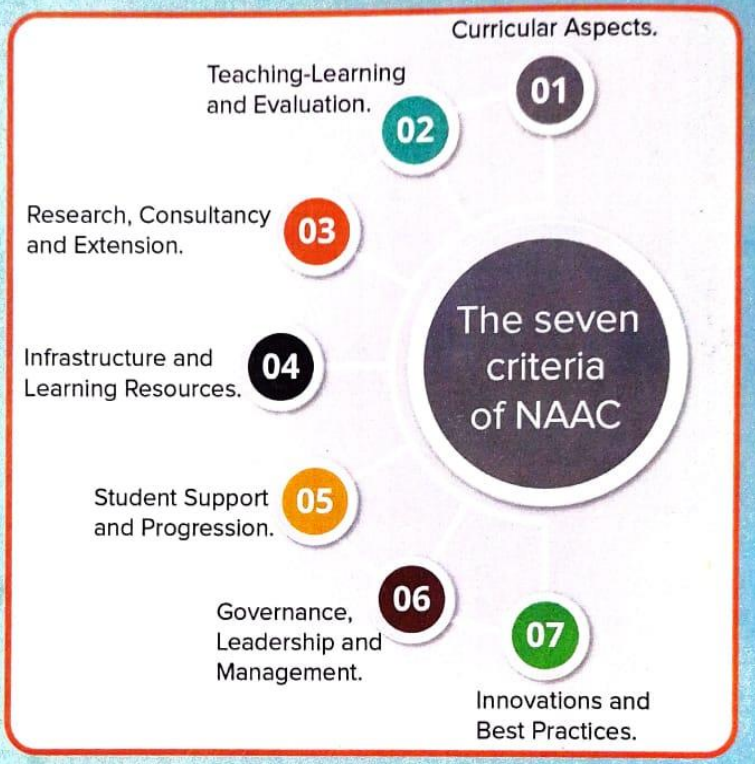
"EMERGING TRENDS IN QUALITY OF TEACHING, LEARNING AND EVALUATION: THE ROAD AHEAD"

INFORMATION AND COMMUNICATIONS TECHNOLOGY



Shri I.N. Tandel
Dr. R.N. Patel

Emerging Trends in Quality of Teaching Learning and Evaluation: The Road Ahead Information and Communications Technology

Shri I.N. Tandel

Dr. R.N. Patel

ASF COMPUTERS, INDIA

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Er. Bhikhubhai
B.Patel

Chairman
CharutarVidyaMandal
VallabhVidyanagar

From the Desk of Chairman

It gives me immense pleasure that the National Seminar on "Emerging Trends in Quality of Teaching, Learning and Evaluation: The Road Ahead" during 22 & 23 February, 2019is being organized at BhikhabhaiJivabhaiVanijyaMahavidyalaya, ,VallabhVidyanagar.

This National Seminar will provide a platform for research scholars, academicians and practitioners of India and abroad to express their creative pursuit which develops in them originality of thought and perception.

I take an opportunity to congratulate the principal, staff and students for their strong sense of commitment, service and responsibility that has transformed this institution into an outstanding and significant temple of learning.

I wish & pray God's abundant blessings be upon you always and the seminar may be turnout to be an excellent academic feast to the delegates.

Er. Bhikhubhai B. Patel

Dr. S. G. Patel

Hon. Secretary
CharutarVidyaMandal
VallabhVidyanagar

From the Desk of Hon. Secretary

It is my pleasure to pen down my thoughts on the occasion of the National Seminar on "Emerging Trends in Quality of Teaching, Learning and Evaluation: The Road Ahead" during 22 & 23 February, 2019 is being organized atBhikhabhai Jivabhai Vanijya Mahavidyalaya, Vallabh Vidyanagar.

I am sure that the recent researches and concepts will be discussed in the seminar. I wish the event great success and hope that the delegates participating in this seminar will reap maximum benefits. I appreciate the efforts of the principal and entire team of BJVM for their professional zeal, dedication and commitment.

Dr. S. G. Patel

Dr. Bhavesh Patel

Kulpati
CharutarVidyaMandal
VallabhVidyanagar

From the Desk of Kulpati

It gives immense pleasure to learn that Bhikhabhai Jivabhai Vanijya Mahavidyalaya,Vallabh Vidyanagar is organizing two days National Seminar on "Emerging Trends in Quality of Teaching, Learning and Evaluation: The Road Ahead" during 22 & 23 February, 2019

As India moves surely on its path to becoming a trillion-dollar digital economy, the spotlight is now more than ever on the role of education in India. I am sure that the participants of the seminar will deliberate upon such relevant theme and it will be truly a networking and knowledge enriching opportunity for everyone.

I congratulate the principal & entire team of BJVM for organizing the seminar and wish a grand success.

Dr. Bhavesh Patel

Hon. Jt. Secretary's Message

Perhaps few colleges get an opportunity to organize the seminars, this is why let me first congratulate the organizing team to hold and successfully accomplish the project undertaken. Visit of various researchers under the roof of Bhikhabhai Jivabhai Vanijya Mahavidyalaya is a matter of pride and immense pleasure for arrangement of collaboration of alike minds. When there is no criticism, the things do not normally happen to be true. The theme of the seminar is "Emerging Trends in Quality of Teaching, Learning and Evaluation: The Road Ahead" where there is a scope for the further development counting on the strengths already occupied. I congratulate the participants for being a part of this seminar by presenting the papers. I also congratulate the Principal & the organizers to undertake this opportunity to serve & contribute to the society at large.

Shri. R. C. Talati

Hon. Jt. Secretary

Dr. Ketaki Sheth

Principal & Seminar Director
Bhikhabhai Jivabhai Vanijya Mahavidyalaya
Vallabh Vidyanagar

From the Desk of Seminar Director

I feel happy and privileged to host the National Seminar on "Emerging Trends in Quality of Teaching, Learning and Evaluation: The Road Ahead" during 22 & 23 February, 2019 is being organized at Bhikhabhai Jivabhai Vanijya Mahavidyalaya, VallabhVidyanagar.

The two day seminar will be attended by research scholars and academicians of India. The seminar is aimed to identify and address improvement opportunities in conventional way of teaching learning and evaluation & to invoke new approaches and strategies in teaching learning process for quality enhancement in education system.

BJVM has been successful in creating remarkable benchmark of Excellence in education in the area of commerce and management. I sincerely hope that the seminar would prove to be outstanding one amongst the manyseminars.

I am sure that this seminar will provide a significant forum for exchange of ideas and experience in the area of Emerging Trends in Quality of teaching , learning and evaluation.

I wish the delegates a pleasant stay at BJVM.

Dr. Ketaki Sheth

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1. Impact of Digital Transformation in enhancing Quality of Higher and Technical Education

Mr. N K Pandya[1*]
Dr D K Parmar[**]
Dr S K Dave[***]

Abstract

Traditionally education is centered on sources such as schools, teachers and print media. The learners reached the information sources by enrolling with schools, teachers and libraries. Prior to the digital era, information was not accessible by the majority of people, and even those accessed were unable to obtain current information with respect to today's context. The modern society wants to know the information as it happens and when it happens, and the world is moving from an information society to a knowledge society. Thus education is given the highest priority and brainpower is becoming the most valuable asset of an organization. Advances in digital technology have opened up many avenues of learning. Technology has made information accessible / transmittable from anywhere and by / to all groups of people. Education has reached most parts of the world and ICT has become an integral part of human life. This paper describes the process of generation, creation and acquisition of knowledge through the technology. The use of ICT to manage and organize explicit knowledge is highlighted. The paper also describes how technology is used to access and apply such knowledge. The paper relates how these technologies have been used in education and its impact in general. The digital transformation is a very important factor to be considered as the world is changing in a very rapid way. The Education is the only prime factor required for the development of the country. The Technological advancements impacts the humans in every sectors . The

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Technology always brings the backside along with the advantages. The population of youths in our country is expanding so the digital transformation needs to be controlled in order to enhance the quality of education .

Introduction

Education is changing. Digital technologies are everywhere and they are impacting what, where, how and why students learn, and who they learn from. Many schools are using digital technologies like the internet, laptops and tablets to quickly, easily and cost effectively connect students with the huge range of digital services and resources. However, the many benefits of learning with digital technologies are accompanied by some challenges and potential risks for students and schools. These 'digital challenges' are real and present a dilemma to schools seeking to use digital technology to enhance student learning. The digital transformation is taking place in every sector of the country. In the 21stcentury , the world is driven by Artificial Intelligence and robots . The Education sector still works the same old-school way. The Digital transformation is required in order to utilize the technological advancements for the overall growth of the country.

Benefits of using Digital Technology

The potential benefits of DTC are that it can foster dialogic and emancipatory practice. – Dialogic practice is that in which students are active, engaged and empowered participants in a conversation from which learning emerges. For example, learners working on a maths modelling programme can start to have conversations about what they see on a computer screen without having to rely on terminology that they may not yet have (look at 'that', what happens if you do 'this'?) The teacher can then add the appropriate language into the conversation as the project develops.

Digital technologies in the classroom continued – Emancipatory practice is that in which an individual student's ideas go beyond the learning prescribed by the teacher/syllabus as they draw on knowledge gained outside formal education to construct understanding. For example, in music lessons learners can use their own knowledge and expertise of playing instruments or using technology to construct their own recording environments (perhaps using their mobile phone).

They can then bring in ideas that they have created at home or in instrumental music lessons. Different technologies can improve learning by augmenting and connecting learning activities. For example, in a geography lesson two classes in different schools may link up via the internet to explore cultural differences in

relation to a particular global issue such as pollution or energy supply. The groups could work together to understand not just the issue itself but its impact on communities and individuals by talking to real people.

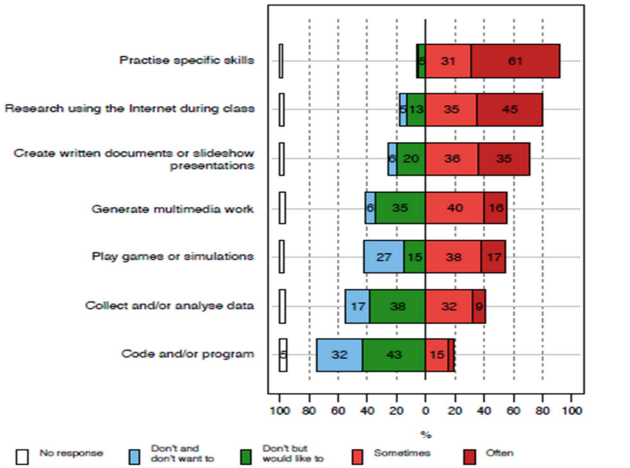
In situations where bandwidth is limited this could be done at a whole class level via video or even over email or SMS (Short Message Service) messaging. Digital technology can often also be exciting for learners and offers a potentially more engaging alternative. At the same time it is important to be aware that some learners may be less confident in learning with digital technologies and steps need to be taken to ensure equality of access. Digital technology offers immediate feedback for both the learner and the teacher.

Self-Awareness of using Digital Technology

As shown in Figure 1, the three most common ways students were using digital technologies for their school work were to practice subject-specific skills (reported as happening often or sometimes by 92% of teachers), research using the internet (80% often or sometimes), and creating written documents or slideshow presentations (71%).

Just over half said their students often or sometimes used digital technologies to generate multimedia work (including images, music, movies, animation), or to play games or simulations. Less than half of the teachers said students used digital technology to collect and/or analyse data, and less than a fifth of teachers said students use digital technology to code or program.

FIGURE 1 **Student use of digital technology to learn, create, and produce work, reported by teachers (n = 771)**



Source : Survey by online education -India 2021 [1]

Role of a teacher in support of digital technologies

Teachers can make the best use of technology in the classroom by developing their awareness of a range of digital technologies and considering carefully both how and why they can be used to support students' learning. Effective selection of software and devices is only part of the story. The consideration of what learning will be achieved and how the technology may help is fundamental to its effective deployment. • The SAMR (Substitution, Augmentation, Modification, Redefinition) model developed by Dr Ruben Puentedura is a useful reference when considering the implementation of technology in the classroom. The model (see below) shows the stages that adopters of educational technology often follow as they integrate their teaching and learning with technology.

