty led them to apply for project funding from different organizations and enthused some Departments to apply for special assistance programmes. The research projects have fetched grants to a tune of about Rs. 20.0 crores during the period of 2002-2007. Many departments have also received funding under special assistance programmes like COSIST, FIST, DSA and TEQUIP, besides UGC-SAP.

(c) University has allocated Rs. 15 lakhs for research in thrust areas like Bio pesticides, Cellulose Bio-technology and Appropriate Technology for Rural Development.

(d) The faculty, who secure major research projects, are provided an incentive to the tune of 20% of the overhead charges which shall be utilized for infrastructure development in the department concerned.

(e) Faculty is encouraged to participate in or organize seminars / conferences/ workshops in India and abroad.

(f) Qualified faculty in the affiliated colleges are encouraged to guide the candidates pursuing Ph.D. and M.Phil. programmes.

(g) University has recognized the scientists and faculty from other institutions to guide the research candidates for the award of Ph.D. degrees by University.

(h) University Research Board has been constituted to periodically monitor the quality of research work carried out by the research scholars and encourage them to undertake research in potential areas.

(i) University has embarked on a proactive strategy of forging collaboration with the industries and research organizations all over the world, keeping in view the challenges of globalization demands of the society.

(j) The admission procedures for Ph.D. and M.Phil courses have been liberalized to enable large member of students to take up research. The adjudication process has also been rationalized in order to avoid the undue delay in the award of research degrees.

(k) University is bringing out research journals in areas of specialization encompassing major disciplines.

(l) University Library which has been modernized and digitized, provides special access to about 4000 research journals under UGC – INFONET to the scholars and faculty.

iii) Extension Activities:

(a) University has organized seminars/conferences/workshops to elicit the views of various sections of the society in the form of University-Community interaction, University – Industry Partnership and University-Farming Community meet.

(b) As a sequel to these interfaces, a Directorate of Community Development has come into existence with the objective of undertaking a gamut of extension and community development programmes.

(c) University has incorporated the component of community development as part of CBCS syllabus. Students have been actively involved in the community development programmes in the villages adopted by the University. Among various programmes undertaken by the University include health awareness, child labour eradication, family planning drive, environmental protection and literacy campaign.

(d) C-eRDAT, provides training to the rural people in technical skills like domestic wiring, rewinding and repair of pump-sets.

(e) Under the aegis of NSS, University has organized the student- camps to undertake service activities like blood donation, medical service, pulse-polio eradication, HIV/AIDS Awareness drive, roads formation, and plantation and tank bund repairs.

(f) A Viral Diagnostic Centre was established in the University (Department of Virology) to diagnose plant, animal and human viral diseases.

(g) All the students are actively involved in the “Clean and Tidy Programme” in the campus on fourth Saturday of every month.

(h) Under the “Open House” concept and Exhibition, University has showcased the activities and potentialities of the University in various fronts for developing awareness among the public and creating interest among students in pursing higher education.

(i) University Law Department offers counselling to the public on legal issues; Psychology department on Psychiatric problems and Home Science on health and Nutrition.

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Deliberations of Debate in Higher Education:

Curricula, Pedagogy and Evaluation

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India on a Global Higher Education Map

Higher education system of India is the third largest in the world in terms of students, next to China and the United States. Presently, there are around 700 Universities including Central Universities, State Universities, Deemed Universities, and Institutes of National Importance, 35539 Institutions, 933761 Teachers and 200 Lac students.

However, on a global education map, India seems to be nowhere. Global ranking of higher education by the Times, shows that India's top educational and research institutes lag even behind the Chinese universities. There is hardly found any university in the ranking of Top 400 worldwide. Again, there was no university from India among top 50 Asian universities in the *Guardian Higher Education Network* ranking of 2012. Even within India the scenario is grim.

From time immemorial, Indian Society has regarded knowledge as the highest virtue of man. Today, developed nations are differentiated from under-developed or developing nations on the basis of knowledge. Knowledge creation and dissemination is the determining factor of measuring the progress. Thus, today, in the economy, the most important resource is no longer land, labour and capital, but education. At par, the concept of education has also changed.

Issues in Indian Higher Education

It is said that education, today, is not just a fancy acquisition or a luxury confined to the affluent. Education Commission has proclaimed that education should necessarily be related to the life, needs and aspirations of the people so as to have it as a powerful tool for socio-economic and cultural growth and realization of national goals.

The Economic Times of January 25, 2013 reports that Gross Enrolment Ratio of India has grown to 18.8 %. At a glance, it sounds to be encouraging; however experts strongly believe that there is still a long way to go to attain excellence in higher education. A number of loopholes also need to be plugged in. Prime one is considered to be the deficit in the national policies for higher education. Recommendations even of the National Knowledge Commission and Yashpal Committee are not yet fully implemented. Veteran academicians like the Vice Chancellor of Guru Gobind Singh Indraprastha University also believe that one of the areas where India is lagging behind is crunch in faculty members. Some others opine that it is because of the shortage of the trained faculty members.

Vice Chancellor of Jamia Millia Islamia opines that the quality of higher education in India is really worrisome. In his opinion, it is so because the essence of our education system has been 'job oriented courses' and not 'broad – based skill focused education' supported by innovative pedagogy and (socially relevant) original quality research. In our view, in India, the problem is more of employability than of unemployment. The skills that people have do not suit the requirements of employers.

For long, Universities have been the centers of learning and have always been places where the skills and knowledge of students are chiseled to suit the requirements of the work places. It is imperative that our universities assess well in advance and structure courses in a manner that will help their students enter the employment market, prepare them for jobs available.

However, the same has hardly been found to be in debates in Higher Education. The deliberations of debate have been the resultant situations like **Curricula**, which are poorly designed due to the crisis in faculty members, **Pedagogy**, which is either exam oriented or one way lecture deliberations and teacher oriented, and **Evaluation** which again is not so sincerely done because of poorly designed curriculum and traditional pedagogy.

Quality in Higher Education in India

Overall scenario of higher education in India does not match with the global Quality standards. Hence, there is enough justification for an increased assessment of the Quality of the country's educational institutions. Traditionally, these institutions assumed that Quality could be determined by their internal resources, viz., faculty with an impressive set of degrees and experience detailed at the end of the institute's admission brochure, number of books and journals in the library, an ultra-modern campus, and size of the endowment, etc., or by its definable and assessable outputs, viz., efficient use of resources, producing uniquely educated, highly satisfied and employable graduates.

In India, promoting quality in education has been the focus of almost all the committees and commissions constituted at different stages of the development of the higher education system. Among the various national consultations, discussions and recommendations that gave a direction and focus to our development strategies, the National Policies on Education (NPE) played a major role. The NPE of 1986 was greatly influenced by the inclusion of education in the concurrent list. So that the central government could have a meaningful role to ensure equality of education. Consequently the policy document and its program of action involved a series of strategic plans to focus on the quality of higher education. It argued the case of self regulation.

The National Policy on Education (NPE 1986) Programme of Action stated "Excellence of Institutions of higher education is a function of many aspects: self evaluation and self-improvement are important among them. If a mechanism is set up which will encourage self-assessment in institutions and also assessment and accreditation by a council, the quality of process participation and achievements will be constantly monitored and improved."

In pursuance of this, the established the National Assessment and Accreditation Council (NAAC) in 1994. The concern among academics for ensuring quality in Higher Education has been a source of strength and inspiration for NAAC.

The prime agenda of NAAC is performance evaluation by way of assessment and accreditation with the objective of helping them to work continuously to improve the quality of education. Assessment is accomplished through a process based on self-study and peer review using defined criteria. Accreditation refers to the certification refers to the certification given by NAAC indicating the quality profile of the institute, department or course NAAC's procedure for assessment is in accordance with internationally accepted practice, but with certain modifications to suit the Indian context. The application of assessment and accreditation (A&A) as a quality enhancing mechanism has yielded appreciable results worldwide and has started giving favorable indications in our country also. The philosophy of NAAC is ameliorative and enabling rather than punitive or judgmental. Through this process, all constituencies of institutions of higher learning are empowered to maximize their resources, opportunities and capabilities.

Curricula, Pedagogy and Evaluation

It is said that Knowledge is the base for overall growth and if the nation has to be competitive and to be at par with the globalization pace, we will have to respond to the market forces. First one can be targeting the issue of mis-alignment. Curriculum, Pedagogy and Evaluation need to be aligned.

Indian higher education system is regarded to be very rigid. Universities and colleges have to follow extinct rules and procedures, which again are not easily alterable. Norms, Criteria, and Procedure of admission, selection of courses, structure of courses, classroom delivery, larger classes, traditional methods of teaching, and limited resources for teaching with no provision of funds for research make the curricula dry and dead. Further, course content and skills honed have hardly anything to do with the job demands. Feedback system is very poor. The recipient of the entire system has no voice at all.

Teaching is followed by evaluation which again in turn is not followed by teaching. Finally, evaluation is also not always objective.

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THE ROLE OF ICT IN TEACHER EDUCATION IN THE AGE OF GLOBALIZATION

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INTRODUCTION:

India has made impressive strides in the application of information and communication technology in recent years and this is reflected in a vibrant and fast growing economy .It is now an acknowledged word leader in the knowledge industry. Today, All our activities are becoming highly knowledge based there is a shift from the industrial ear to the information era. Globalization, liberalization and a market orient economy have added new flavour to our activities, with the result that knowledge and skills of every professional including teachers need to be continuously updated.

However, the education sector ,particularly the area of teacher education ,has lagged behind other sector of the Indian economy in benefiting from the fruits of technological development today's education system faces the challenge to prepare individuals for the information society in wich one of the most important aims is to handle information ,in order to function in the new world economy ,students and their teachers have to learn to navigate large amount of information, to analyze and make decisions, and master new knowledge and to accomplish complex tasks collaboratively such a shift in focus can be seen as a new stage of our society ,characterized by a new predominant paradigm.

In the paper an attempt is made to highlight the role of ICT in teacher education. A brief introduction to ICT the policies on ICT and the role of ICT in teacher education are herewith presented .Some suggestive ideas for designing the teacher education course are also presented.

WHAT IS INFORMATION AND COMMUNICATION TECHNOLOGY (ICT):

Information technology is:

- Sharing and interchanging information such as knowledge mental skill motor skill and attitudes through the use of mass media and especially electronics
- Achieving success in this sharing and interchanging by having communication

Communication technology is:

- The inter change of thoughts
- To overcome the barriers of communication

Most literature dealing with education now a day speaks of the changes of happening in education as brought about by the developments in information and communication technology. The teacher will always be an essential mediator of knowledge and learning skills but teacher can no longer fulfil their role satisfactorily in the age of ICT without technology aided learning and the access which implies to an increasing body resource and techniques. There is current a bottle neck caused by the lack of teacher training which inhibits the adoption of ICT.

ICT can stimulate , motivate and spark students appetites for learning and helps to create a culture of success.

ICT Training inputs for teachers and teacher education:

1. Awareness phase
2. Learning theories and technology intregration
3. Understanding system software
4. Using multimedia
5. Using internet
6. ICT for professional and personal productivity

A changing role for the teacher moving away from being an instructor or purveyor of information to an advisor , manager and facilitator.

OF course there is still much to learn about the future of ICT literacy .We are all only too aware that technology is developing at a fast rate and it will be a challenge for government to keep pace with that change as they plan their educational objectives for schools in the future.

- UTILITY OF ICT IN TEACHER EDUCATION:

  - ICT in teacher education has the capacity to accelerate major change both in preservice as well as in service teacher professional development
  - ICT facilitates the educational transaction between providers and users by keeping students well informed about the courses enhancing teacher learner contact through e-mail, chat sessions etc.

- ICT based teaching learning programmes can overcome a teacher's isolation by breaking down their classroom walls and connecting them to the global teacher community.
- The new ICT enables self paced learning through various tools with the result the teaching learning enter prise has become more result oriented.

- Conclusion:

ICT in education will not function their own .It is the teachers who are required to use the technology to enhance student learning .So the foremost task is the development of TCT trained teacher education unless teacher educators stand out as models in the classes It is not possible to prepare a new generation of ICT literature teachers. For this to happen , ICT should be infused or incorporated in to the entire curriculum.

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TEACHING AND LEARNING METHODOLOGY IN 21th CENTURY

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ABSTRACT:-

The ways knowledge, skills and values are delivered to the learner have a meaning both for the teacher and the taught. Methodology of teaching has evolved over the years. In the contemporary period teaching methods have changed radically. A would be teacher is expected to be equipped with the appropriate methodology of teaching. In present scenario the education become the student-centered. So the different types of learning methodologies are also very much useful to build up student own knowledge, skills and values. In this seminar variety of teaching and learning methodologies are mentioned.

INTRODUCTION:-

Now-a-time education become a global issue. For the development of student not only teaching methods are important but teaching-learning both are affect the development of student. Different types of teaching and learning methodologies given below.

EFFECTIVE TEACHING STRATEGIES:-

Most teachers are looking for ways in which they can turn distracted and sometimes disinterested students into attentive, responsive ones. The answer lies in effective teaching strategies that engage and involve students, and in the process, make learning fun.Make learning fun? I know, easier said than done. But just think back to your school days, of how you'd tune out when certain teachers droned on and on. That, obviously, is not the teacher you would want to be. Here are some effective strategies that will help your classroom come alive.

Open-ended Quizzes

Among the effective teaching methods, this one is my favorite. Open-ended quizzes really challenge students to think and come up with their own solutions and methods. The objective of this quiz is in direct opposition to normal quizzes that require students to memorize and reproduce. An interesting method employed is to provide the students with take-home exam sheets which they can give in after a period of a few weeks. Now this is the interesting part: students who produce straightforward answers will receive a minimum passing grade. Higher grades would be awarded to those who display a deeper understanding of the material, the ability to apply techniques from other disciplines, and the ability to evaluate.

Show and Tell

The concept of "Show and Tell" is one that most teachers are familiar with. While it may come across as an interesting activity, its utility goes much deeper. One of the best aspects of show and tell is that it can be used for students belonging to any age group. One of the primary objectives this method achieves is, of reversing the role of the student to a teacher. In order to explain a concept to someone else, students must first truly understand the concept. This requires them to understand and analyze the selected subject deeply, and establish a clear line of thinking, to be able to explain the phenomena to their peers.

Interactive Lectures

Lectures are one of the old methods used for teaching large groups of students. A plain and simple session usually allows the students to listen passively, without encouraging active participation. To grab the interest of students, one can try to make lectures more interactive by using techniques to encourage students to participate willingly. For example, students can be given a particular question which they could discuss with their neighbor and collectively derive a final answer. Demonstration is another interesting way of making lectures more interactive.

Practical Examples

An effective teaching strategy that must be used frequently is the use of practical examples. These can help students link theory to practical application, which results in more productive learning. While a sound theoretical base is important, it would not be effective without the understanding of its practical application. Examples not only help enhance the theories taught in the classroom, but are also a useful tool in illustrating and explaining new material. By using these examples, educators are able to show students practical applications of what they are learning, and also teach them how to apply basic principles to real life problems. It is a good idea to use contemporary themes that students are interested in. For example, the cost of concert tickets to the 'Jonas Brothers', to explain a numerical problem.

Case Studies

Case studies are a compilation of "real-life" activity, in which theories have been put into practical use. As finding a case that fits the class material may be challenging, a teacher may provide students with case material or leave it up to them to find and develop. If the case material is provided, students are expected to go through it and be prepared to answer questions about various aspects of the case. If students are expected to develop a case, their workload will increase significantly, and must be balanced out with other assignments. Students are usually required to work in groups while preparing, presenting the case, and fielding questions. As a teacher, one is required to guide the discussion, keeping in mind the goal of the case.

Brainstorming

Another fun and effective teaching technique, brainstorming engages students and forces participation. There are many ways to brainstorm with a class. One can provide the entire class with a topic to discuss and each student is required to contribute at least one idea. Alternatively, students may contribute ideas as and when they think of them, though this can lead to unequal participation. One may also split the class into small groups, which can discuss and present their idea after a given amount of time.

Roleplaying

A roleplay is an effective method of getting students involved so as to come up with solutions on their own. One can give them a topic to study and ask them to prepare a roleplay with every student of the group performing a particular part, and present it to the class so as to make other students understand the topic. This strategy not only helps the students in understanding the course content, but also makes them aware of real world aspects associated with it.

Jigsaw Technique

This technique is very useful in grabbing the attention of each and every student towards a particular topic through individual involvement. Teams can be formed within the class and each group can be given different, but related topics to prepare. When students are done with their topics, groups are reshuffled in such a way that each new group has one member of all the previous groups. Now the students are required to teach everyone in the new group what

they have learned in the previous team. This way every student pays proper attention when learning a particular topic because they know that they will have to teach the same to other members of their new team.

Just-in-Time Teaching

This method helps in preparing students before the class is actually conducted. Instructors post questions related to the topic of discussion on student portal, which students are required to answer before the class. Posting open-ended questions will require the students to read about the topic and then answer the questions as per their understanding of the subject. Before the session, instructors review the answers and figure out the aspects which students have not understood properly and prepare class activities in such a way that those aspects are addressed.

Flowchart

This tool can be used to make students understand where the lecture is headed to, and the goals that are to be achieved at the end of the session. The board is divided into two sections, with one section dedicated to a flowchart which is developed as the session progresses to establish the flow of thought, and the second section dedicated for presentation purposes. At the end of the session, the flowchart serves as a summary of what has been taught in the session. These flowcharts are very useful, specially for a quick review before tests.

Some of the best methods emerge from one's own experiences. So spend some time reminiscing about the aspects of school or a certain class that you disliked. Also try to recollect what you liked and what you wished to be incorporated in your educational system. These experiences serve as the best base material to come up with your own teaching strategies.

Effective Learning Strategies

Inquiry-Based Learning

This is a learning process that is based on inquiry or asking questions. Through asking challenging questions learners get intrinsically motivated to start delving deeper to find answers for these questions and in doing so they are exploring new avenues of knowledge and insight.

As you can see in the graphic below inquiry-based learning is a cyclical learning process composed of many different stages starting with asking questions and results in asking more questions. Inquiry based learning is not just asking questions, but it is a way of converting data and information into useful knowledge. A useful application of inquiry based learning involves many different factors, which are, a different level of questions, a focus for questions, a framework for questions, and a context for questions.

Problem-based learning

In a problem-based learning (PBL) model, students engage complex, challenging problems and collaboratively work toward their resolution. PBL is about students connecting disciplinary knowledge to real-world problems—the motivation to solve a problem becomes the motivation to learn.

Discovery Learning

Discovery learning is a kind of teaching that is based on the student finding things out for themselves, looking into problems, and asking questions. Essentially, it's all about students coming to their own conclusions and asking about things in their course that might not make particular sense. Obviously, as soon as enquiries are made, they can learn new things and hence will have become part of an innovative, thought-provoking and interesting educational journey. Top psychologists in the country have promoted this kind of learning

Cooperative Learning

Several definitions of cooperative learning have been formulated. The one most widely used in higher education is probably that of David and Roger Johnson of the University of Minnesota. According to the Johnson & Johnson model, cooperative learning is instruction that involves students working in teams to accomplish a common goal, under conditions that include the following elements:

- Positive interdependence:Team members are obliged to rely on one another to achieve the goal. If any team members fail to do their part, everyone suffers consequences.
- Individual accountability: All students in a group are held accountable for doing their share of the work and for mastery of all of the material to be learned.
- Face-to-face promotive interaction: Although some of the group work may be parcelled out and done individually, some must be done interactively, with group members providing one another with feedback, challenging reasoning and conclusions, and perhaps most importantly, teaching and encouraging one another.