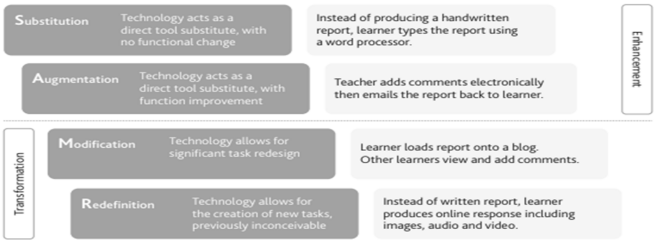


Figure 2. Enhancement and Transformation[1]

Challenges of using digital Technology

A lot of time and resources are currently being invested into technologies and applications that have yet to be proven to be effective or efficient when compared to more traditional classroom learning contexts. Teachers and schools need to think carefully about when, why and how to use technologies as well as evaluating their efficiency and effectiveness. There is a 'digital divide' – the divide between those who have access to digital technology and the internet, and those that do not. Implementing and then maintaining technology is costly particularly as systems can quickly become out of date.
There may be problems with the existing infrastructure, for example internet connections may be inconsistent and/or slow. Safety for students and teachers is a key challenge with prevention of cyber-bullying, the hacking of personal information, access to illegal or banned materials and distractions from learning (such as social networking and mobile phone use) all being high on institutional agendas. Some uses of technologies can be harmful. For example, poor posture and eyestrain are common problems when working at desktop computers for prolonged periods. Also Repetitive Strain Injury (RSI) is a risk that occurs from the repeated actions necessary to control mobile devices.Evidence suggests that at the moment the potential of digital

technologies in the classroom is not being realized. A report on digital technologies from the charity Nesta in the UK notes, “What is clear is that no technology has an impact on learning in its own right; rather, its impact depends upon the way in which it is used” (2012:9)

Digital technology for students’ learning

Teachers generally seemed to hold positive views about the benefits and impacts of learning with digitaltechnologies. Most teachers agreed that digital technologies provide a range of benefits tolearners,although some expressed concerns around equity of access, safety issues, or the impact on teachers’working hours. Even with these concerns it is notable that few teachers agreed that learning with digitaltechnologies is too time-consuming for the benefits gained.

We asked teachers to respond to a set of statements to indicate different ways their students might currently use digital technologies in the classroom. Teachers could indicate whether these things happened often or sometimes, or if a particular practice wasn’t currently happening, teachers could indicate whether or not they would *like* this to be happening.

Education System current scenario and impact of Digital Transformation

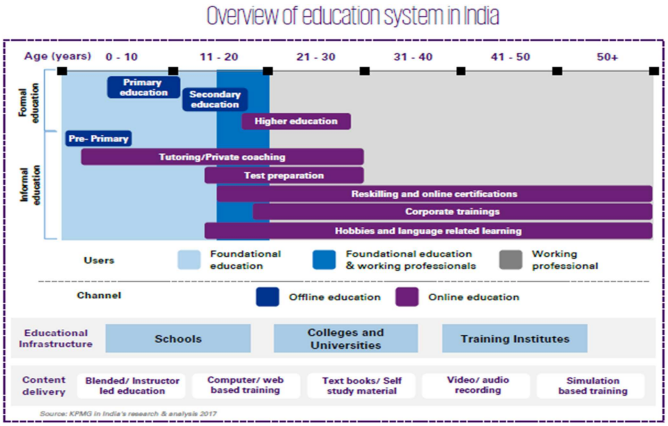


Figure 3. Overview of Education System in india

Source :Online Education India 2021[3]

The above shown figure indicates the education system current scenario . The education system needs reforms in its own sectors . As a popular saying is “ Once a leader was a student in the past”. So, the education sector will undergo huge transformation as the need to skill based employment will increase in the upcoming years.

Teachers and principals seem to hold generally positive views about the benefits and impacts of learningwith digital technologies, increasingly so over time. Teacher and principal responses also indicate that,from their point of view, pedagogies are developing and adapting with new technologies, and that hasbeen beneficial overall for students' learning.

How accurate are principals' and teachers' perceptions of the impacts and benefits of learning with digitaltechnologies in their schools? We cannot answer this question with national survey data alone. Otheruseful information that could be used to triangulate with teachers' and principals' views might includemore detailed information about teaching and learning practices and their impacts for students, and datafrom students themselves, including qualitative data about how they experience learning and teachingwith digital technologies, and quantitative data on their learning achievements. These data are difficultto gather on a national scale and go beyond the scope of the national survey methodology.

Conclusion

Technology has made information accessible / transmittable from anywhere and by / to all groups of people. Education has reached most parts of the world and ICT has become an integral part of human life. This paper describes the process of generation, creation and acquisition of knowledge through the technology. The use of ICT to manage and organize explicit knowledge is highlighted. The paper also describes how technology is used to access and apply such knowledge. The paper relates how these technologies have been used in education and its impact in general. The digital transformation is a very important factor to be considered as the world is changing in a very rapid way.

In our country , the socio-economic disparity is the biggest hurdle for the development of nation. So by using the digital technologies and transforming the education , we can ensure that the economy of our country would gain effectively.

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2. Emerging New Technologies for Teaching Learning Process

Shri I. N. Tandel*

Abstract

One of the basic functions of education is preparation of students for life. This function is 21st century may be participation in an information rich society, where knowledge is regarded as the main source for socio-economical development of countries and/or nations. Information rich societies are developed and dominating and they are controlling the information throughout the world. Information encompasses and relies on the use of different channels of communication, presently called information and communication technologies and would be incorporating better pedagogical methods to cope with such emerging situations. These have changed the scenario of education particularly, pedagogy and instruction making teaching learning process more productive creating collaborative, learner centered and interactive global learning environments. Therefore, information technologies are assumed to play a constructive role in education to make the teaching and learning process more productive through collaboration in an information rich society.Information rich society promotes new practices and paradigms for education where the teacher has to play new role of mentoring, coaching and helping students in their studies rather to play the conventional role of spoon feeding in the classrooms. Students can learn independently having a wide choice of programme selection and access to information. Students can be involved in skill oriented activities in group learning environments for accumulated knowledge.

Introduction

One of the basic functions of education is preparation of students for life. This function is 21st century may be participation in an information rich society, where knowledge is regarded as the main source for socio-economical development of countries and/or nations. Information rich societies are developed and dominating and they are controlling the information throughout the world. Information encompasses and relies on the use of different channels of communication, presently called information and

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communication technologies and would be incorporating better pedagogical methods to cope with such emerging situations. These have changed the scenario of education particularly, pedagogy and instruction making teaching learning process more productive creating collaborative, learner centered and interactive global learning environments. Therefore, information technologies are assumed to play a constructive role in education to make the teaching and learning process more productive through collaboration in an information rich society.

Information rich society promotes new practices and paradigms for education where the teacher has to play new role of mentoring, coaching and helping students in their studies rather to play the conventional role of spoon feeding in the classrooms. Students can learn independently having a wide choice of programme selection and access to information. Students can be involved in skill oriented activities in group learning environments for accumulated knowledge.

Objectives

- To understand concept of teaching and learning process.
- To identify different technologies for teaching learning process.
- To understand ICT requirements to technology strategy and pedagogical strategy.
- To analyse the effectiveness of technology in teaching learning process.

Students use information technologies to

- Participate in a media revolution, profoundly affecting the way they think about and use information technologies.
- Improve the way of learning in new learning fashions
- Extend the ability and skills of applying their learning in real situation.
- Working in groups for cooperative and collaborative learning
- Developing self- learning habits at their own pace and time.
- Learn with the teacher rather than by the teacher.
- Develop inquiry- learning habits
- Use right information at right time to achieve right objective.
- Review and explore qualitative data
- Exchange learning experiences and information with others students and teachers living anywhere in the world.

Teachers use the information technologies to

- Present the material in more interesting and attractive way.
- Guide and help students in searching the qualitative material.
- Make best use of time.
- Coach the students.
- Provide individualized instruction.
- Direct the students toward cooperative as well as collaborative learning activities.
- Prepare learning material for students, rather teaching in conventional situations.
- Diagnose the learning problem of students and help them to overcome.
- Solve the study problems of student.

Information technologies provide the opportunities of global interactions. Students can learn from interactions with the information, interface, teachers and co-learners using global networks. They can interact at their own and get rid of their routine work. They may review and explore the qualitative as well as quantitative data through computer networks. They can work on group projects participating in peer learning and knowledge building activities. Under the influence of information technologies, teaching and learning occurs in a changed situation. There seems a shift from teacher centered teaching to student centered learning.

These include

A shift from lecture and recitation to coaching

Students learn by interactive technologies and teacher facilities them on how to use and reflect responses. He/ she may be diagnosing learning problems and helping learners to find their solutions. When students work with information technologies, teachers reduce the time they spend directing students; they spend more of their time facilitating student learning.

A shift from whole- class instruction to small group instruction

Students progress at different rates and pace in their learning process. Teachers can interact with individual students and in small groups. They can become better informed of the individual student's progress and problems in their learning. So they can help and facilitate students individually in more effective way.

A shift from working with better students to working with weaker students

Individual differences exist among students at all level of learning. Information technologies enable teacher to cope up with this problem in large classes working with individual students and in small groups. The teacher is then able to aim instruction at one specific target group and to devote time those who mostly need help.

A shift from all students learning the same things to different students learning different things

Conventionally, all students had to learn the same things what the teacher intended to teach them in a class. However, now the situation has changed and the use of information technologies has enabled the students to learn what they need, and what they want to learn. There also exists individually in some common attainment. Resources for learning are available through information technologies, it becomes possible for students to recognize and use the appropriate information to achieve the goals under the tutelage of teacher.

A shift towards more engaged students

Conventionally, majority of students is passive listener in the classrooms for most of the time. Teachers carry on delivering lectures without any concern of students' participation in the teaching learning process. Use of information technologies in classroom situation particularly interactive technologies however; ensure attention and active involvement of students.

Well- designed computer- mediated instruction is more likely to engage individuals for effective learning then simple lectures and book reading a classroom.

A shift from assessment based on test performance to assessment based on products and progress

Competencies and skills are necessaries to live a successful and productive life. These may result from undertaking creative projects rather than repeating of paraphrasing information from lectures and textbooks. The best projects include realistic tasks that generalize the students' learning and its application in new situations. Information technologies actively involve the students in different competency based activities through skill oriented projects in real situations.

A shift from competitive to a cooperative goal structure

Collaborative and cooperative learning approach provides learners the opportunities of extensive interaction. Students have access to extensive databases and share their own work through networked communications to work on collaborative projects.

Teachers guide the students on how to share and interact in networked collaborative learning environments. A shift from the primacy of verbal thinking to the integration of visual and verbal thinking.

Information Communication Technology

Information and Communication Technologies (ICTs) exemplified by the Internet and interactive multimedia are obviously of great significance for education. It needs to be effectively integrated into the classroom teaching and learning conditions. It is also to be focused in teacher education programmes. The ICTs integration in education in general and teacher education in particular is the need of the day. Its adequate recognition and support of relevant needs is crucial for integration and effective utilization for quality education programmes.

ICTs can be used firstly to enhance richness and quality of teacher education in the classroom and secondly to distribute own developed multimedia resources to others through distributed learning as well as flexible learning. In either case, the selection to technological tools will depend on costs, technology infrastructure, and learner's access to the technology, the support personnel and facilities available to create digitized knowledge resources and individuals commitment to sustaining the venture.