- Appropriate use of collaborative skills: Students are encouraged and helped to develop and practice trust-building, leadership, decision-making, communication, and conflict management skills.
- Group processing: Team members set group goals, periodically assess what they are doing well as a team, and identify changes they will make to function more effectively in the future. Cooperative learning is not simply a synonym for students working in groups. A learning exercise only qualifies as cooperative learning to the extent that the five listed elements are present.

Authentic Learning

Authentic learning typically focuses on real-world, complex problems and their solutions, using role-playing exercises, problem-based activities, case studies, and participation in virtual communities of practice. The learning environments are inherently multidisciplinary. They are "not constructed in order to teach geometry or to teach philosophy. A learning environment is similar to some 'real world' application or discipline: managing a city, building a house, flying an airplane, setting a budget, solving a crime.

Project-based Learning

" An instructional approach built upon authentic learning activities that engage student interest and motivation. These activities are designed to answer a question or solve a problem and generally reflect the types of learning and work people do in the everyday world outside the classroom."

Situated Learning

Situated learning is a type of learning that involves learning materials within the context of how the information or skills are actually used and applied. It is typically associated with social learning and though it was initially recognized in regard to adult education, some of its practices have been extended to youth education as well. With this type of learning, communities of practice are established in which individuals learn and build mutual meaning through active processes that imbue context and purpose into what is learned. Situated learning does not typically involve a particular pedagogical approach, but instead seeks to understand how learning relates to daily practices and social interactions.

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USE OF ICT FOR FUTURE TEACHER

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INTRODUCTION:

Over the past two decades information technology (IT) has koadened to become information and communication technology (ICT).It has became better established with hi teacher training colleges likes DIET, CTES, and IASBS and also in schools, provision of equipment alone is limited value unless more under tool about the interactions and engendered by using technology in different setting. The quality and level of ICT resource is need to continue improvement in teacher training colleges and schools to enhance student's learning pedagogical strategies.

Primary uses of ICT are for development of teaching skills and providing tools for teachers and students. Successful Educational applications of ICT are the involving a complex interplay of context, people, activities, machines and available software within specific setting .

This paper will not only look at ict has helped our training and us to an extent but also how we should be prepared for the challenges ahead.

INFORMATION AND COMMUNCATION TECHNOLOGY (ICT):

ICT is a generic term referring to technologies, which are being used for collecting, storing, editing, and passing on information in various forms, information and communication technologies (ICT) are one of the major contemporary factors shaping the global economy and producing rapid changes in society. They have fundamentally changed the way people learn, communicate, and do business .They can transform the nature of education, where and how learning takes place and the roles of students and teachers in the learning process.

ICT have the potential to enhance access, quality and effectiveness in education in general and to enable the development of more and better teacher in particular. A personal computer is the best known example of the use of ict in education, but the term multimedia is also frequently used multimedia can be interpreted as a combination of data carriers, for example video, cd rom , floppy disc and internet and software in wich the possibility for an interactive approach is offered.

NCTE in its general body meeting , held on 17th august 2000, decided that "information and communication technology (ICT) literacy "should be made a compulsory part of B. ED. Course

Highlighting the importance of information and communication technology UNESCO (1996) observed "as tools for the education of children and adolescent the new technologies offer an unprecedented opportunity to satisfy increasingly wide spread and diversified

demand while maintaining quality. The possibilities they open up, along with their advantages for teaching are vast .Computer and multimedia system.

THE MAJOR THEMES OF ICT FOR TEACHING AND LEARNING:

There are six major themes of ICT in teaching and learning at different level.

1. Tasks effected:

This theme concern the contribution of id use to effective tasks encountered within academic work. The majority of future teacher who have computers at home used them for game playing , homework and the internet some fell that it skills gained in this context supported their use of technology of school.

2. Refinement assisted:

This theme concern the contribution of ICT use to refining creations in the course of academic work It goes beyond the idea of simply effecting tasks to focus on the scope that ICT provides for training options and revising attempts, enabling ideas to be essayed and improved.

3. Ambience altered:

This theme concern the association between ICT uses and altered working ambience and classroom relation future teachers in all groups commented on computer and other technology.

4. Motivation changed:

This theme concerns the association between ICT use and changed motivation, across schools, future teachers linked the altered classroom ambience associated wife ICT used to raised internet and increased motivation and pointed to ways in which the scope for effecting task and refining creations with ICT use.

5. Teaching displaced:

This theme concern the contribution of ICT use to reshaping learning ICT resources had potential to be used not as just a tool but as something to learn with future teachers in every colleges will be enthusiastic by the revision software and websites.sen addressing learning objectives simply and directly.

6. Teaching displaced:

This theme associated ICT use with a degree of distancing and displacement of future teachers and teaching and arose first in responses to a question about whether they taught differently when they used ICT in the classroom.

CONCLUSION:

In this paper I have outlined how ICT can be used together with some monitoring strategies to improve learning and hence achieve predicated results. The nature of the use of ICT is as effective teaching and as an aid to administration tasks .Indeed using the computer and other related technology it seems to make our life easier , using the electronic white board to demonstrate a complex or dull topic makes excellent attraction and understanding.

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Problems and methods of teacher training : Bhawna misra.

Computer aided Simulation as An Alternate for Dissecting Animals

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Introduction:

The ethical values in the life is prevailing everywhere for the handling of animal at the time of dissection especially in the school and college level laboratory as a part of practical where the enthusiasm of learning students lead to the mishandling of the object. Learning is essential but on the verge of education we cannot be brutal. To give the animal in the inexperienced hands of student make the animal as a play object. Upon considering above mentioned issues Government took an initiative to avoid the wastage of fauna.

Environmental impact:

Data provided by various sources it is observed that in a college having the student of 60 number 4 animals till 3 years total count 60X4X3=720 animals are needed to provide the student each during the study. The animal providers are collecting the animal direct from nature rather culturing in animal-house. Resultantly the eco-system adversely affected due to this illicit treat e.g. the count of Calotes is remarkably decreased in the nearby regions which lead to the imbalance in the insect population.

Governmental Concern:

Ministry of Environment has recently imposed a ban on the poaching, captivating or any other uses of endangered animals are restricted and also shown its concern for the protection of the fauna. To restrict the illegal trade of animal government taken up an initiative to restrict the use of animal in laboratory where it is merely used for demonstration. This also comply with the ethical values as well.

Education Concern:

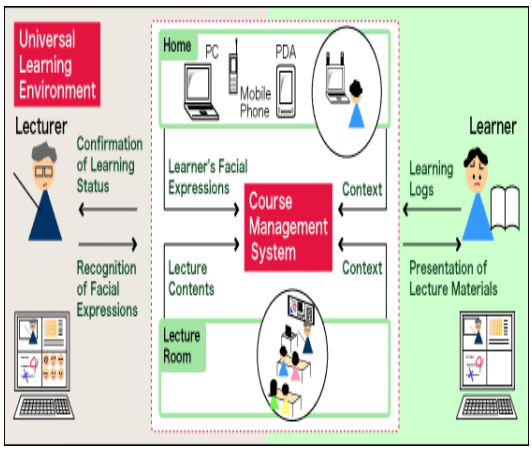
The education is always abide by the learning by doing. The science subjects are more practical and hands on training oriented, where the learner develops interest in particular subject and also applies ones knowledge which is gained in the class-room and widens its approach towards the learning of the concern subject. In above consideration the Practical's in Zoology subjects are adversely affected at both the end either at ethical level or information level.

The advancement in information technology intended people more towards the computer and technology. The fastest growing technology has come up with new avenues of knowledge and provides a platform where the task can be performed virtually.

The simulation of the real object by using software is catering the purpose of animals to be dissected in laboratories. By using sophisticated gadgets the students can perform the dissection as if they can perform in actual. In the figure the person is enjoying the experience of driving in a very risky location by siting in comfortable

and safe place.

By the support of NMEICT (MHRD) at website http://zoologyexperiments.com is a portal where the animals are shown either as a graphic/animation or video-shooting at real time locations.



By using the concept of smart-class the above concern can be full-filled effectively and efficiently. By using internet the computer or smart devices these simulations can be revised any time or any number of time without hindering others object. The present era is dominated by information and technology so by using these techniques the student will also develop ones skill in the field of ICT along with the Zoology.

Pros:

- No killing of animals.
- Anytime anywhere practical can be demonstrated and performed.
- No use of wet lab or wastage of resources.

Cons:

- Need of computer and other simulating instruments.
- Trained person is also needed to handle the instruments.
- Lack of feeling of real dissection.
- They may lose attention as it may become a repetitive and monotonous.

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Role of Internal Quality Assurance Cell (IQAC) in Sustaining Quality Education in Higher Education

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Abstract:

Keywords:

Introduction

The University Grants Commission (UGC) established an independent body named National Assessment and Accreditation Council. The task of the body is to Assess and Accredit institutions of higher learning with an objective of improving the quality of education. University Grants Commission directs all the Higher Education Institutions (HEIs) to have an Internal Quality Assurance Cell (IQAC). The objective behind setting up IQAC is to sustain and increase quality. IQAC can play an essential role in maintaining quality in higher institutions.