In the following table-1, the ICT requirement,

Table-1: ICT Requirements Corresponding to Technology Strategy and Pedagogical Strategy

Technology Strategy	Pedagogical Strategy and Example	ICT Requirement
Learning/ Demonstrating	Audio Visual Presentation • Support for lecture/ demonstration includes audiovisual/ multimedia components • Recording for future use	• Multimedia PC/Laptop • Appropriate Application Software • Multimedia Projector (LCD or DLP) to communicate large group • Fixed projection • Digital Video Camera
Tools and Templates	Individual or Group Projects by Teacher/ Student • Develop presentation models, simulation of course content • Develop programming • Own web page or institute web page	• Multimedia PC/Laptop (standalone or network connected) • Multimedia Projector (LCD or DLP) to communicate large group • Digital Video Camera
Using Simulations/ Models	Individual Self-paced Learning • Enhancing course content (like textbook) and other resources • Develop e-book • Virtual laboratories • Concept formation by animations,	• Multimedia PC/Laptop (standalone or network connected) • Multimedia Projector (LCD or DLP) to communicate large group • Digital Video Camera

Technology Strategy	Pedagogical Strategy and Example	ICT Requirement
	flow diagrams and pictures • Develop multimedia aids	
Electronic mail	Communication between teacher and student • Access to staff • Discussion and chat • Feedback and advice • Submission of assignment • Notice instruction	• Multimedia PC/Laptop • Connected to network (accessible in institution or outside) • Institution maintain Host • Mail server or ISP account
Hypermedia/ Hypertext Resources	Course Content Resources for Self-paced, Self-directed Learning • Developed corpus document documents embedded hypertext links including multimedia(sound, video, animation and graphics) • Developed CD-ROM, DM) via the web.	• Multimedia PC/Laptop • Connected to network (accessible in institution or outside) • CD-ROM or DVD-ROM
Video Conferencing /audio	Reach to Remote Tutorial Groups • Institute linkage. • Use to scattered small groups	• Multimedia PC/Laptop with video card and web camera or digital camera • Connected to network Telecommunication Linkage • Software for

Technology Strategy	Pedagogical Strategy and Example	ICT Requirement
		conferencing • Multimedia Project (LCD or DLP) to communicated large group
Didactic Software/Content ware and Intelligent Tutoring Systems	Self- paved learning • Didactic CD-ROM or DVD Rom for • Computer assistant learning (CAL) resources • Computer based training (RBT) resources	• Multimedia PC/Laptop • Connected to network/ LAN (accessible in institution or outside) • Licensed software
Feedback/ Testing	• Assessment Systematic • Objective testing • For large group testing • Self testing • Recording for self/ peer feedback (for micro teaching session) • Improve teaching competency	• Multimedia PC/Laptop • Connected to network/ LAN (accessible in institution or outside) • Accessible on sites or offsite (depends upon the license for relevant Test Management Software • Digital Video Camera

Scheme and programmes for smart class and quality education.

One to one programs

One to one programs are an element in an international move towards individualizing learning, which can increase independence and shelf-initiated learning in students, and extend their learning in students, and extend their learning beyond the classroom the classroom. Students who have their own laptop computers have been found to take greater pride and ownership over

the knowledge they create, with a flow on to more flexible forms of schooling.

One to one programs can extend formal learning communities to include parents, siblings and other people important in students' lives. Also, the programs may lead to initiating global communication and collaboration and develop creative expression.

One to one programs are also known as 'anywhere, anytime' or 'laptop for students' programs.

These programs provide students with personal portable computers to enhance opportunities for learning. The devices help schools engage the digital generation by nurturing individual (or one to one) learning experiences. Preparation is the key before launching one to one programs. Most of these steps involve detailed planning and preparation.

Successfully implementing a one to one program in any state relies on an equal focus on:

- A strongly supported vision and culture across the whole school community
- Effective technical infrastructure and support
- Development of constructivist, student- centered pedagogies.
- Structured professional development for staff.

Conclusion

Technology is the mean to enhance teaching- learning quality. One can use technology to better display information, increase access to information, improve information sharing, and organize better class presentations. Technology is not a panacea for educational problems, but by combining technology with applicable learning models, the overall quality of education is enhanced. Students centered and led learning. Educators must discover and develop how to implement new technologies into learning environments.

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3. ICT in Education

Dr. Darshana S. Rohit*

Abstract

The term information and communication technology (ICT) is a shift from information technology (IT) and communication technology (CT). Information and communication technology (ICT)) can be considered possibly as a very powerful instrument for educational change and reform. A more significant role of information and communication technology (ICT) is the transmitting, exchanging, enhancing expected goals and values through education that can never be overruled in any society.

Incorporating ICT in education has essential importance on learning aptitude of the students, their innovativeness, information development, learning atmosphere, , teaching methodologies, critical thinking abilities and understanding ideas utilizing different ICT devices. In an educational system, ICT is a dynamic force in the process of exchanging of goals from a teacher to expected students that would make them to be valuable to their own selves and to the community in general at large. ICT is a new area of innovation which required to be incorporated legitimately in the educational arena.

This Paper is an attempt to know the application of ICT in education, its importance, advantages, disadvantages and the issues and challenges that are generally faced in the way of an effective application of ICT in education system.

Key Words: ICT, ICT for Education, data, Computers, Cell Phones, Technology, Innovations, teaching, learning.

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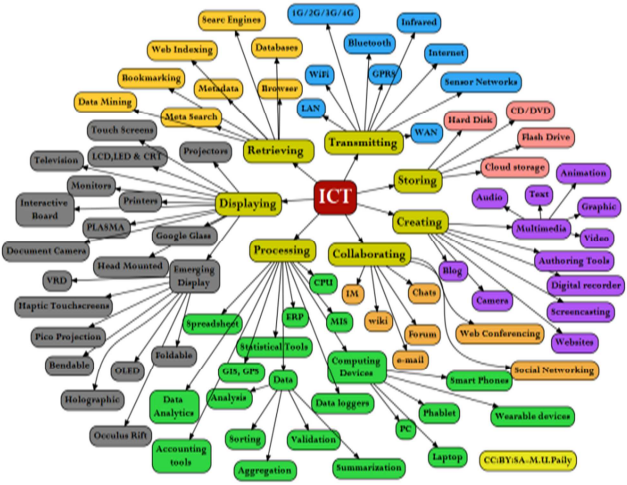
Information and communication and technology

It's the digital world today. It is hard to think about any occasion in our day to day life where we are not utilizing Information and Communication Technology.

Despite the fact that ICT is regularly viewed as an inclusive, equivalent and extensive synonym for information technology (IT) its span is more extensive. Though, ICT is regularly viewed as an equivalent word for information technology (IT), its degree is wider. ICT is now been utilized to depict the integration of a certain technologies and the utilization of regular transmission lines conveying different data and communication types and channels Information and communications technology (ICT) refers to all the innovation used to deal with telecommunications, broadcast media, intelligent building management frameworks, audiovisual processing and transmission frameworks, and network-based control and monitoring functions. ICT is an umbrella term that incorporates any communication gadget, including radio, TV, mobile phones, PC and system equipment, satellite frameworks and other electronic devices. ICT at present more often use to depict the incorporation of advance technology and the utilization of common transmission lines conveying exceptionally different data and communication types and configurations.

A graphical representation of what is ICT is portrayed in more specific terms in the figure beneath (Graphic affability: Dr.M.U.Paily, RIE, Mysore)



The table below shows the comprehensive of scope/ range of technologies that fall under the classification of ICT.

Information	**Technologies**
Creation	Personal Computers, Digital camera, Scanner, Smartphone
Processing	Calculator, PC, Smartphone
Storage	CD, DVD, Pen drive, Microchip, Cloud
Display	PC, TV, Projector, Smartphone,
Transmission	Internet, Teleconference, Video conferencing, Mobile technology, Radio
Exchange	e-mail, Cell phone,

Review of Literature

The emphasis here is to do the review of th e research work which has been done in the area of Information Communication Technology (ICT) in education.

Malcolm et al. (2008) found out that absence of expert and professional development programs for the teachers to redesign their skill on new technology is a hindrance to ICT execution for the administrators. . **Park et al. (2009)** explored 'ICT in science education: A quasi-experimental study. The researcher has discovered some proof that ICT helps to a great extent in getting high achievement goals in students and it also motivates and support

more students' enrolment in science. **Bahr (2009)** in his examination 'Technological barriers to learning' ' found that the complex ICT conditions may negatively affect on students learning. Learning is upgraded when incorporating teaching methods are utilized to relax the occasionally high-load data ICT enabled atmosphere. Further, a system for ICT in education needs to consider the expert skills of the teachers in their different abilities to viably plan and coordinate technologies for learning. **Abdi et al. (2009)** undertook a study to explore 'The utilization and integration of ICT in chemistry teaching in Iranian high schools' They found there is a general need to change the chemistry education programs utilizing ICT enabled environment and they also had extremely positive perspectives toward ICT and their remarks were powerful to change the learning condition.

Objectives of The Paper

The basic objective of this theory paper is to know and understand the evolution of ICT application in education, the need and objectives of ICT application in education, how ICT application is benefiting education field and finally to know the limitations of the application of ICT in education.

Research Methodology

This paper is based on secondary data which is taken from different journals, research papers, articles, thesis, and dissertations related to the topic along with the use of different websites.

Historical Evolution of ICT In Education

Use of ICT in Education has priority of improvement of Educational Technology. Since the present day ICTs have all the qualities of the former education technology, even the field of and has renamed itself as ICT. In this sense, ICT incorporates both the traditional customary and the current educational technology. This mix of ICT in the field of education has been because of two significant reasons. The first is the definitive change in the manner in which we started looking at the process of learning and subsequently the teaching methodologies. The second one is the development

of new innovation and technology which can address the issues to meet the present day requirements.

Convergence of Technology And Telecommunications

Parallel improvements in the field of innovation lead to combination of technology and telecommunications. The manner in which we got associated with one another, social networking now became a virtual reality. Communicating with individuals, who are at faraway places, has now become a reality. Difficulty of distance to interact with people is now been solved. There are new platforms to communicate one by using methods like blog and micro blog. Digital advancement has made data processing very simple to deal with. In a way, ICT gave a perfect stage for learning in the new worldview. ***The below shown figure shows the phases of development of different technological devices that are popularly applied in the educational practice***

Display	Television	Radio	Projectors	Storage Devices	Commu nication	Computer
Balckboard	Monochrome CRT	Radio	Handmade Slide projector	Paper/Books	Face to face	Mainframe Computer
Flannel Board	Colour CRT	HAM Radio	Photographic Slide Projector	Magnetic Tape	Postal mail	Desktop Computer
Peg Board	Plasma TV	FM Radio	Opaque Projector/ Epidiascope	Magnetic Drum	Telegram	Laptop
Magnetic Board	LCD TV	Community radio	Film Projector	Floppy Disc	Telephone	Palmtop
White Board	LED TV	Mobile radio	Micro projection	Compact Disc	Mobile Phones	Netbook
Interactive White Board	3D/HD TV	Internet Radio	Overhead Projector	DVD	e-mail	Tablet
Collaborative virtual boards	UHD TV	Podcast	Digital Projection Panel	Hard Disks	Forum/ online groups	Phablet
Wearable Display	Interactive TV		Multimedia Projector	Optical Devices/Pen drive	Chat	Wearable Computing
Bendable Display	IPTV		Document Camera Projection	SD Card	Instant Messaging	Nanobots
Foldable Display	OLED TV		LED/Pico projector	Data Centres	Web conferencing	
Holographic Display			Wearable Projector	Cloud Storage		

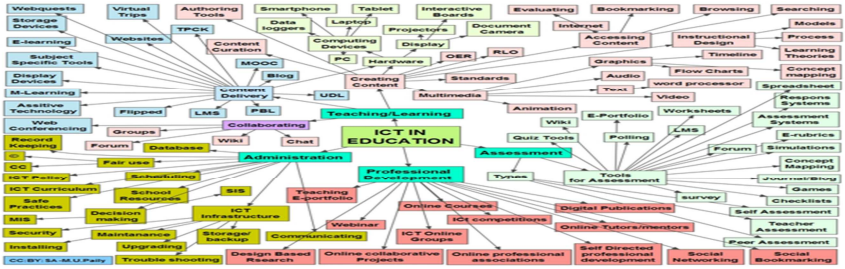
Figure: Evolution of Different Technology Tools (Graphic Courtesy: Dr. M.U.Paily, RIE, Mysore)

ICT In Education

The extensive use of ICT in Education is not just an accident. It is seen in all angles our life. Education is one important segment which has experienced

the impact of innovations in ICT. Beginning from providing online content service, stage for arranging learning experiences to managing learning and evaluation has been changed significantly by ICT innovations Students, teachers and educational administrators and every stakeholder in education have been benefited by involving ICT in education.

The diagram below represents the application of ICT in education system (Graphic courtesy: Dr.M.U.Paily, RIE, Mysore)



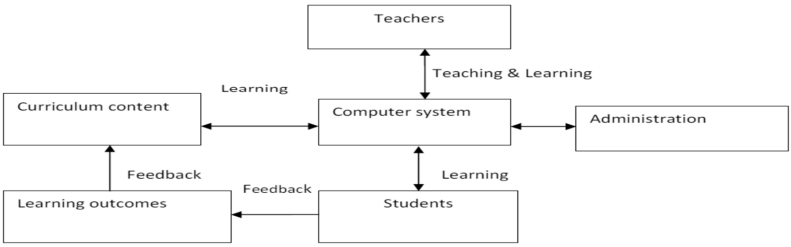
The idea here shows how ICTs can possibly be utilized in different practices of education including teaching and learning, evaluation, administration and teacher professional development. For instance, teaching and learning aspect of education can incorporate ICTs in content creation, content distribution and cooperation and collaboration like content development for instance. ICT gives us numerous devices, including equipment and content the hardware includes computing devices as well as display devises The content sources can be Open Education Resources (OER), and Reusable Learning Objects (RLO). Professional development of teachers is another such example of how ICT is useful? ICT instruments give different open doors such as the Webinars, online courses, online collaborative projects, online tutorials, social networking, and so on.

Traditional v/s Internet based ICT education Approach

	Traditional Classroom	ICT In Education
Classroom	· Physical – limited size · Synchronous	· Unlimited · Anytime, anywhere
Content	· PowerPoint / transparency / etc · Textbooks / library · Video	· Multimedia / simulation · Digital library · On demand · Syn & Asyn. Communication
Personalisation	· One learning path	· Learning path and pace determined by learner

With the assistance of ICT, the coming together of powerful and rapidly changing technological and political forces that will shape the structure of educational frameworks over the globe. The ICT has changed the education scenario in the last couple of decades by evolving as the most effective tool used in the learning process, both by the teachers and the students. The integration of ICT in education has a significant impact on learning attitude of the students, innovativeness, knowledge development, learning atmosphere, teaching strategies, critical thinking aptitudes and understanding various concepts by utilizing different ICT devices. The Student has an opportunity to keep record of information in digital form and they understand different ideas based on their self-learning (Owen, 2004). "It has proved to be of immense help, like a boon to both the teachers and the students. Searching for matter beyond the text book is now no longer a challenge with reference to time and resources any more now." Education is one important area which has experienced the impact of advancements in ICT. For e.g. providing online content service, platform for organizing learning experiences to managing learning and assessment has been changed significantly by ICT advancements. Students, teachers and educational administrators and every stakeholder in education have all been benefitted by coordination of ICT in education.

Applied Framework of ICT Integration In Education



Objectives of ICT In Education

- Enhancement in learning speed and achievements.
- Increasing the level of acquiring of knowledge, skills and aptitudes of people required for better living and sustainable development

- To encourage and facilitates the relationship between human and the environment.
- To apply the principle of everlasting education.
- To expand the variety of educational techniques and services and literacy level through distance education.
- To enhance the technological awareness among nationals, and the equivalent significance to moderate and talented youngsters.

Need And Importance of ICT In Education

"Smart technology" is the common term that is generally being utilized in every one's life. Smartphones, tablets, gadgets, smart televisions, etc., are the results of smart technology that have made human life more smart, less demanding, easy and simple. Smart technology has not only upgraded the way of living but also an integral part of everybody's life. The ICT has has become a dynamic force for economic growth and development tool too. Al this has became possible because of the integration of Information and Communication Technology. Information technology has been affecting our lives in the recent years in the fields of education healthcare, and business. In this i technological time, ICT in education has forced many institutions to adapt smart technology. Here are some of the salient features that make ICT **in education a very vital communication tool.**

- It offers the wide range of services.
- It is dependable and gives interactive learning experiences.
- It is adaptable, flexible and gives an easy learning experience.
- It encourages students to learn.
- It encourages communication and enhances innovativeness.
- It additionally gives access to the advanced digital library where data can be recovered and saved beyond textbook reading material.

The utilization of ICT in education increases the value of educating and learning, by upgrading the efficiency of learning. It added a new angle to learning which was not available and discovered earlier in past. After the commencement of ICT in education students discovered that learning in a technology- improved atmosphere is more interesting, exciting than in a conventional classroom environment.

Benefits And Limitations of Technology In Education

Technology is one of the most vital tools amongst that we have access and is readily available in our daily life. Technological developments have made the world an incredible and comfortable place to live in. There is no doubt that how technology has improved our lives and made it easy and safe specifically in the fields of science, medicine and education. **Some of the benefits of ICT in education are listed below.**

It Is Like A Big Information Channel

Response to any question can be found with a couple of clicks of the keys on the PC or on the mobile phone. Useful informational search engines give systematic and simple approaches to get the answers and solutions that the students require for the completion of their assignments and academic projects.

It Helps In Enhancing The Mind Power

Before the Technology and web, youngsters knew only things that their family taught them. This caused limited knowledge about political and social change. But now tha availability of Technological innovation will open them to things outside of their limited knowledge and it also helps them to develop their very own thinking n opinions beyond their parents' likings'.

It Brings Some Fun In to The Classroom

Learning from the same teacher or individual consistently over a period of time often becomes very exhausting n tiresome and boring too. This boredom at times transforms into absence of motivation and inspiration to the students. But integrating learning with the help of technological tools in their courses makes the student excited and in turn increasing the learning capacity considerably. This helps to generate fun for them in educational life of the students.

Useful Education

In the working scenario, in almost every employment students may take, they need to understand how to work on PC. Teaching this aptitude to students at early age will give them the benefits of technological knowhow and develop

an ability to absorb and adapt technological up gradations as and when require especially when they become adult.

It Enhances Independent Free Learning In The Students

The internet is an ocean of information. To be precise anything we need to know is readily and easily available online. Despite the fact that there is an issue of the authenticity of the source and the information provided, it can still be very much useful as an academic information source for the students. Using this information will help them to have less dependence on their teachers, parents and can create an ability of self learning. Irrespective of the hard text books digital learning gets continuously updated giving the students the most current, latest information making them more educated even outside the classroom in outer world.

It Makes The Students Ready For Their Future

From the technological up gradation, it is clear that the future will be computerized, electronic, digital and technology driven. If the students are aware of using technology to integrate and communicate at the earliest, they won't experience any difficulty in getting a good job in future. Being acquainted with using at least one technology at an early age will help them getting more comfortable in utilizing it, and in the end create different abilities important to deal with other innovative procedures.

It Enables Teachers To Create New Innovative Technique To Teach The Students

Gone are the days when the methods for educating are constrained only to books, black n white boards, and a chalk or markers. With innovation merged into training, teachers would now be able to consolidate pictures, recordings and different illustrations while delivering the lectures. Specific websites, applications and projects will empower the teachers to change how they provide instructions and guidance. This makes an energizing learning atmosphere and enhances enthusiasm for learning in general. Different devices accessible for teaching incorporate Smart Boards (intelligent whiteboards), email Skype, and PowerPoint.

It Boosts The Advancement of New Teaching Techniques

As opposed to spending an hour or so with the students or asking them to read the complete chapter on their own, the teachers now have the alternative to utilize new advanced methods of particular gathering or one to one dialogue, the teachers can use web conferencing or other online specialized communication devices..

Limitations of Technology In Education

Like most things, Technology has its disadvantages too. Tools, for example, PCs, cell phones and the web, are presently incorporated into the education framework. While they are helpful in certain academic dimensions, they additionally have negative **effects also. The utilization of the Internet for education is not without its drawbacks. Therefore it is expected that one should be ready that issues will be there while using the internet for teaching. These are some limitations of utilizing ICT for education. .**

It Results In Absence of Interest For Learning

Since everything is presently available on the web or through information stored in PC or cell phones, students may get insincere towards studies and they may get lazy too. Some of them may even think that as every tutorial n lessons are readily available online , theres is no need to attend schools. This may result in forgetting the fundamentals of learning and important inputs from their teachers. They will start depending on internet for solving mathematical problems instead of solving such problems on their own It makes the students helpless towards probable pitfalls. Although PCs and other technological tools are very vitals tools for educations, they can also lead to serious problems. This is specifically true for those students who are not that tech savy and unaware of using high tech technology. Such technical problems at times lead to loss of assignments and other important study materials, causing immense amounts of pressure that students may not be able to bear. Variations in internet speeds can also create certain challenges that demoralize the students.

Negative Perspectives on Technology

In the era of consumerism, we have been taught that technologies varied from computers to mobile devices are generally seen as entertainment and time spending tools than to education tools. Textbooks still are primarily viewed as instruments for learning. As a result, a student has to make a choice between a tablet and a text book, and they may float towards a text book for learning, and probably going to use a tablet to play games and spending their precious time on social media.

It Raises Instructional Difficulties

For teachers to remain updated with latest technology is at times very difficult, especially for those teachers who have been teaching with conventional methods for their entire lives may get helpless to the use of technology in their teaching. They may even consider it to be a probable risk to their professional security and may evade technology by and large. In fact, many teachers accept that use of technology has considerably taken students' capacity to though t such conviction is subjective in nature, researchers, experts and the teachers believe that technology has changed the fundamental way the students learn.

It Can Devalue The Value of Learning In Person

Although there is no definite research on the how the personal interactions and communication influences students' performance, the data collected showed that the students who have registered themselves in online courses have higher rates in failing exams, dropping out of classes, and are more averse to get benefit of it. This may be due to the reason that lectures delivered on digital platforms lacks the basic communication among the teacher and the students which is very important for the students learning.

In short Integrating technology in education has its pros and cones, but right implementation of ICT may help to minimize its drawbacks. Effective linkages and better planning is necessary for use of ICT in education.

Challenges And Hindrances In Integrating Icts In Education

In spite of the fact that ICT has got the potential to change the education system of a country to a large extent,, its proper implantation still remains a test to a great extent ."Training the teachers for the use of continuously advancing technology, , updating their skills and aptitudes with the changing technology and keeping them aware with the latest technological up gradation is still a very difficult challenge." Availability of most recent technology decides the effective use of technology and applying it in education requires a huge financial investment. "The greatest challenge that comes in the way of effective application of ICT in the education system is the huge financial investment for the installation and continuous running of ICT tools in the institutions. ***To conclude, the following are the some of the obstacles and key challenges for the use of ICT in education.***

- Less availability of Computers.
- Shortage of Computers with the internet availability.
- Low speed of the internet.
- computers outdated and additionally requiring maintenance
- Lack of skills in teachers
- Less technical support to the teachers.
- Scarcity of appropriate content for teaching material.
- Difficulty in coordinating ICT use into the existing educational modules
- Lack of instructive models on the most proficient method for use ICT for learning
- fixed School time association
- Lack of sufficient space (classroom size and furniture, and so forth)
- Overburden of preparing students for exams and tests.
- parents do not support the use of ICT in learning
- teachers too do not favor the use of ICT in learning
- Lack of interest in teachers
- confusion regarding the benefits of use of ICT in teaching
- Using ICT in education may not the ultimate moto of the educational institutes
- Lack of adequate financial investments
- Inadequate learning of the teacher(s) on latest up gradation with ICT.

Approaches To Use ICT To Address Education Challenges

The following can be the possible ways to address problems in application of ICT in education.

1. Take a comprehensive methodology towards the development of ICT in Education plans and policies. This incorporates support for ICT at both the national and individual institute level which includes measures like including education stakeholders in determining how to coordinate ICT skills in the educational programs, or to tap teachers to help create strategy designs.

2. To built and enhance the ability of teachers, administrators and other education pioneers to utilize and coordinate ICT in education frameworks. Education leaders should be assisted with professional development opportunities so that they can connect with the teachers and together they can show a common dedication to ICT in education.

3. Share accepted procedures and exercises learned among different education institutions inside and outside the nation. This comprehensive learning can then be used to for the advancement of ICT and to for better support of ICT in education practices.

4. Creating public private associations (PPPs) and joint effort with tertiary institutions to get extra specialized and management expertise, along with financial resources. **'Education PPPs'** can consolidate the qualities and abilities of both the sides to guarantee the supportability and adaptability of ICT in education activities. Governments should drive and encourage organizations that incorporate private sector investments on a sustained basis continued premise, with a focus on equal uniform access to ICT empowered education.

5. Mobilize assets for research and assessment of ICT in education to enhance technological development and scale up its utilization. This incorporates working with tertiary establishments acting as research centers. Governments too can create incentives for R&D on creative usage of ICT in education which includes making programming and other ICT equipment increasingly reasonable and important to students in learning. Thorough assessment on ICT viability and

efficiency can give proof for justifying transformation of education incorporating ICT application.