- **Benefits of IQAC**

- Focus on institutional functioning towards quality enhancement
- Ensure internalization of the quality culture
- Ensure enrichment and integration among the various activities of the institution and institutionalize good practices
- Provide a sound basis for decision-making to improve institutional functioning
- Act as a dynamic system for quality changes in the HEIs
- Build an organized methodology of documentation and internal communication.
- Act as a dynamic system for quality changes in the HEIs

- **Objectives of IQAC:**

- ensure continuous improvement
- improve the academic and administrative performance
- promote best practices
- identify strengths and weaknesses in the process of teaching and learning

- increase overall efficiency in academic programs
- ensure continuous development in the entire operations of the college
- inculcate value systems in students
- prepare action plans for academic sessions
- ensure its own quality and integrity to stakeholders
- suggest measures for improvement

Functions of the IQAC:

The functions of the IQAC are:

- Setting benchmark/parameters in various functions of the institution
- Dissemination of information on quality aspects.
- Evaluation the quality of the institution.
- Acting as a nodal agency of the institution for quality-related activities.
- Preparation of the Annual Quality Assurance Report
- Creating encouraging environment for both the students and the teachers
- Seeking feedback from students, parents and other stakeholders on quality-related matters
- Organization of inter and intra institutional workshops, seminars on quality related themes
- Development and maintenance of institutional database

IQAC will facilitate / contribute:

- To a heightened level of clarity and focus in institutional functioning towards quality enhancement and internalization of the quality culture.
- To the enhancement and integration among the various activities of the institution and institutionalize many good practices
- To provide a sound basis for decision-making to improve institutional functioning
- To act as a change agent in the institution
- To better internal communication

Effectiveness of IQAC:

- setting goals with deadlines
- monitoring and analyzing
- SWOT analysis of the institution
- Identifying and overcoming the weaknesses and threats
- rectify grievances
- Issues identified as threats or hurdles to the progress

Conclusion:

An Internal Quality Assurance Cell has to play major role in enhancing quality in higher educational institutions. IQAC in any organization will have to adopt the strategies set by UGC. Sustaining quality in education that mould the future of our upcoming generations is a prime responsibility of our education system. And this will be possible only through continuous monitoring with the support of Internal Quality Assurance Cell of every higher education institution.

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Role of Internal Quality Assurance Cell (IQAC) for Quality Management in Higher Educational Institution (HEIs)

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ABSTRACT

The aim and objectives of this paper is to explore the perceptions of higher education institutes with reference to quality in education. Internal Quality Assurance Cell (IQAC) special internal cell for maintaining and monitoring the quality related to education system. The main role and responsibility of IQAC is sustaining quality delivery of education services. The work of the IQAC is the first step towards the internalization and institutionalization of quality enhancement. The main aim of the IQAC is to develop a system for conscious, consistent and catalytic action to improve the academic and administrative performance of the institution. In the present era of knowledge and technology driven, every educational institute must have to improve the quality of education for his better future in competitive world.

Keywords: Higher education, Quality, Internal Quality Assurance Cell (IQAC), Knowledge, Technology.

1. INTRODUCTION TO IQAC

Many higher educational institutes offer the quality in education. University Grants Commission (UGC) has introduced the new concept of "Performance Evaluation" in the higher educational institutes (HEIs). To evaluating the performance of HEIs, the UGC set up National Assessment and Accreditation Council (NAAC). NAAC proposes that every higher education institute should establish an IQAC for maintaining internal quality of education. 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 higher educational institutes must have a goal

towards institutionalization and internalization. Quality sustenance and quality enhancement is one of the important functions of Internal Quality Assurance Cell (IQAC). The function of the IQAC is to develop quality benchmarks for each of the academic and administrative activities.

2. PURPOSE OF THE IQAC

The main work and focus on continuous review and improvement in the entire operations of the institution. It covers all the stakeholders related to higher education such as students, parents of students, teaching faculties, administrative staffs, funding agencies and society also.

The NAAC has recommended to every higher educational institute for establishment of IQAC. The cell makes to quality enhancement an integral part of institutional functioning. It seeks to work for planning, implementing, and measuring the outcome of academic and administrative performance of the institution. It aims at fulfillment of the mission and the vision of the HEIs in the light of its quality policy.

3. COMPOSITION OF THE IQAC

The IQAC may be constituted in every institution under the chairmanship of head of the institution with heads of important academic and administrative units and a few teachers and a few distinguished educationists/representatives of local committee. The composition of the IQAC may be as follows:

1. Chairperson: Head of the Institution
2. A few senior administrative officers
3. Three to eight teachers
4. One or two members from the Management
5. One/two nominees from local society
6. One of the teachers as the coordinator of the IQAC.

The composition of the IQAC will depend on the size and complexity of the institution. It helps the colleges in planning and monitoring.

4. FUNCTIONS OF THE IQAC

IQAC functions:

- Development and application of quality benchmarks/ parameters for the various academic and administrative activities of the institution.
- Dissemination of information on the various quality parameters of higher education.
- Organization of workshops, seminars and conferences on quality related themes and promotion of quality circles.
- Documentation of the various programmes/activities leading to quality improvement.
- Preparation of Annual Quality Assurance Report (AQAR) to be submitted to UGC based on the quality parameters.
- Facilitating the creation of a learner-centric environment conducive for quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process.
- Arrangement for feedback responses from students, parents and other stakeholders on quality-related institutional processes.
- Acting as a nodal agency of the HEI for coordinating quality-related activities, including adoption and dissemination of good practices.
- Development and maintenance of Institutional database through MIS for the purpose of maintaining /enhancing the institutional quality.
- Development of Quality Culture in HEI.
- Bi-annual development of Quality Radars (QRs) and Ranking of Integral Units of HEIs based on the AQAR.

5. ACTIVITY OF THE IQAC

IQAC activities:

- Planning of IQAC through democratic methods.
- Organizational Arrangements in Internal Quality Assurance Cell.
- Newsletter of IQAC: Quality Initiatives and Endeavours.
- State of the Art Laboratories.
- Departmental interactions with IQAC and its impact.
- Research and Development Cell.
- Annual Internal Quality Audit (Academic Audit).
- Training and Research Centre – Entrepreneurship.
- ICT as Teaching-learning Process.
- IQAC – Tapping Innovative ideas of Faculty.

- Computer Training Programme for Non-teaching staff.
- Non-Teaching Staff Training – TQM Initiative.
- Role of Parent Teacher Association (PTA) in Faculty Enrichment.
- Term-wise teaching plan and research activities.
- Training of Non-teaching Staff for Automation Process.
- Participatory Learning.
- Thrust for Knowledge: 'JIGYASA'.
- Soft Skills / Employability Skills.
- Mentoring / Tutor-ward System.
- Student Orientation Activities.
- Students Participation in Decision Making.
- Feedback Power: A System of Multi-cornered Feedback.
- The Training and Placement Cell.
- Students as Important Stakeholders in Quality Initiatives.

6. BENIFITS OF THE IQAC

IQAC contributes:

- To a heightened level of clarity and focus in institutional functioning towards quality enhancement and facilitate internalization of the quality culture.
- To the enhancement and integration among the various activities of the institution and institutionalization of good practices.
- To provide a sound basis for decision-making to improve institutional functioning.
- To act as a change agent in the institution.
- To better communication.

7.

8. CONCLUSION

IQAC play a major role in protecting the quality of education services. Each and every higher educational institute must have to establish this cell for planning, maintaining and monitoring the quality of education and administration. If any higher educational institute failed to maintain the quality of education, immediately action will be taken by the authority body of government related to quality education.

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The Enhancing Quality in Education through ICT (Information Communication & Technology).

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Abstract:

The use of Information and Communication Technology in education is extremely required. Integration of ICT in teaching and learning process is a topic of interest to many researchers, including education practitioners. Based on the use of ICT can be applied in three different scopes such as: curriculum, topics, and teaching eye. ICT also in terms of finding learning materials from original sources and recognized. In finding articles from international journals, the students can get it just by sitting in front of computers connected to the Internet network. All information about science can be presented in a short time just by using the Internet. Learning materials that have been obtained and copied and transferred to the USB, it can also be printed directly so that it can be used as learning materials. At the recent time teaching and learning are facilitated by computer has been the demand.

This paper proposes explanation to help the institution, teacher and student that the role of technology is being used to ease them to achieve the objective of education. Besides, it is aimed to introduce teacher and learner about the effect of technology in language teaching and learning. At the latest decades, technology becomes the most important things in which many people regard technology as the result of science. By the technology people are eased to accomplish the complicated and sophisticated problem. Since, the objective of this paper are to describe ICT, the benefits of ICT, and explain how significant is the use of ICT in English language teaching and learning making the difficult to be the easy done, people are helped to solve their problem.

Now, Information and Communication Technology has been used in all the fields of education. In education, computer technology has become so necessary that the government put ICT as one of the programme in India's education. The use of ICT in education has recently started to appeal the possible and considerable progress in language learning. It has become a major issue in education and has been used from preschool through to university that could facilitate students and teacher in teaching and learning process. Literacy in Information and Communication Technologies (ICT) is fundamental to life in our modern technological society. To equip students to be literate life long learners and global citizens of the 21st century we must successfully integrate ICT into both the English curriculum and English educational practice.

ICT is a valuable tool to enhance teaching and learning. For teachers ICT is a professional resource, a mode of classroom delivery, a source of valid and valuable text types. For students, ICT provides opportunities to communicate more effectively and to develop literacy skills including skills in critical literacy. It is a valuable tool for researching, composing and responding, and viewing and representing in English.

What are ICTs?

Information and Communication Technologies (ICT) content in English enables students to develop and apply skills, knowledge and understanding of ICT in their composing, responding and presenting, and as part of the imaginative and critical thinking they undertake in English. The ICT content has been incorporated into the content of this syllabus to ensure that all students have the opportunity to become competent, distinguishing and creative users of ICT and are better able to demonstrate the syllabus outcomes of English through the effective use of ICT.

In their study of English, students are able to apply their existing knowledge of word processing, multimedia, ways of formatting and presenting texts, simulation software, graphics and electronic communication and further develop their skills, knowledge and understanding of these technologies. They learn about the principles of information communication through technology.

Students are required to use specified tools and functions of word processing for composing. Skills include:

- Importing images and graphics into folders and documents
- Formatting documents

- Desktop publishing using graphics in a multimedia presentation or webpage, evaluating appropriate layout and design principles for a specific audience.