Conclusion

Informational communication technology (ICT) is an instrument of worldwide educational advancement. ICT gives the chance to change teaching, learning, and the management practices in educational institutions. The need for this transformation is of utmost importance and of great priority in today's digital world where teachers and students are living. Without this technological up gradation it, they may end up as a part of the workforce that cannot meet the need and requirement of the digital world of 21st century.

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The graphic below represent the applications of ICT in various areas of education. *(Graphic Courtesy: Prof.M.U.Paily, RIE, Mysore) Figure displaying evolution of various technology tools (Graphic courtesy:Dr. M. U. Paily, RIE, Mysore)*

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4. Role of Technology in Teaching-Learning Process With a Special Reference to Teaching of English as a Foreign Language

Gita Ashutosh Yagnik*

Abstract

The advancement made in the field of science and technology has brought radical changes in human life. Technology as a tool has contributed significantly in the field of medical science, business world and mass communication to name a few. Technology has created a revolution in the field of education, training and research. on line teaching and learning, examinations and virtual classes have become a reality. The barriers of time and space have erased. Technology has transformed teaching-learning methods and it can prove to be a boon for our country. The English language has become a global language for corporate, political and knowledge society. Internet based technology can be effectively used for teaching and learning English meaningful and result oriented in the Indian context. The present paper examines critically how technology can be used for teaching and learning English as a foreign language. It focuses on the effective use of technology based models of teaching and learning the English language. The paper also offers practical suggestions so that technology can be easily accessible to the masses of the Indian learners.

The advancement in the area of Information Communication Technology has revolutionized the very concepts of teaching interactive learning and evaluation. There has been an ever accelerating cycle of innovation in teaching tools. There is a deluge of information for learning English as the second language. But the classroom challenges have remained essentially the same: how does a teacher 'reach' his students? How can a teacher challenge the students and motivate them to think for themselves? How can we use the tools at our disposal to improve the classroom experience? New technology has opened up possibilities unheard of in previous times. But the technology

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will have only limited impact if the pedagogy behind technology application does not keep pace. A teacher with a teaching plan must work in harmony with the new technology. New technology is introduced every day. So a teacher has to use what is essential and result oriented. In today's world the use of technology is not a choice but a necessity. It is monotonous to try and teach through the printed word alone. Most of the students are interested in using technology because it is always exciting. But a teacher needs to understand that he has to give priority to his language teaching goals. This area must be a focal point in the process of teaching and learning. It is quite natural for the young students to get carried away. They will use precious time in creating colourful graphics but that will contribute nothing to the language learning process. It does not mean that a teacher should discourage students from using internet resource creativity but there is a need to be defining language component in each activity if a teacher wants to make the task meaningful for his classroom.

Interactive white board

Interactive white board are exciting tools allow us to run multiple media from one place. Even a beginner can use it. It is truly a multimedia tool which allows a teacher and the students to switch easily between applications. We can work on a document and quickly jump to the internet for a reference or play a video from the web DVD drive on our computer. Working with interactive white board instead of using a mouse and keyboard keeps our eyes up and our focus on our computer. An interactive white board is a touch sensitive board that is connected to a computer and projector and displays a computer desktop. It is also connected to other peripherals such as DVD players if necessary.

The World Wide Web is a way of accessing information over the internet. It has enabled the teachers to find authentic written, audio and visual texts.

Computers provide the means to access on line dictionaries, grammar and self study material. Technology plays a vital role as it enhances the young learners' learning experiences. Technology provides learners with greater access to the target language. Technology also allows teaching to be tailored to the individual to the greater extent than is normally possible. A few computer assisted language learning called programme can adapt to diverse learners by analyzing their input and provide you customized feedback and

remedial exercises suited to their proficiency. Technology makes possible greater individualism, social interaction and reflection on language.

Technology enriches language learning experiences. It helps in reshaping our understanding of the nature of language. Language is never static. It is dynamic and it is made dynamic by those to use it for various purposes. Larson- Freeman suggests that the more dynamic way of language can be applied to grammar also. They call it grammaring. It is not the knowledge of grammar rules but it is the ability to use grammar structures accurately, meaningfully and appropriately. A teacher of language must remember that it is not technology per se that affects the learning of language and culture but the particular uses of technology. This stress on use focuses on the central importance of pedagogy and the teacher. Technology should be integrated into the prescribed curriculum and not just added in because it is new.

Computer Assisted Language Learning [CALL] is a new development for interactive method of instruction. It helps learners achieve their goals of learning at their own convenience. In this method computer technology is used in technical/ learning procedures at all stages such as presentation, practice and feedback. There are obvious advantages of CALL. It enriches English language skills and connects a class to the outside world. It is very useful for carrying out repeated drills and it creates a realistic environment. It is very useful for integrating skills such as reading, writing, speaking and listening. A CALL based setting offers an ideal environment for the teacher to do things differently and use innovative methods of teaching. Power point presentations using multimedia support can stimulate conversations in the target language. It helps teacher to plan the lessons and present them and he is able to give practice in particular aspects of language. CALL enables learners to choose their style of learning and expose students to natural communication situations in the target language and promote collaborative learning. The learners not only learn the lesson but also access a variety of background information like vocabulary, pronunciation and grammar.

A CALL based setting offers an ideal learning environment for those who find the teaching method outdated and boring.

TELL (‘technology enhanced language learning)

We have already seen that how technology can be effectively used to support language learning. Recently, we find a shift from computer –assisted language learning to technology enhanced language teaching (TELL). The main differences between CALL and TELL is that we see technology not as assisting language learners, but as part of environment in which language exists and is used. Technology provides new contexts and new tools for communication. TELL includes a wider range of devices than computer, in particular, phones, game console and tablets. The devices in TELL are largely normalized in daily life.

Listening is one of the most important aspects of language learning and it is badly taught in actual class room environment. Teachers expose students to listening material in the form of audio tapes or DVDs, which the students have not chosen and which ignores the possibility of face to face listening either between students or student and teacher. Teachers control where, when and how much listening is done. There is an overconcentration on listening for information.

Listening can be better to learnt and taught if learners are given the opportunity to

- choose what they listen to
- control when and how often they listen
- make their own listening text and tasks
- link listening and speaking where possible
- become active listeners rather than passive over hearers
- reflect on why and where they were having problems in understanding
- reflect on their listening problems

(White, G 1998. *Listening*. Oxford: Oxford University Press. Page:7)

The principles mentioned above can be carried out using You Tube. It is a rich resource for video clips featuring L-1 and L-2 speakers of many languages, including English. This clips include language lessons, ‘how to do it’ advice, films trailers and excerpts from popular T.V.shows. The video clips offers many advantages to a student..Individual students can replay or pause video clips as often they like. They also provide colloquial examples of spoken language. As the clips are intended for broadcast, they tend to be

scripted or rehearse in advance. This means that they tend to be audible, and without the excess of background noise, speaker overlaps, or false starts, for further details a teacher may use website www.oup.com/elt/teacher/tell.

The internet provides useful material such as podcasts on every topic. Students can create their own reading material for posting to the internet; by using a programme such as Audacity. It is a pre programme for creating and editing audio files. There are a number of tutorial videos available on 'you tube'. The internet provides a plethora of opportunities for learning, speaking, reading and writing skills. It provides real spoken language and speech like written communication. It provides useful reading material which includes simplified readers, e-books and online newspapers. Reading can be motivating in collaboration with others online. Online Writing Labs (OWLs) provide a wide range of resources for writers including grammar advice, guidance on referencing, tips on getting started etc. OWL resources are generally intended for learners to use as reference material when they find it difficult with writing outside the class. OWL resources provide exercises on spelling, pronunciation, syntax, vocabulary and summarizing small section of texts. Teachers and learners may use website www.oup.com/elt/teacher/tell

Technology has made the process approach of writing much easier to carry out in classrooms. If we think that writing follows a cyclical process of idea generation, planning, drafting, composing, editing and revising. There are a number of technological tools available for second language writers. The following list may be useful:

Idea generation and researching the genre: mind mapping, scrap booking, digital storytelling, online encyclopedias.

Planning/finding the language: online dictionaries, concordance, genre analyzing from internet, power point outline, Writing model tools such as Easy writer, WriteFix, English-Zone.

Drafting: word processors, sticky notes, fast switching between applications so notes are alongside text, Word Q

Composing: Etherpad and wiklish for collaborative composition, online writing labs such as DIWE 7.

Editing for content and language: word processing.

Revision: Wikis, googledocs, conferencing, feedback from tutor using'comment facility'

In this way technology can be effectively used in the actual classroom teaching. Internet resources can make the process of learning interesting, entertaining and productive. A good command over spoken and written English can make a student confident and helps in active participation in classroom activities. We have taken in consideration the use of technology for teaching English as a foreign language but technology can be effectively used for teaching other core subjects also in consultation with the experts of those subjects and digital resources.

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5. Information and Communication Technologies in Education -Role and Responsibilities

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Introduction

In this era many countries have national objectives Ensuring universal service and access to information and communication technology.

These days the role of Information and Communication Technology (ICT), in the education sector plays an significant role, particularly in the process of empowering the technology into the educational activities. Education sector can be the most efficient sector to anticipate and to get rid of the unconstructive impact of ICT. Technology in another side can be the most effective way to increase the student's knowledge.

The use of ICT in education inserts value to teaching and learning, by enhancing the effectiveness of learning. It added a dimension to learning that was not previously available. After the inception of ICT in schools, students found learning in a technology enhanced environment more stimulating and engaging than in a traditional classroom environment.

The idea 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., For many students who find it difficult to come to campus due to employment, family responsibilities, health issues, and other time obstruct, online education is the only option.

About- ICT

Information and communications technology (ICT) refers to all the technology used to handle telecommunications, broadcast media, intelligent

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building management systems, audiovisual processing and transmission systems, and network-based control and monitoring functions.

Although ICT is often considered an extended synonym for information technology (IT), its scope is more broad.ICT has more recently been used to describe the convergence of several technologies and the use of common transmission lines carrying very diverse data and communication types and formats.We are living in a digital era. It is difficult to think of any event in our daily life that is not using Information and Communication Technology. Our schools and classrooms are no exceptions. This course is meant for introducing you with these technologies with the intension that you significantly incorporate technology in your practices related to teaching and learning.

Following table to get an understanding of range of technologies that fall under the category of ICT.

Information	**Technologies**
Creation	Personal Computers, Digital camera, Scanner, Smartphone
Processing	Calculator, PC, Smartphone
Storage	CD, DVD, Pen drive, Microchip, Cloud
Display	PC, TV, Projector, Smartphone,
Transmission	Internet, Teleconference, Video conferencing, Mobile technology, Radio
Exchange	e-mail, Cellphone,

The concept of a “Digital Divide” has been approximately almost as long as ICT has been publicly available. While conventionally it has come to mean a division in society, based on socioeconomic factors, this does not ‘paint the entire picture’.

Introducing ICT as a tool to support the education sector has started extensive deliberations since the late 1990s UNESCO has played a major role in spearheading the Education for All initiative to harness the potential of ICT.

Higher Education and ICT

Information and communication technologies consist of hardware, software, network and media for collecting, storing, processing, transmitting and presenting information (voice, data, text and image) as well as related services.ICTs can be divided into two components Information and Communication Infrastructure (ICI) and

Information Technology (IT). The former refers to physical telecommunications system and network (Cellular, voice, mail, radio and television) while the latter refers tohardware and software of information collection, storage, processing and presentation . According to UNESCO (2002):ICT now infuse the education environments and underpins the very success of 21st century education. ICT also adds value to the method of learning and to the association and management of learning institutions. Technologies are a driving force behind much of the development and innovation in both developed and developing countries.

ICTis considered as a conventional in higher education. ICTs are being used in many areas such as: developing course materials; delivering content and sharing content; communication between learners, teachers and the outside world; creation and delivery of presentation and lectures; academic research; administrative support and student enrolment. When applying ICT in higher education, learning is no longer confined within schedules and timetables. In this context, e-learning using ICT facilities are put into reality. E-learning has enlarged not only the speed of transferring knowledge, but also the method of transferring from one person to another. E-learning is about learning and teaching philosophies and methodologies within the context of outcome-based education, using ICT in the learning environment . E-Learning is delivered by both the private sector and government organization. There have increased a ample of virtual universities. Enhancing and improving the quality of education and instruction is a essential concern, Predominantly at the time of the spreading out and development of education. ICTs can improve the quality of teaching in a number of ways: By augmenting student enthusiasm and promise, by creating possible the achievement of fundamental skills and by improving teacher training. ICTs are also gear 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 multi media software, that merges sound, transcripts and multicolored moving imagery, can be made use of so as to make available motivating, thought maddening and reliable content that will keep the studentinterested in the learning process. The radio on the other hand through its interactiveprograms uses songs, sound effects, adaptations, ironic comedies and extracollections 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 realize the related information at their own convenient time.

Higher Teaching and ICT

Educational activities have taken to the use of computer in teaching much more readily than they Adopted earlier audio-visual media. ICT according to a number of commentators, enhance teaching, learning, and research, both from the beneficial and enlightening theories of learning. Behind this increasing faith in the role of technology in higher education however, lies implied acceptance of technology by different commentators, either as neutral and autonomous, neutral and human controlled, autonomous and value loaded. In many countries, demand for higher education far outshine 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 simply a repackaging of earlier pedagogy.ICTs is a potentially powerful tool for widening educational opportunities. 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 limitation and unable to register on campus.ICTs make possible 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 for their educational wants. With the Internet and the Worldwide Web, a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere at any time of the day and by an unlimited number of people. Efficiency, 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.

Research and ICT

Applications of ICTs are mainly influential and uncontroversial in higher educations

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 mixture of communications and digital libraries is equalizing access to educational resources, very much inspiring research possibilities for smaller institutions and those outside the big cities. Taking full advantage of this development 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 educational research has grown steadily in the past 10 to 15 years in both developing and developed countries, although there are ample 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 give opportunities for analyzing/processing huge amounts of data and performing composite computations on them in a manner that is tremendously 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 is the direct outcome of the growth in Telecommunications networks and technology.

Innovative Approaches for Teaching

ICTs have the possible to drive innovative and efficient ways of teaching-learning and research. The addition of learning tools, easier use of multimedia or reproduction tools, easy and almost instant access to data and information in a digital form which permits for computations and data processing generates possibilities which were otherwise not feasible. The possibility to diffuse these innovations and complement the learning content to improve quality in higher education through innovative pedagogic methods is high. The focus on ICTs to back quality research through use of meticulous research methodology and in-depth analysis is the call of the hour.

Benefits of ICT

Many tools are now available on the Internet to assist both teachers and students to handle 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 clear benefits,

Drawbacks and Challenges of ICT

While using ICTs in education has some clear benefits, ICTs also bring challenges. First is the high cost of purchasing, installing, operating, maintaining and replacing ICTs. While potentially of great importance, the integration of ICTs into teaching is still in its immaturity. 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 are relatively less costly The four most common mistakes in introducing ICTs into teaching are

- installing learning technology without reviewing student needs and content availability;
- imposing technological systems from the top down without involving faculty and students;

- using unsuitable content from other regions of the world without customizing it suitably; and
- producing low quality content that has poor instructional design and is not adapted to the technology in use.

Conclusion

The growing 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 improvement. Traditional forms of teaching and learning are increasingly being converted to online and virtual environments. There are never-ending possibilities with the integration of ICT in the education system. The use of ICT in education not only get better classroom teaching learning process, but also provides the facility of e-learning. ICT has enhanced distance learning. The teaching community is able to reach remote areas and learners are able to access qualitative learning environment from anywhere and at anytime. It is important that teachers or trainers should be made to adopt technology in their teaching styles to provide pedagogical and educational benefits the learners. Successful implementation of ICT to lead change is more about influencing and empowering teachers and sustaining them in their engagement with students in learning rather than acquiring computer skills and obtaining software and equipment. ICT enabled education will ultimately lead to the democratization of education.

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6. Educational Innovation, Evolving Technology and Teaching Learning Best Practices

MR. SUNIL V. CHAUDHARY*

ABSTRACT

Innovation in education is concept about different methods and procedures carried out beyond the classroom or experiential learning. It includes various forms of innovations as pedagogical, technological, administrative and economical as well as social. It is not one hand delivery of the aspects or different concept in the classroom set up. The infrastructure is another important aspect that states about the various resources involved and evolved in the classroom. The main component of the classroom involves the information and knowledge delivery as well as covering the past and present teaching learning experiences. Evolving technology is supporting flipped classroom and concept converting them to long hours and short hours as well beyond the walls or subject specific units. We have come a long way but we still need to work on other than exam oriented approach. Indian education system is more of the informative in nature. Knowledge is delivered in the classroom setup. The setup concentrates on exam oriented learning and putting the information at the center through different knowledge testing methods. We must look for the identification of learner's interestand develop skill in the students and encourage working in that area. Innovative teaching and learning process can be carried out by building a module or systematic plan not just for the delivery of the concept but application of the concept as well. Teaching them to use technology is not enough but to communicate and apply the technology at the right time to hit the gong is important. The paper discuss varied views and will cover up different aspects of innovative teaching learning evolving technology, teaching learning best practices in and beyond the classroom with the proper application for the benefit of the societal development.

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Introduction

Indian education system was introduced by Lord Macaulay in 1835 that offered British education system in the country and it remained continued for years with small innovations that was not enough for a developing country like us. India has complex set up of religion, culture and ideologies yet knitted in the tight knots. If we talks about in terms of Albert Einstein it goes like this "Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live whole life believing that it is stupid." Evolving such technique that brings everyone at the same pedestrian and not making out the particular skill set has made the system so much monotonous.

As a progressive nation there are changes coming in the education system but still lot more is needed to be done. According to Mahatma Gandhi "By education, I mean an all-round drawing of the best in child and man in body, mind and spirit".Innovation is not just a buzz word it has lot of component in it. It is not just invention or production but is to deliver also. It to understand, adapt and apply in the different fields. It is identification of new concept and bringing transformation in the old concept for the betterment and supportive living. It is to provide solution to the present problems in the society at various levels such as social, economic and environmental and behavioral also. It is ability to elevate the values of the present concept and deliver it to the core of application, feedback and fore-feed. In his minute Macaulay writes that a group of people has to be formed who are Indian by birth but English in choice, viewpoint and in mind.With the help of these binary personalities he could keep the majority of uneducated Indians permanently under the control of the British. His sole aim was the manufacture of slaves and intellectuals devoid of patriotism.

Review of Literature:

The University Grants Commission came into existence in 1953 and the UGC Act came into force in 1956 with the objective of promotion and coordination of university education and for determination and maintenance of standards of teaching, examination and research in universities. As per its mandate UGC has been taking steps, through various schemes, to promote quality education having regard to the concerns of Access, Equity, Quality, Excellence, Relevance and Value based education (JBS Working Paper Series, 2008)

The National Policy on Higher Education (1986) translated the vision of Radhakrishnan Commission and Kothari Commission in five main goals for higher education, as enumerated below; which include Greater Access, Equal Access (or Equity), Quality and Excellence, Relevance and Value Based Education (Kuppusamy, S, 2009): a. Greater Access requires an enhancement in the education institutional capacity to provide opportunities to all who deserve and desire higher education. b. Equity involves fair access to the poor and the socially disadvantaged groups. c. Quality and Excellence involve provision of education by accepted standard so that students receive available knowledge of the highest standard and help them to enhance their human resource capabilities. d. Relevance involves promotion of education so as to develop human resources keeping pace with the changing economic, social and cultural development of the country; and e. Value Based Education involves inculcating basic moral values among the youth.

Objectives of the Research

1. The objective of the present study is to identify various innovative teaching-learning pedagogies with their effectiveness applicable to Indian Education System.
2. The objective of the present study is to identify methods to enhance the quality of teaching and learning.

Research Methodology:

Secondary Data has been extensively used for research supplemented by primary data collected through interview.

Innovative Teaching Learning Methods, Best Practices:

Flipped Classrooms: A flipped classroom is one where students are introduced to content at home, and practice working through it at school. In this blended learning approach, face-to-face interaction is mixed with independent study via technology. Students watch pre-recorded videos at home, and then come to school to do the homework armed with questions and at least some background knowledge. This doubles student access to teachers–once with the videos at home, and again in the classroom, increasing the opportunity for personalization and more precise guiding of learning. In the flipped classroom model, students practice under the guidance of the teacher, while accessing content on their own.

A side benefit is that teachers can record lectures that emphasize critical ideas, power standards, and even the pace of a given curriculum map. It also has the side benefit of allowing students to pause, rewind, Google terms, rewatch, etc., as well as creating a ready-made library for student review, make-up work, etc.

This technique, to put simply, is to roll the responsibility of learning towards the students and make them active participants of the learning process. B-schools like SP Jain Institute of Management and Research (SPJIMR) and Indian School of Business (ISB) are some of the pioneers of flip classroom in India. Here, teachers relegate to the role of resource or material providers via email or intranet, whereas students take the centre stage of gathering concepts, constructing knowledge, and drawing inferences.

However, the other significant aspect is that teachers follow it up with a discussion session on the given topic on a stipulated day to ensure students' participation, seriousness, and overall learning. Besides discussions, there are group presentations, debates, and essay writing competitions.

Experiential Learning:

Experiential learning is a method of educating through first-hand experience. Skills, knowledge, and experience are acquired outside of the traditional academic classroom setting, and may include internships, studies abroad, field trips, field research, and service-learning projects.

The concept of experiential learning was first explored by John Dewey and Jean Piaget, among others. It was made popular by education theorist David A. Kolb, who, along with Ron Fry, developed the experiential learning theory, which is based on the idea that learning is a process whereby knowledge is created through transformation of experience. It is based on four main elements which operate in a continuous cycle during the learning experience:

- Concrete experience
- Reflective observation
- Abstract conceptualization
- Active experimentation

- These four modes of learning are often portrayed as a cycle.
- According to Kolb, concrete experience provides information that serves as a basis for reflection. From these reflections, we assimilate the information and form abstract concepts. We then use these concepts to develop new theories about the world, which we then actively test.
- Through the testing of our ideas, we once again gather information through experience, cycling back to the beginning of the process. The process does not necessarily begin with experience, however. Instead, each person must choose which learning mode will work best based upon the specific situation.

Audio-visual (AV) supplements:

Many educational institutions in India have AV-equipped classrooms or venues to boost students' learning and understanding. Teachers explain difficult subject like Physics/Maths/Chemistry through graphical representation of complex equations with the help of smart-boards. For language learning, the audio-visual equipment is an indispensable tool. Teachers can play snippets of award-winning films, plays, and speeches of great orators, both in vernacular, English, or the target language to facilitate the skills of listening, speaking, and histrionics.

Role play:

Role play brings in the element of entertainment into the classroom. As much as it is loved by students, this technique facilitates their understanding and appreciation of the characters that they read about. From pre-schools to Senior Secondary level, schools are implementing this method as it's a great source to instill in children values and ideals as they play the roles of historical stalwarts like Mahatma Gandhi, Pandit Nehru, Nelson Mandela, and Martin Luther King, or legendary characters like Caesar, Mark Anthony, and Charlie Chaplin, to name a few.

Students are encouraged to have their own version of the characters they are portraying, and enact them with the context of the present times. Through role play, students also get to learn about various aspects of stage performance – from acting to voice projection – and discover their acting

talent. This technique also helps teachers explore creativity and critical thinking in students. Role play is an impactful method to enhance learning that also lends learners opportunity to live the experience through empathy and internalizing values.

Peer teaching:

It is one of the most effective strategies to even up the learning curve of a class. Usually, teachers pair students who are high performers with those students who might be struggling in a subject area. Students are also encouraged to volunteer, or are randomly chosen to take over as the subject teacher. It offers a platform of knowledge sharing among students, besides harbouring healthy competition.

The interesting aspect of peer teaching is that students tend to respond more actively when one of them dons the mantle of the teacher. The class becomes attentive and interactive in a bid to challenge each other in a constructive manner. With regular peer teaching sessions, students start to develop better grasp of the concepts, display maturity, tend to be more disciplined, and also develop better communication skills.

Games:

The play-way lessons are quite popular among students of all grades, and a successful strategy to keep them engaged. If the sessions are carefully designed and smoothly executed by teachers, this method reinforces cognitive knowledge, especially of mathematical and scientific concepts, and vocabulary. Teachers are experimenting with various kinds and levels of word and mind games like quiz, puzzle-solving, Scrabble, Sudoku, etc.