Also, students are required to learn about forms of digital communication such as video conferencing. They are also required to develop the skills of creating, importing and manipulating graphics for composing.

The manner in which ICT was fixed into the English syllabus in its final stage has been controversial with many believing that if ICT is to be genuinely fixed across the curriculum then the outcomes and competencies should be generated as a natural part of the syllabus development process rather than inserted in the final stages of syllabus development. (Leet, 2005). However despite these criticisms of the process and concerns about equity and access, there can be no doubt about the importance of ICTs in English.

Objectives of ICT's:

The use of ICT in education is absolutely required. Integration of ICT in teaching and learning process is a topic of interest to many researchers, including education practitioners. Based on the use of ICT can be applied in three different scopes such as: Curriculum, Topics, and Teaching eye. ICT also in terms of finding learning materials from original sources and recognized. In finding articles from international journals, the students can get it just by sitting in front of computers connected to the Internet network. All information about science can be presented in a short time just by using the Internet. Learning materials that have been obtained and copied and transferred to the USB, it can also be printed directly so that it can be used as learning materials. At the recent time teaching and learning are facilitated by computer has been the demand.

This essay proposes description to help the institution, teacher and student that the role of technology is being used to ease them to achieve the objective of education. Besides, it is aimed to introduce teacher and learner about the effect of technology in language teaching and learning. At the latest decades, technology becomes the most important things in which many people regard technology as the result of science. By the technology people are eased to achieve the complicated and sophisticated problem. Since, the objective of this essay are to describe ICT, the benefits of ICT, and explain how significant is the use of ICT in English language teaching and learning making the difficult to be the easy done, people are helped to solve their problem.

The development of information technology, the Internet, directs the history of educational technology in the new channel. Online services in the education of both degree and non-degree are basically providing educational services to users using the Internet as a medium. Online services can be composed of various stages of the process of educational programs such as: registration, test

entry, payment, learning, case assignments, case discussions, exams, assessments, discussions, and announcements. Nothing the positive impact of various studies on the use of ICT to support learning in the school, it is a must if the school is not excessive in this country also have the prospect of a future that allows for deploying ICT in supporting learning and they are as below:

E-Books:

Electronic book or e-book is one that utilizes computer technology to deliver multimedia information in the form of a compact and lively. In "an e-book can be integrated impressions" sound, graphics, images, animations, and "movie" so that the information presented is richer than normal books. Type e-book of the simplest is a mere transfer of normal books into electronic form displayed by the computer. With this technology, hundreds of books can be stored in a single piece of solid disc / CD" or compact disk, DVD or digital versatile disc". A more complex and require more exact designs such as the Encyclopedia Britannica and Microsoft Encarta encyclopaedia which is in multimedia format. Multimedia format allows e-book provides not only written information but also sound, images, movies and other multimedia elements. A description of the type of music, for example, can be accompanied by footage of the sound of music so that the user can clearly understand what is meant by the provider.

E-learning:

Various definitions can be found for the "e-learning". Victoria L. Tinio, for example, states that "e-learning" includes learning at all levels, formal and informal, which uses a computer network (intranet and extranet) for the delivery of teaching materials, interaction, and / or facilitation. For most of the process of learning that takes place with the help of the Internet is often referred to as online learning. Broader definition proposed in the working paper SEAMOLEC, the e-learning is learning through electronic services. Although a variety of definitions but basically agreed that the e-learning is learning by using electronic technology as a means of presenting and distributing information. Included in the definition of educational television and radio broadcasts is a form of e-learning. Although radio and television education is a form of e-learning, it is generally agreed that e-learning reaches peak form after synergize with internet technology.

Internet-based learning or web-based learning in its simplest form is the "website" are used to present learning materials. This method enables learners to access learning resources provided by the speakers or facilitators whenever desired. If it is necessary that may also be provided mailing list specifically for the learning website that serves as a forum for discussion. E-learning facility complete provided by a special software called software or learning management LMS (Learning Management System). Current running LMS-based Internet technology so it can be accessed from anywhere over the available access to the internet. Facilities provided include the management of students or

learners, learning materials management, learning management, including management of learning evaluation and management of communication between learners with facilitators.

This facility enables the learning activities are managed in the absence of face-to-face between the parties involved (administrators, facilitators, learners or learners). 'Presence' the parties involved are represented by e-mail, chat channel, or via video conference. In today's time where information and communication technology is rapidly developed and turns to be a lifestyle for people throughout ages and places, its literacy has undoubtedly become a prior necessity. The sensitivity of the technology helps one in attending a more important task and in attaining a higher achievement in the area of education, professional career, and social relationship at which its literacy is a major requisite. ICT which stands for Information and Communication and Technology, is detailed as follows.

- **Information Communication and Technology:**

ICT covers any product that will store, retrieve, manipulate, and transmit or receiving information electronically in a digital form. For example, personal computers, digital television, email, robots. So ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other.

- **Information:**

Information means the processed data in a meaningful and purposeful form according to Shore in Hartoyo (2012:2)

- **Communication:**

According to Potts, communication is defined as a process by which we assign and convey meaning in an attempt to create shared understanding. Brown (2011) stated communication is transfer of information from one person to another, whether or not it elicits confidence. But the information transferred must be understandable to the receiver.

- **Technology:**

Technology derived from the word 'techno' which means technique, art or skill, and 'logos' which means science. Therefore, technology can be defined as a scientific knowledge of art or skill.

Based on the definitions of the three components, ICT as a whole can be described as the utility of technology to support the effort of conveying information and communication particularly in the area of education. The technique includes digital technologies mostly of electronic information –

processing technologies, such as computers, internet, mobile phones, networks, broadband, and so on.

The benefits of ICT in general usage:

ICT is found to be advantageous in several ways as mentioned by Herington (2002), (1) technology facilitates exposure to authentic language; (2) technology provides the access to wider sources of information and varieties of language; (3) technology gives the opportunity to people to communicate with the world outside; (4) technology allows a learner – centered approach; (5) technology develops learner's autonomy. ICT help people in order to get information and to communicate each other in wider range.

ICT Tools in Language framework:

There are some kinds of technologies classified into information and communication technology commonly used in language framework, such as:

- Interactive multimedia

Interactive media is the integration of digital media including combinations of electronic text, graphics, moving images, and sound, into a structured digital computerized environment that allows people to interact with the data for appropriate purposes. The digital environment can include the Internet, telecoms and interactive digital television. (Finney, 2011:2)

- Computer

Computer can be utilized with other multimedia learning devices or it can stand alone (a standard PC) and still serves its basic purpose as an electronic medium of language learning. (Hartoyo, 2012:29).

Computer is an electronic device which is capable of receiving information (data) and performing a sequence of logical operations in accordance with a predetermined but variable set of procedural instruction (program) to produce results in the form of information or signals based on Oxford dictionary. It is consist of CPU, monitor, keyboard and some other apparatus.

- Audio devices

Audio devices can be used with other media to form an interactive multimedia. However, it can also be utilized separately as independent tool. Audio devices include speaker, earphone, CD, and etc.

- Internet

Internet can be used as a medium of language learning through email, www (world wide web), text, audio and video conferencing.

- Television

According to Oxford dictionary, television is a system for converting visual images (with sound) into electrical signals, transmitting them by radio or other means, and displaying them electronically on a screen.

- Mobile gadget

Mobile gadgets such as cell phone, smart phone and android phone which are equipped with programs like mini personal computer. By using this gadget and its internet connection, everybody could enjoy chatting, browsing, and discuss each other with the wider range. The advancement of science and technology makes the size and price of those gadgets are getting cheaper and reachable.

- Social interface

This media provides facility or example that enables an interaction between human and computer. People set up more interaction with computer in a more intuitive way with less effort-through writing, voice, touch, eye movements, and other gestures. (Hartoyo,2012:34) This technology serves as the milestone of the recent development of interactive multimedia, audio-graphic computer teleconference, and interactive television via satellite (National Broadband of Employment, Education and Training, 1993:5).

- Interactive whiteboard

An interactive whiteboard or IWB, is a large interactive display (such as a touch screen monitor) which is connected to a computer and projector. A projector projects the computers' desktop onto the board's surface, where users control the computer using a pen, finger or other devices.

Advantages of Information Communication and Technology:

1. The information required will be more quickly and easily accessible for educational purposes.
2. Innovation in learning is growing in the presence of e-learning innovations that further facilitate the educational process.
3. Progress of ICT will also allow the development of virtual classroom or classroom-based teleconference that does not require the educator and learners are in one room.
4. System administration in an institution will be more easily and smoothly because of the application of ICT systems.

Disadvantages of Information Communication and Technology:

1. Progress of ICT will also occur of violation of Intellectual Property Rights (IPR) for the easy access to the data that is causing people plagiatis will commit fraud.
2. Although the system of the administration of an educational institution like a system without a gap, but if there is a recklessness in running the system would be dangerous.
3. One of the negative impact of television is to train children to think short and survive concentrated in a short time.

SUMMARY

Information Communication and Technology is a form of advanced science technology must be optimized function, especially in the implementation of learning. ICT provides opportunities for students in the era of global competition needs to obtain adequate supplies. through innovative ICT-based learning can provide vast opportunities for students to hone and promote competence on an international scale. On the other hand, mental attitude and self-reliance in accessing any information necessary learning independently influence the value teaching student's character it does not always depends with others. Mastering current tick is necessity for every human being inedible age. as well as in education, innovative learning, especially learning can be done by using the Internet to generate device-based learning ICT

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Nicenet - A real classroom experience in virtual classroom:

Scope for the teacher in 'Nicenet'.

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Abstract

In the present paper we would like to discuss the usability of Nicenet in classroom and how it can be utilized as a helping hand for teachers in classroom practices. First, through the background of Nicenet we would like to through light on what is Nicenet and overview of Nicenet. Secondly, we will also present some directions and important steps for signing up and using Nicenet for teachers and learners. Several ways to use Nicenet and some of the suggested features of Nicenet is also discussed here. Ultimately the focus in on the space available for the teachers teaching though webtool called Nicenet.

Introduction

The term 'Free' has always remained fascinating for all the people. And when it comes to a profession of education the importance of it increases twice a time. There are ample amount of free web tools available on internet timing with possibilities to be used for educational purposes provided there is a vision and ability to see them. Nicenet is too a free discussion forum which can be used by all educators. A discussion forum is a public classroom forum for creating, discussing and reflecting on ideas. (Peggy Maslow). Nicenet is a kind of Platform that is online available on INTERNET. It was really a new experience to create own classroom on internet and to have some of the learners participating in virtual or imaginary classroom. It is to run short term courses on this website and the same can be used with students of other discipline. One more important thing is its flexibility of joining and Dropping class any time. The only thing you need is the Key of the classroom and that also only once. These features have made it maximum usable tool for E-learning. This tool is very easy and interesting to use. One more thing is that anyone can use this classroom on a mutual and comfortable time from both sides students and teacher. Teacher just has to decide schedule timings and the course time span.

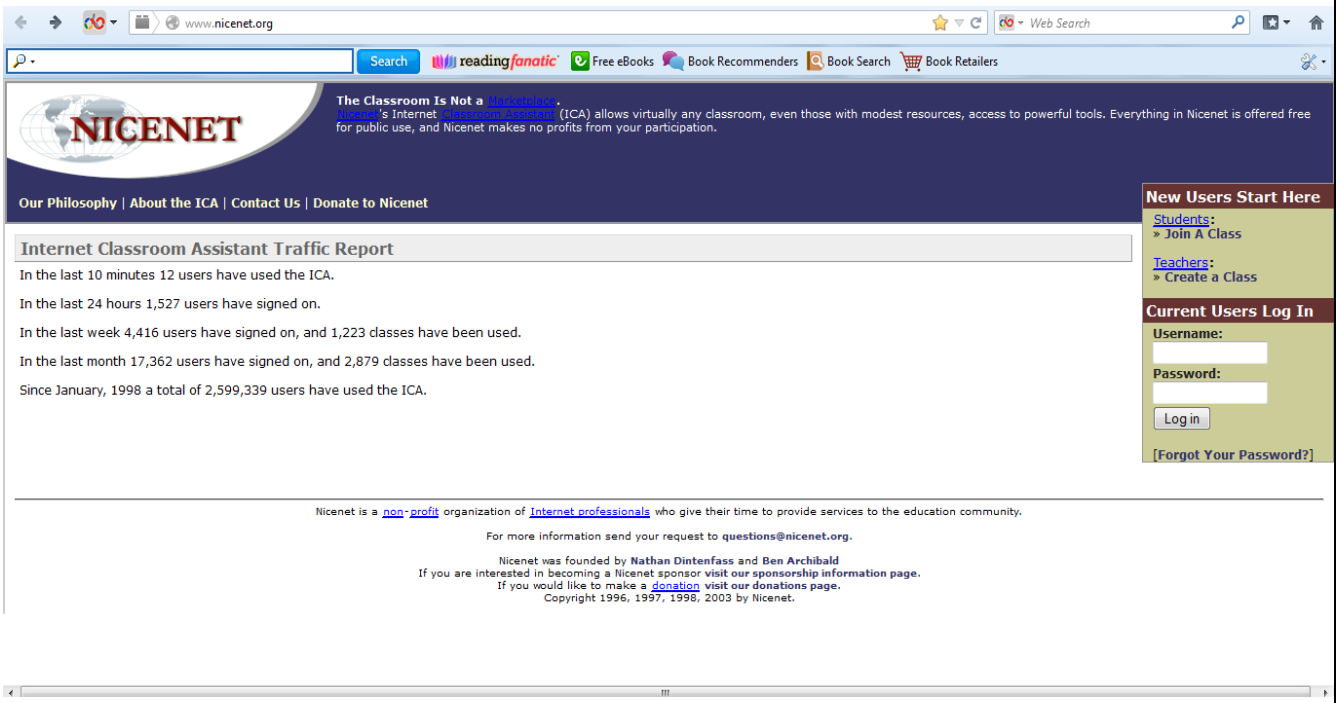
Background

Nicenet (www.nicenet.org) that is also known as an Internet Classroom Assistant (ICA), was founded in the year 1995 and it was offered free of charge by a non-profit organization of Internet

professionals, with server space donated by the Searle Center for Teaching Excellence at Northwestern University. Nicenet also offers some other features namely Conferencing, Scheduling, Document Sharing, Personal Messaging, and Link Sharing features. The most important thing is that everything can be done in a low graphics environment. In addition to these features Nicenet is ease of use. Anyone can create a class in a no time and only a little technical expertise is needed. Every class's administrator is assigned a class "key" that is to be supply to the students so that students can login and join classroom. Three things are very important i.e. class key, username, and password enables students to enter in to ICA so that only class members can participate. Things that students need are to find a computer with Internet access and a Web browser to use Nicenet. No software, server space, or knowledge of HTML is required. Unlike other websites Nicenet contains no advertisements. NICENET as a learning tool can be "an excellent source for authentic language learning experience (Silc, 1998:1)."

Overview of Nicenet

The following image is of Nicenet web site it is clearly mentioned that it is offered free for public use and as Nicenet is served by non profitable organization it makes no profit from any subscriber. The only thing that you need is an internet connection and gadgets.

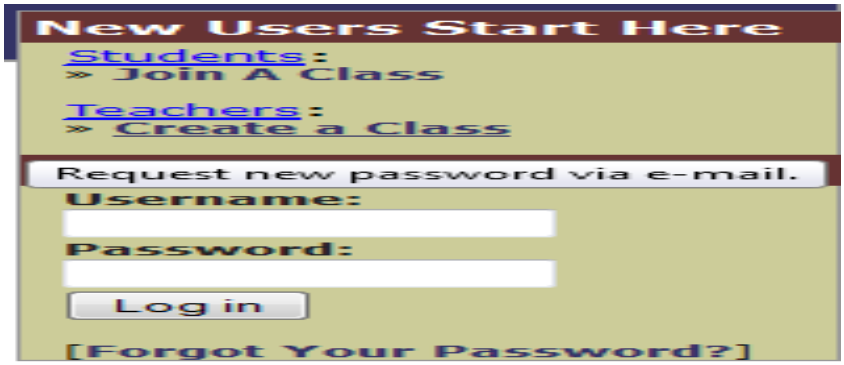


Steps for using Nicenet:

The following instructions will help the teachers and learners to understand to explore the various functions and areas of this site, and then return to this link and read below mentioned steps how to make an create a new entry and make a response to entry within the same conference I created on Nicenet.

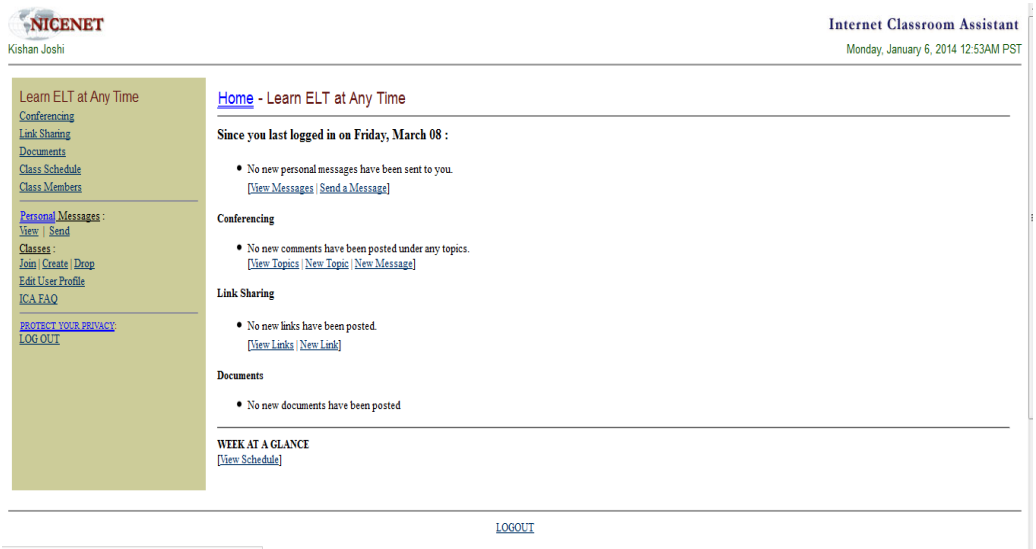
(1) Create a class as a new user and sign in with your user name and password.

Nicenet provides both options; to sign in as a student and as a teacher. Hence as a teacher when we use it for the first time we need to **click** on teacher- Create a class



(2) Click "Conferencing" on the left side of screen to enter the area set aside for class discussions.

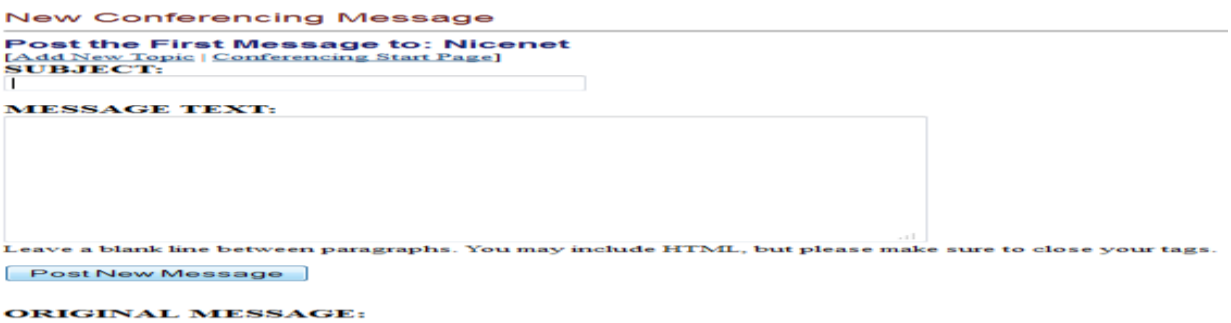
After being logged in the second step is to click on **Conferencing** link which will lead you on a new page where you need to add a new topic for discussion.