Games help to seamlessly incorporate subject knowledge with application, and are an answer to productive and smart learning.

Collaboration:

Collaboration is an essential life skill in a globalised environment, the driving force of all enterprises. In an educational institution, this skill can best be fostered in the classroom by allowing students to work in groups. Educators are planting the seed of a collaborative mind as early as primary school, where young children are motivated to create, plan, and organise group presentations of stories, skits, or poems. Throughout, teachers help students

chalk out their plans, provide them key points, supervise their work, and build team spirit.

Many schools have made collaborative project work a prominent part of the curriculum. Teachers are designing their lessons to allow time and resources for group activities, be it research or class presentation.

Going beyond the classroom:

Education should make children aware of the world and themselves, widen their perspective, and make them seek the truth. Schools are embracing the trend of taking children outside the classroom. Whether on a nature trail, or visiting cottage industry, students now directly interact with what they read about in books. Children gain more knowledge when they see and experience history in museums than being taught the same in the class.

Field trips are now an integral part of the CBSE curriculum. International boards too have made excursions compulsory in schools. Though the journey is at its nascent stage, the future holds promises of a rich and holistic learning space. Every student can have access to a repository of resources that will enable them to learn independently and meaningfully.

An exploratory study was conducted to identify Innovative Teaching Methods used by Teachers of SEMCOM, with a sample size of 19 Teachers. The results are tabulated.

Activity Based Learning:

Learning is acquiring new knowledge, behaviour, skills, values, preferences or understanding, and may involve synthesizing different types of information. Further, it is a process that brings together cognitive, emotional and environmental influences and experiences for acquiring, enhancing or making changes to one's knowledge, skills and world view (Illeris, 2000). For learning to take place, it is necessary that the student understands and engages with the information to be learnt. It is also important that the student processes the information with higher order thinking such as comprehension, analysis, synthesis, application, and metacognition. When this happens, the student is able to relate the information to any life situation, connect it with past learning, build his or her own knowledge (Garner, 1987) and become a knowledgeable and contributing citizen as an adult. One important method of

facilitating such engagement with information is through activity. The dictionary definition of 'activity' is 'work that involves direct experience by the student rather than textbook study'.

Thus, activity-based learning, should allow students to engage with and process information in such a way that he/she understands and builds his/her knowledge about a particular subject. An outcome of successful learning would be that the student has acquired the basic literacy skills and is able to apply this knowledge or skill learnt in a relevant situation. The idea of activity-based learning follows the constructivist educational theory and is child-centered pedagogy. Activity-based learning may be defined as a method of instruction, where activities of different types, suitable and relevant to specific subjects are integrated seamlessly into the regular instructional materials and methods to involve students in the teaching – learning or instructional processes and engage them fruitfully (Suydam& Higgins, 1977). The main purpose of the method is making the classroom more student-friendly and reduces the intimidation and domination of the teacher.

Creative Teaching:

This method involves taking the help of tools to stimulate creativity. It involves including playful games or forms of visual exercises that will excite young minds and capture their interest.

1. It involves any type of learning activity that appeals a learner and provide good input in the form of results.

2. Creative involves the way to communicate and deliver to the learner effectively.

3. It will develop willingness, supervise learning and controlled methods of teaching, motivated learning, and selecting the evaluation criteria according.

4. There is other support also that involves gadgets, websites, social networking, and videos based learning to deliver and take up the content to the learners.

This is a time-tested method to identify every young student's creative abilities and encourage creative contributions.

Table 1 Innovative Teaching Methods used by SEMCOM Teachers

Sr. No.	Teaching Method	Score	%
1	Experiential Learning	9	47
2	Audio-Video Supplements	15	79
3	Role Play	7	37
4	Peer Teaching	6	32
5	Games	9	47
6	Collaboration	11	58
7	Going Beyond Classroom	13	68
8	Brainstorming	14	74
9	Storyboard Teaching	6	32
10	College Club or Groups	7	37
11	Activity Based Learning	16	84
12	Movie based Teaching-Learning	10	53
13	Creative Teaching	6	32

The survey revealed that besides traditional lecture based method of teaching, 84% teachers use Activity Based Learning Method, whereas 79% teachers use audio-video supplements for teaching-learning and 74% teacher's use brainstorming for teaching-learning. There is more usage of experiential learning besides traditional class room teaching. There is increasing focus on student centric teaching and learning and development of skills like communication skills, managerial skills, leadership skills, team work, and entrepreneurial skills among the learners.

In an interview with few participating teams of SEMCOM, Green Business & Technology Fair 2019, and an Activity Based Learning Event it was revealed that participants learned:

1. Communication Skills

2. Marketing Skills
3. Team Work
4. Never Give up Attitude
5. Business Strategy Formulation and Implementation
6. Besides it was observed that they learned
7. Logistic Management Skills
8. Accounting, Billing
9. Converting visitors to the stall of green business & technology fair into customer's ratio was nearly 70% for the participants interviewed.
10. High level of enthusiasm and energy of participants was observed.
11. It was observed that participants were following business ethics, were cooperative with rival teams in terms of sharing resources, solving business problems.

Limitations of the Study:

The present study is limited to the teachers and students of single college and results cannot be generalized. But there is a scope of study by including more educational institutions, colleges with the objective of identifying teaching learning pedagogy and its effectiveness. Researcher also faced the limitation of time.

Conclusion:

Indian Education System is undergoing a transformation. There is more usage of ICT based teaching-learning, experiential learning, activity based teaching-learning, more usage of audio video supplements for teaching-learning. The teaching-learning process is moving away from being teacher centric to student centric. There is increasing focus on skill development through activity based learning methods. Traditional lecture based teaching method is increasingly supplemented by modern methods of teaching-learning like experiential learning, role playing, audio-video based teaching tools, creative teaching, games i.e. business and management games, case study etc. Value based education is imperative. The role of teacher is

undergoing transformation from being information and knowledge provider to facilitating learning experiences through student centric methods of teaching-learning.

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7. ICT – A Key Tool for Modernization of Teaching and Learning Progression

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Abstract

In today's digitized world, information and communication techniques (ICT) have become prominent tool for imparting effective teaching and learning process. Now a days, our customary education system has been replaced with new phenomenon which is used to provide the precise and well formed content to the students as well as teacher for enhancing the quality of today's education. This can be achieved only when we transform our conventional education system to the digital education using ICT which is a key to success to meet global standards. ICT is popularly accessed by every person who is related to education system. Teacher uses ICT for making teaching learning process easy and interesting while students may access millions of information by clicking single finger tips. The facilities given by ICT has become pertinent as it assists valuable teaching and learning process, creates encouraging learning environment, and helps learners to develop creative thinking and self confidence. This paper represents the effective utilization of ICT in the teaching and learning process as an indispensable means of improving it. This paper also suggests how ICT tools can be used for better teacher training and better performance of teachers in the class rooms.

Keywords: ICT, Education System, Teacher, Student

Introduction

Today's era of 21st century has become the epoch of information and communication technology (ICT). Nowadays, union of education and technology enlarges the advanced opportunities for teaching and learning process. The effective integration of this technology into classroom practices poses a challenge to teachers and students both. It is a successful and

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interesting learning process for learners and educators. ICT is an electronic mode of capturing, processing, storing, communicating information. In field of education, ICT performs a major role in the classroom teaching-learning process by providing global repository of content and information. This exceptional appliance has the capability of solving any complex problem and enhancing cognitive skills of student and professor [1][2].

According to World Education report released by UNESCO in 1998, student and teachers must have adequate use of technology and the internet in their classroom, schools, and educational institutions to enhance their knowledge and skills to accomplish high academic standards [7][8][9].

Teachers are the strongest pillar of any education system. Therefore they have to update themselves with the current trends of learning innovative. So technology also performs a vital role in training program of educators. The teacher cannot perform very well in his/her class room without proper awareness of ICT and it could not be said to be a complete one.

Benefits of ICT in Classroom

In digital era, learners are already interested and engaged with the use of technology. This may create many amazing opportunities for schools and teachers to gain benefit from incorporating some forms of technology in the classroom and to make teaching and learning more effective. Here are some of the main benefits of using technology in the classroom [10].

1) Improves engagement

Students are expected to be more interested in the subjects they are studying when technology is merged into lessons. With the help of ICT, learning has become more hilarious and enjoyable in terms of teaching same things in new ways. Delivering teaching through audio visual schemes, students may develop their concentration on the topics and may become active participate in the learning process which can be hard to achieve through a traditional lecture environment.

2) Improves knowledge repository

Due to advancement of ICT, learners can enhance their knowledge up to the mark. Different ways of technology can be used to experiment with and decide what works best for students in terms of gaining their knowledge.

3) Encourages individual learning

Each and every student has different learning styles and abilities. So with the help of technology it becomes easy to make lessons more effective and interesting. Students can learn their own peace and comfort.

4) Encourages collaboration and cooperation

With the help of virtual learning, students can develop collaboration and cooperation skills by sharing notes and solving their doubts by communicating with other learners. With the help of this new innovative learning style, students can encourage collaboration with others in the same classroom, same school and even with other classrooms within entire globe.

5) Students can learn useful life skills through technology

Due to use of advance technology in classroom, both students and teachers can develop their confidence and teaching-learning skills which they need for their bright future. Modern learning is about collaborating with others, solving complex problems, critical thinking, developing different forms of communication and leadership skills, and improving motivation and productivity. What is more, technology can help to develop many practical skills, including creating presentations, learning to differentiate reliable from unreliable sources on the Internet, maintaining proper online etiquette, and writing emails. These are very important skills that can be developed in the classroom.

6) Benefits for teachers

With numerous online resources, technology can assist in improving teaching. Teachers can access different apps or trusted online resources to improve the traditional ways of teaching and to keep students more engaged. With help of presentations and video lectures, the syllabi will complete within predefined time limits.

General ICT Tools for Teaching and Learning

ICT tools are devices or objects used in information and communication technology.

For example: computer, cell phones, video conferencing, software, radio, television , laptop, projector, digital cameras, webboards, scanners,

microphones, interactive white board, DVDs and CDs, flash discs, video Games and so on.

Characteristics of ICT

a) ICT is pervasive and cross-cutting.

b) ICT creates networks.

c) ICT disseminates information and knowledge.

d) ICT allows for zero or declining marginal costs.

e) ICT enhances efficiency.

f) ICT reduces the need for intermediaries.

g) ICT is global.

Uses of ICT in Education

a) To broadcast the learning content, online facility or USB can be used as sources of information in different subjects

b) To facilitate communication for pupils with special needs

c) To use electronic toys to develop spatial awareness and psycho-motor control

d) To use the online resource like, email, chat, discussion forum to support collaborative writing and sharing of information

e) To facilitate video-conferencing or other form of Tele conferencing to involve wide range of students from distant Geographic areas

f) To provide Blended learning, conventional classroom learning is merged with E-learning systems

g) To process administrative and assessment data

h) To exchange and share ideas -among teachers for the professional growth

i) To carry out internet-based research to enhance, educational process

Merits and Demerits of ICT

	Merits	Demerits
1	Ensures Lifelong Learning	Large costs involved
2	Enables Distance Learning	A child's imagination power decreases or ability to imagine vanishes
3	Ability to perform impossible experiments by using simulations	Information overload, Lack of privacy, Security concerns, and Addictive behaviors
4	Video Conferencing – We can consult many experts by video conferencing	
5	Online Examinations can eradicate manpower issues	

Conclusion

In today's technical era, the roles of teachers and students are changing time to time. Nowadays, technology has become prominent part of education system to improve teaching learning process more effective and attractive. Therefore, ICT has become boon for learners and educators both. Moreover, the valuable combination of ICT with classroom learning requires a challenge to teachers, students and administrators of education system. At the present time, efficient ICT tools are available to cater the students from diverse backgrounds to achieve the best learning in classroom. Apart from this, new forthcoming technology such as Mobile Learning has become well known in educational area to access the content from anywhere and anytime by a single touch.