(3) Enter the topic and you will get a form wherein you can enter subject title and message.

After entering the topic a form will appear on the screen where in two bars can be seen. One bar is to enter a subject title and one box is to enter message for the learners. In this way the whole group of the learners and teacher can enter in to conversation where they can transfer message to each other and among group members.

(4) Select "Post Message to [topic name]".



In the same Nicenet also provide facilities to share link, upload document to read for the learners, a teacher can really delimit the course span and decide a schedule for she/he learners. After creating a classroom and assigning project to the learner the teacher can share she/he classroom key with the learners. With the help of that key learners will be able to enter into the classroom and be engaged in the assignment. Nicenet can convert oral tasks into written task.

Use of Nicenet in classroom

As using Nicenet is very simple and easy for all the users and it also does not require any kind of expertise. To say that Nicenet is perfect for teaching and learning process there would not be any exaggeration.

Several other ways to use Nicenet

- As a place where one can make announcements – Nicenet can be very useful to make announcements for the benefits of the students and it makes the communication correspondence between students and teacher easy.
- As an area where discussion is possible among learners in classroom.
- As a place which unable learners to submit given assignment.
- As a place for research scholar to publish their findings to share with fellow members.

Salient features of Nicenet suggested by Mrs. Lydia Leimbach

- Accessible from any computer with an internet connection.
- Forum based activities that allow students and teachers to do peer editing or respond to questions so that everyone can read all responses.
- Allows teacher to post links. Teacher may allow students to as well if desired.
- Allows teacher to post documents for download.
- Allows you to post schedules of due dates.
- Provides private messaging service.

- Requires no email for registration. Teacher provides a key that students enter.
- Requires students to put in name for identification, allowing teacher to keep track of who is doing what.
- Because the site is not visually "heavy" with images, ads and media, it loads quickly and is almost never down.

Conclusion

Hence, concluding we can say that it is very necessary as a teacher to step with the changes occurring in the field of learning and teaching methods. As it is said that the current scenario of 21st century, a century of communication technology and internet, divides teachers and students in two categories called Digital immigrants and Digital natives respectively. So it becomes very necessary to know what the developments going on in the field of ICT and tools prepared for educational purpose or if not basically prepared but have potential of being used in education must be brought into classroom, introduced to the students and ultimately handed over to them to use them in more and more creative manner.

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EFFECT OF RECENT TRENDS IN HIGHER EDUCATION

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Introduction :

India's higher education system is the third largest in the world, next to the United States and China. The main governing body at the tertiary level is the University Grants Commission, which enforces its standards, advises the government, and helps coordinate between the centre and the state. Accreditation for higher learning is overseen by 12 autonomous institutions established by the University Grants Commission.

Indian higher education system has expanded at a fast pace by adding nearly 20,000 colleges and more than 8 million students in a decade from 2000-01 to 2010-11. As of 2011, India has 42 central universities, 275 state universities, 130 deemed universities, 90 private universities, 5 institutions established and functioning under the State Act, and 33 Institutes of National Importance. Other institutions include 33,000 colleges as Government Degree Colleges and Private Degree Colleges, including 1800 exclusive women's colleges, functioning under these universities and institutions as reported by the UGC in 2012. The emphasis in the tertiary level of education lies on science and technology. Indian educational institutions by 2004 consisted of a large number of technology institutes. Distance learning and open education is also a feature of the Indian higher education system, and is looked after by the Distance Education Council. Indira Gandhi National Open University is the largest university in the world by number of students, having approximately 3.5 million students across the globe.

Facts :

Some institutions of India, such as the Indian Institutes of Technology (IITs), Indian Institutes of Management (IIMs), National Institute of Technology (NITs), Mody Institute of Technology and Science and Jawaharlal Nehru University have been globally acclaimed for their standard of education. The IITs enroll about 8000 students annually and the alumni have contributed to both the growth of the private sector and the public sectors of India. However, India still lacks internationally prestigious universities such as Harvard, Cambridge, and Oxford.

The average number of affiliated colleges per university is 300. For example Osmania University has 901 colleges affiliated to it while 811 colleges are attached to Pune University. Rashtrasant Tukadoji Maharaj University , Nagpur has 800 colleges with it and Rajasthan University as well as Mumbai University have 735 and 711 colleges attached to them. This phenomenon negatively affects the academic quality of the University.

The Rashtriya Uchattar Shiksha Abhiyan is a centrally sponsored flagship umbrella scheme aimed at providing strategic funding to State higher and technical institutions. States will develop comprehensive state higher education plans that utilize an interconnected strategy to address issues of expansion, equity and excellence together. Central funding will be linked to academic, administrative and financial reforms of state higher education. The Rashtriya Uchattar Shiksha Abhiyan proposes to put a ceiling of maximum number of colleges to be affiliated to any university at two hundred. A total of 316 state public universities and 13,024 colleges will be covered under it.

Survey :

Three Indian universities were listed in the Times Higher Education list of the world's top 200 universities — Indian Institutes of Technology, Indian Institutes of Management, and Jawaharlal Nehru University in 2005 and 2006. Six Indian Institutes of Technology and the Birla Institute of Technology and Science - Pilani were listed among the top 20 science and technology schools in Asia by *Asiaweek*. The Indian School of Business situated in Hyderabad was ranked number 12 in global MBA rankings by the *Financial Times* of London in 2010 while the All India Institute of Medical Sciences has been recognized as a global leader in medical research and treatment. The Quacquarelli Symonds (QS) World University Rankings published in 2013 ranked IIT Delhi - 222 with a 49.4% score , IIT Bombay- 233 and IIT Kanpur to 295 , with no Indian university making to top 200 .

There are some suggestions and Expectations from Government, Industry, Educational Institutions, Parents and Students for improving quality of higher education.

1. Student-Centred Education and Dynamic Methods
2. Public Private Partnership
3. To Provide Need Based Job-Oriented Courses
4. International Cooperation
5. Action Plan for Improving Quality
6. Cross Culture Programmes
7. Incentives to Teachers and Researchers
8. World Class Education
9. Status of Academic Research Studies
10. Personality Development
11. Industry and Academia Connection
12. Examination Reforms
13. Fair Quality Assurance System
14. High-tech Libraries

Conclusion :

To attain and sustain national, regional or international quality, certain components are particularly relevant, notably careful selection of staff and continuous staff development, in particular through the promotion of appropriate programs for academic development, including teaching/learning methodology and mobility between countries, between higher education institutions and the world of work, as well as student mobility within and between countries. Internal self-evaluation and external review must be conducted openly by

independent specialists, if possible with international experts.

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21st Century Education: A New Trend

By Soniya Rajput,

Abstract
The University of the 21st century offers education practices in a new way, by a mixture of latest technologies, online resources and new instructive open techniques to ensemble. Suppleness and the acceptance of education methodologies are means to tactical direction adopted by many. Everything seems to have changed drastically these couple of years in education system.The present paper intends to focus on 21st century education learning styles and the new trends of teaching learning options to broaden the horizons of student demographic.

Introduction

The field of education is changing at an ever-increasing rate. Traditional notions of education are giving way to newer, more innovative ways of thinking about how we learn, teach and acquire knowledge.

Fifty years ago in a small-town classroom, a teacher with a vision for the future told her students, "By the end of this century you may be living in automatic houses where everything from cooking to cleaning is done for you. You'll probably wear disposable clothes. You might even vacation on the moon or work on Mars." What she predicted hasn't happened yet, although we have taken the first steps toward interplanetary travel; in Canada there are experimental smart towns; and our refrigerators may soon be able to talk to us about souring milk or needed items for our grocery lists. The teacher wasn't totally accurate but she was telepathist—a clear seer. What she saw clearly and what she helped her students see was that the future was filled with wonderful possibilities if only they would "dream big"—set high goals, work to make dreams happen, and believe in themselves."Dreaming big" will be a prerequisite for teachers in the 21st Century. Never before has so much been expected of us, and never before has so much depended upon us.

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A hundred years ago a teacher had succeeded if she taught a few things to the many and many things to the few. Those who fell behind or dropped out could always find jobs on the farms and in the factories. Their livelihood didn't depend upon learning; learning outside the school provided enough to get by in their agrarian, blue-collar world. All of that has changed. Few can live on the wages from semi- or unskilled labor. It's brains, not brawn, that are needed to survive in the information age, and brains need more than basic training to function at their best; they need knowledge and understanding.

Change appears to be the only constant in the field of information and communication technologies and what was avant-garde two years ago is today outdated. If coping with such

rapid change in the field is getting increasingly difficult and complex, it is even more difficult when one tries to simplify the concepts and processes and help academics and educators who have to struggle with effective educational delivery.

Traditional education models have often focused on learning identifying content for subject areas i.e. math, science, language arts, and social studies, and then assessing. For teachers to engage and educate, to facilitate and motivate, their methods of teaching must be more closely aligned to students' methods of learning. Teaching spaces must be learning spaces. Teaching tools and resources must support learning strategies. There must be a paradigm shift in education. Teachers must become 21st century learners and 20th century schools must become 21st century learning organizations. Many educators are well on the way.

We know that 21st century learners are:

• Collaborative, networkers and communicators
• Adaptive and creative
• Information, media and technology savvy
• Partial to instant gratification
• Reliant on media in its various forms

Desired outcomes within 21st century learning frameworks include new trends like Hybrid learning, E-learning, project based learning, problem based learning, design based learning and game based learning.

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Hybrid Learning

The emergence of hybrid learning is driven by changes in educational practice. Established educational practices are changing: established roles, resources and locations are being altered, extended and replaced. Why are educational practices changing? We as a society of politicians, citizens, parents, teachers and company representatives strive for different learning outcomes to meet the demands from the knowledge-based economy as part of changing demands in society in general. Educational institutions seek to facilitate the process of learners to become competent, lifelong learning professionals able to cope with societal development.

To understand hybridity, one needs to acknowledge different modes of learning. In general a broad distinction between two modes of learning can be made: learning situated in an educational environment that is based on formal, intentionally planned educational activities and learning situated in a workplace environment that is mostly informal in nature. The educational environment tends to focus more on individuals, while in a workplace environment the focus is more on activities, often carried out in a team or within an organizational structure. Learning in schools usually has an emphasis on mental activities, while in a workplace the additional use of different tools and instruments is quite customary.

E-learning

E-learning is commonly referred to the strategic use of networked information and communications technology in teaching and learning. A number of other terms are also used to
describe this mode of teaching and learning. It includes online learning, virtual learning, network
and web-based learning.
The growing interest in e-learning seems to be coming from several directions. It contains organizations that have traditionally offered distance education programs either in a single, dual
or mixed mode setting. It has the incorporation of online learning in range of logical extension
and distance education activities. The corporate sector, on the other hand, is interested in elearning
as a way of rationalizing the costs of their in-house staff training activities. E-learning is of interest to residential campus-based educational organizations as well. E-learning is a way of
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improving access to programs and also as a way of tapping into growing positions markets. The
growth of e-learning is directly related to the increasing access to information and communications technology, as well it's decreasing cost. The capacity of information and communications

Project-Based Learning

Project-based learning isn't a new phenomenon – it was popular at the beginning of the 20th century. Project-based learning refers to students designing, planning, and carrying out an extended project that produces a publicly-exhibited output such as a product, publication, or presentation. The research on project-based learning has illustrated significant benefits for students who work collaboratively on learning activities in contrast with students who work alone. An additional research finding was that students who have difficulties with traditional classroom/ textbook/lecture learning benefit significantly from a project-based learning experience which more closely aligns with their learning style and preference. Best practices for
project-based learning include a) tying project outcomes to curriculum and goals, b) employing
questions or posing questions to introduce students to central concepts and principles, c) student
responsibility for designing and managing much of their learning, and d) basing projects on authentic, real-world problems and questions that students care about.

Problem-Based Learning

Problem-based learning is an approach to learning that has grown in span and depth across the
world since the 1970s, yet the bulk of the literature concentrates on practical applications of problem-based learning in particular settings rather than on the examination of the complexities
and challenges involved in its application. Problem-based learning, a form of project-based learning, allows teachers to develop, and students to focus, on complex, real-world problems using a case study approach. When students work in small groups to research and pose solutions
to problems, both a collaborative and multifaceted environment is created. Within this environment, students can explore multiple solutions and best practices for tackling projects. Studies and meta-studies of research that has focuses on problem-based learning have found that

for factual learning, problem-based learning has similar impacts to traditional learning methods,
but that problem-based learning does exceed traditional learning methods when skills such as 6
critical thinking, communications, collaboration, and applying knowledge to real world situations are measured.

Design-Based Learning

Design-based learning has been shown to have the most impact in the areas of math and science.
Popular design-based learning activities include robotics competitions wherein student teams design, build and then pilot their robots in a series of competitive challenges. Research has found
that students who participate in learning by design projects have a more systematic understanding of a system's parts and functions that control groups.
Obstacles to collaborative and inquiry-based learning include a) the ability of teachers to choose
activities and/or topics that benefit from differing viewpoints and lived-experiences of students,
b) the need to strategically select students who will work well together and set ground rules so
that all students may have the opportunity to participate, and c) encouraging multiple strategies
to encourage deeper discussion and better learning for all group/team members.
Teachers of 21st century skills will need to be experts and have expertise in teaching the same
21st century skills that they are encouraging their students to excel in. Teachers will have to take
conscious efforts to communicate and collaborate with each other and with students; become flexible with managing new classroom dynamics; be able to support and enable independent student learning, and be willing to adapt their teaching styles to accommodate new pedagogical
approaches to learning. For the above to occur, teachers will need professional development opportunities and strong support systems.
The professional development of our nation's workforce must be a top priority and teachers will
need to become 21st century learners themselves. Developing successful 21st century teacher education programs and initiatives requires flexible and coordinated leadership. All of those involved in education need to be able to reflect and learn from each other's experiences as new
methods and processes are piloted and implemented.

Game-Based Learning

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Games offer a unique structure to complement traditional teaching strategies and infuse teaching
with energy, spark innovative thinking and provide diversity in teaching methods. Games make l
earning concepts more palatable for students and supply learners with a platform for their creativ
thoughts to bounce around. Games encourage creative behaviour and divergent thought and are
excellent ice breakers. Games will often act as learning triggers inducing lively discussion on lea

r-ning concepts amongst students' game play.
Research shows that learning content through virtual environments enhances student learning.
Simulation games in online "virtual" environments can be influential learning tools. Such games
give students a chance to take on new identities and sink, virtually, into situations in which they
can apply knowledge in ways not possible in most students' real lives. The choices a player makes within a virtual simulation game transform the virtual environment, which give students
something rare: a world in which their personal actions dramatically alter events.
Simulation environment and modern video games are often difficult to master. They require students/players to be skilled at pattern recognition, sense-making of unfamiliar environments,
and multitasking. They also often require the user to be a risk-taker. In game play, players immerse themselves in complex, information rich, dynamic realms where they must sense, infer,
decide and act quickly. When they fail, they must repeat the task, learning from that failure and
working towards mastery.
McFarlane argues that the gaming generation is bottom-line oriented. He states that students often want metrics and want their performance measured – if the form of measurement is meaningful to them. Game designers at top gaming companies work to design good (engaging)
learning environments; environments that are create new challenges for players that are neither
too difficult nor too simple. As the players improve, the gamers expect the challenges to become
more demanding--but at just the right pace. The skills needed for gaming reflect many of the 21st
century skill sets discussed in this review. Translating this into classroom pedagogy is critical for
reaching students who learn well in this type of environment.

Conclusion

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The world is changing at a rapid pace. How we learn is changing. How we teach and assess learning is also changing. Old, authoritarian models are giving way to gentler, more collaborative
models. Students are as hungry as they ever were to be guided, coached and mentored. Their curiosity about the world around them continues to be piqued. The difference now is that they have that world at their fingertips. They are experiencing the world through technology in a way
that their parents and teachers never did.
Today's classroom is vastly different from that of the mid- to late twentieth century. The focus is
no longer on memorization and learning from rote, but rather using language and cultural knowledge as a means to connect to others around the globe. Geographical and physical boundaries are being transcended by technology as students learn to reach out to the world around them, using their language and cultural skills to facilitate the connections they are eager
to make. There is a case for a reconceptualized field that is more learner-centered, more collaborative and more technologically driven. The trends in language learning are moving us

forward in such a way as to empower our students to communicate with others across the globe
in real time.
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Pictorial Glimpse of the Seminar

Nurturing Quality in Higher Education through IQAC

Registration:

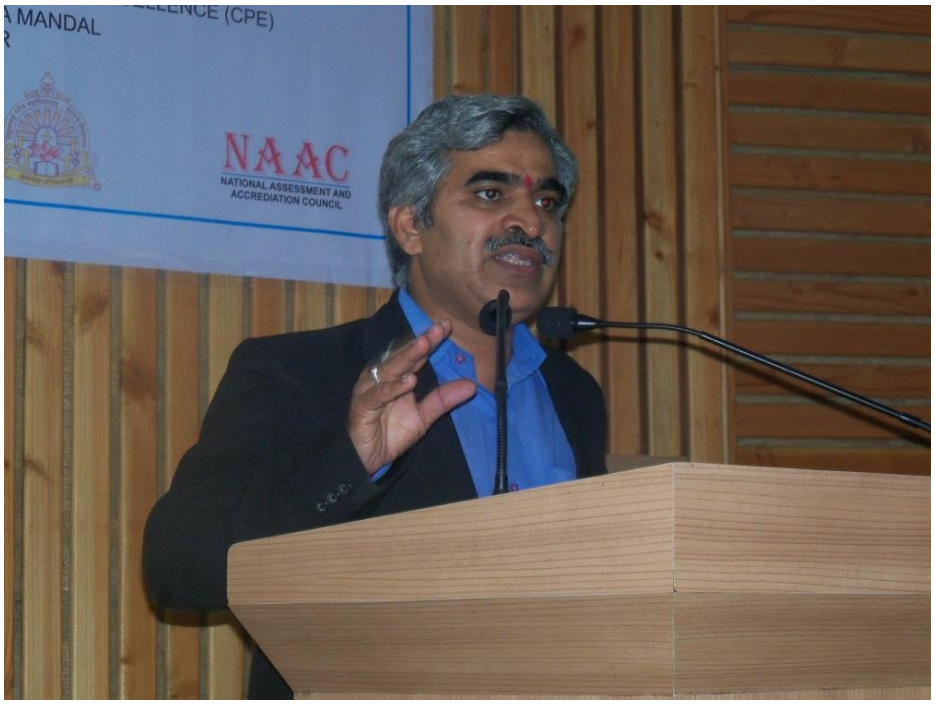
Inaugural Session:

Audience at the Inaugural Session:

Introduction and welcome address By The Principal: Dr Bhavesh Patel

Presidential RemarksL: by Dr C L Patel chairman CVM

About The Seminar: By Dr Nikunj Bhatt Coordinator IQAC



Keynote Address: By Dr Ganesh Hegde

Invited Speaker: Dr Subhash Brambhatt

Invited Speaker: Dr R P Jadeja

Invited speaker :Dr Charudutt Gurjar

Participants Presentations and Best Presentation Award

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