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8. Recent Trends in ICT for Teaching-Learning Process

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Abstract

Technological revolution has dramatically increased the opportunities that can be tapped in every sphere of the work including mainstream education. With the advancement of Information and Communication Technologies, the education system has left behind the Chalk 'n' Talk method and prompted to use different technologies to enrich the students' learning capability. Sharing of knowledge such that it has long lasting impact on the minds of the students is the prime focus for any educator.This paper is an attempt to make aware about different Information and Communication Technologiespenetrating the Teaching-Learning Process in recent digital era.

Keywords: *Teaching Learning, Recent Trends in ICT, 2D,Smart Boards, Smart Board, 3D, 3D Fan, 3D Hologram Projector, Virtual Class Room, TelePresence, Teaching Learning Paradigms*

Introduction

There are three ways of imparting education to the students: Face-to-Face, Distance Learning and Hybrid or Blended Learning [15]; each having its own pros and cons. There are various approaches implemented for teaching-learning process such as synchronous (real-time), asynchronous (passive mode), linear learning (device-based learning), and collaborative learning [17]. These models and approaches can be implemented with the help of technologies like Audio, Video, Digital Devices, Messaging Applications, Video-Conferencing, Blogs & Bulletin Boards, Smart Boards, Virtual Class Room, etc. [15][17].

Technology integration in higher education is undeniable. It offers numerous benefits including those related to access to information, developing higher order thinking among students, engaging students in collaborative learning, making them

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globally competent, preparing students for future careers and many more. The use of technology-based teaching learning became essential for higher education in particular. Complementary, the use of mobile devices is pervasive today.

The education system has already left behind the Chalk 'n' Talk method and use of different Information and Communication Technologies(ICT) became pervasive in Teaching-Learning Process (TLP). The current ICT enables us to capture the lectures in digital format that can be preserved, transmitted, retrieved, searched, and edited from anywhere anytime. The ICT-aided teaching and learning bridges the digital divide amongst students of various socio-economic and geographical barriersshifting the paradigm of being-present to being-connected[13]. In the traditional teaching method 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. The TLP supplementedby ICT increases the knowledge retention period by enabling students to easily grasp the subject knowledge and preserve it for a longer period of time.

This papers aims to describe various tools and techniques penetrating the TLP in recent digital era.

The ICT in Education – Tools

Technologies

The projectors and smart boards are being used by large number of institutes to increase productivity of teacher and to enhance learner's experience. The overhead projectors and computer projectors saved lots of time spend in preparation of classroom session and enabled the teacher to deliver the content with more clarity. Moreover, the presentation prepared for computer projector enable sharing of content with learner for repetitive use to better understand the subject. This capability is further enhanced by smart boards to improve learner's focus and participative learning.

Projectors

The overhead projector (OHP) facilitated an easy low-cost interactive environment for TLP. Teaching materials can be pre-printed or written on transparent plastic sheets using a non-permanent, washable color marking pen. This saved time as these sheets were used repetitively, rather than

having to write content on board during each class. It facilitated better communication between the learner and teacher

A projector is an optical device that can project images or video on large surface, commonly known as projection screen. The projection is achieved by shining a light through a small transparent lens. The modern day's projectors use different technology to project the image such as lasers and LEDs.

The projectors were the most primitive and widely accepted ICT used for dissemination information to learners. This method supported only one-way interaction mechanism, although it provided effective delivery of content, it lacked in the assessment component of TLP.

Smart Board

An interactive whiteboard (IWB) is a large interactive display in the form factor of a whiteboard. It can either be a standalone touch screen computer used independently to perform tasks and operations, or a connectable apparatus used as a touchpad to control computers from a projector. They are used in a variety of settings, including classrooms at all levels of education, in corporate board rooms and work groups, in training rooms for professional sports coaching, in broadcasting studios, and others [19].

KYAN

As per Ministry of India, understanding the crucial role of the teachers in bringing out a fundamental change in the teaching-learning paradigm, the teachers were brought on board. The content in the KYAN, developed by IETS, consists of 1,090 lessons on various hard to teach topics in all the subjects from kindergarten to Class X [20].

KYAN is a portable tool that converts any projection screen into touch screen which is equipped with 2D/3D multimedia content. With its in-built interactivity, it empowers teachers to improve student engagement in classrooms. The large screen projection capability of K-Yan allows for group training programs [21].

Technologies

The conventional tools such as OHP and Smart Boards are projecting the content in 2-D. But, the children are inquisitive and enjoy classroom opportunities to learn visually using technology such as 3D that is used in movies.

Recent advances in technology have led to much more sophisticated ways of projecting the third dimension. It enhances visualization of pairs of images and gives users a greater sense of depth perception. For example, Data Light Processing (DLP) technology creates a stunning picture and is used in contemporary projectors. DLP technology is extremely fast, and projects two images on the screen at the same time, i.e., one for each eye. As a tool for conceiving the image, 3D glasses are used to combine the two images into 3D. Some 3-D technologies even don't require using such glasses.

Hologram Fan

Hologram Fan uses arrays of LED to produce holographic effect using RGB lights, hence, also known as RGB Fan. It provides excellent 3-D effect. The border less image in black background makes the user to feel that it completely appears in the air.

At present it is used mostly as the brand new advertising display by business organizations such as shopping mall, cloth store, restaurant, and museum. But it has enormous opportunity in education field to easily explain complex 3-D materials to students. This visual content attracts students' attention and creates interest in students for learning

It supports data streaming from Computer or even from SD Card; and can be integrated with ICT eco-system of institute. It supports different formats such as MP4, AVI, RMVB, MKV, GIF, JPG, and PNG. It can be operated remotely and can display of 3D visuals up to 75cm in size[1].

Figure-1: 3D Fan and HyperVSN Wall

HyperVSN Wall

HYPERVSN is the latest applications of holography that provides fully integrated advertising technology system for creating, displaying and managing the highest quality 3D content via a simple and powerful tool [2].

It allows for the creation of free customized 3D content and brings high-definition 3D holographic visuals to life. One such product (Hypervsn Wall) is made by a company called Kino-mo. This wall consists of multiple RGB fans, with each of the arms on the fan module boasting programmable micro LEDs. The units processor sends signals to each of those LEDs to tell them where it needs to turn on and start spinning. Your eyes perceive this light as a hologram, and when multiple units are hooked up together, the holographic images can measure up to 3 meters in size.It looks a lot more impressive to the human eye when you watch it in person compared to seeing it on a screen captured by a camera[3].

Projector

The use of 3D in the classroom has emerged in recent years and offers enormous potential as a tool in teaching and learning. DLP-powered 3D projectors use millions of microscopic, digital mirrors that reflect light to create a picture. DLP imaging technology is so fast, it can actually produce two images on the screen at the same time: One for the "left" eye and one for the "right" eye. Then 3D glasses combine the two images to create a 3D effect. The pupils possessed very positive attitudes towards 3D and were keen to have more 3D in their lives and in their learning[9].

Once a projector has been purchased, teachers can get software to integrate 3D software. There are a variety of 3D software packages available that integrates3D technology into science instruction gives students opportunity to visualize ideas and have these ideas serve as virtual models for real-life scenarios. In essence, 3D technology gives teachers an opportunity to bring the future to our students today! [10]. Teachers can use the content in a lecture environment to demonstrate terms, labels, and spatial relationships between objects in the 3D simulations. Once 3D software is selected, special 3D glasses are needed. A variety of 3D models are available for classroom use in the following areas:Astronomy, Botany, Chemistry, Earth Science, Human Anatomy, Mechanical, Microbiology, Paleontology, Zoology and Cyber Physiology.

According to research [4][5], it is found that a group of students taking 3D lessons performed better than group of students taking 2D lessons. Another

research shown that 3D lesson requires one class period which normally requires two to three class periods to complete.

Holographic Teachers - Virtual and Augmented Reality

The technology exists right now to bring live holograms from one location and beam it into any location in the world and it can be used to replace teacher by holograms. This technology is called Tele-Presence.

TelePresence is “a high definition holographic video projection system allowing spectacular three-dimensional moving images to appear within a live stage setting. Live or virtual stage presenters can appear alongside and interact with virtual images of humans or animated characters…”

The system utilizes the current generation of High-Definition technology and integrates it into a visual ecosystem that enables HD media to fully realize its potential within the blossoming digital ecosystem.

TelePresence is a set of tools (devices) and technologies using which a person can show his presence to audience at remote location as if he were actually there or he can see audience as if they were in front of him. When mature technique is implemented, both the parties feel the real presence of the other. It uses virtual and augmented reality technologies. This requires sensing the user's movement, gesture and voice. It then transmitted and duplicated in the remote location by tele-robot to create said effect. Depending on the requirement this scenario involves one-directional or two-way information transmission between the user and the remote location. Moreover, it does not require any special audience props, such as the use of 3D glasses.

Figure-2:TelePresence

TelePresence via video deploys greater technical sophistication and improved fidelity of both sight and sound than in traditional videoconferencing. Technical advancements in mobile collaboration have also extended the capabilities of videoconferencing beyond the boardroom for use with hand-held mobile devices, enabling collaboration independent of location.

Another application is for remote classroom which allows a professor to interact with students in multiple campuses to teach the same class simultaneously. This allows professors to be on either campus and facilitates the interaction among students in both campuses during the classes [11].

Teachers can now teach from any location on the globe and beam themselves into any other location on the globe with this technology. Experts on different subject matter could be made available for lectures right in the classroom, interacting live with the students. Teachers would be able to enter a classroom and interact with students, teachers, and administrators from across, campus, across town, or across the globe[12].

The ICT for Education – Technologies

Content Repository

The Content Repository hosts the study content in different formats that can be consumed by different classes of learners. Large number of such repositories is available on Internet. One free repository made available to learners by Ministry of India is discussed below.

SWAYAM (Study Webs of Active –Learning for Young Aspiring Minds)

SWAYAM is a programme of Ministry of Human Resource Development, Government of India. The courses hosted on SWAYAM are in 4 quadrants – (1) video lecture, (2) specially prepared reading material that can be downloaded/ printed (3) self-assessment tests through tests and quizzes and (4) an online discussion forum for clearing the doubts.

SWAYAM provides opportunities for a life-long learning. Here learner can choose from hundreds of courses, virtually every course that is taught at the university / college / school level and these shall be offered by best of the teachers in India and elsewhere. If a student is studying in any college, he/she can transfer the credits earned by taking these courses into their academic record. All courses would be offered free of cost under this programme

however fees would be levied in case learner requires certificate. More than one crore students are expected to benefit through this initiative [7][8].

Virtual Classroom

A virtual classroom is an online distance education and learning environment that can be web-based or software-based [16]. 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 classroom integrates 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.

Basically, a virtual classroom can be categorized into three broad types [18]:

- Independent – They are asynchronous in nature with no direct communication between a teacher and student [14].
- Collaborative – They use facilities like video conferencing and chatting as a mode of communication and collaboration in real time.
- Broadcast – Allows students to gather lectures and broadcasts on the Internet.

Following are key advantages of virtual class: students never miss a lecture since it will be downloaded to or accessible to their devices, and it can be re-viewed as and when required in an asynchronous mode.

Machine Learning and Personalized Learning

Machine Learning refers to the creation of the ability of the machines to perform a specific task better than human. Machines can collect and analyze

the learning patterns of the learners and take intelligent decisions in terms of providing personalized learning for every learner. Such systems can be used to reveal effectiveness of TLP by collecting usage data in an unbiased way unlike form-based system which is prone to subjective data A technique for personalized learning for vernacular students is discussed below.

CLIL (Content and Language Integrated Learning)

Content and Language Integrated Learning (CLIL) is a dual-focused educational approach in which an additional language is used for the learning and teaching of both the content and language. CLIL is a pedagogical approach with a dual (integrated) objective: learning of the subject matter (content) and learning of the (second/foreign) language which is also used as the medium of instruction for the content teaching. CLIL is an "Umbrella Term" for all those approaches in which some form of specific and academic language support is offered to the students pursuing Higher Education in order to facilitate their learning of the content and language simultaneously.

CLIL allows subject teachers to develop their pedagogies in relation to second language. It allows teachers to facilitate learning so that learners feel more interested, more confident and can deal with complex information about (subject) content through (second) language

Such system can be helpful to learners of the professional course who is either switching the medium of learning or wish to learn the second language. That is, depending on the objective it can be used to teach subject part or language part or both.

Benefits of Teaching-Learning through ICT

There are various benefits of using ICT in Teaching-Learning Process as listed below:

1. Technology enabled lessons are attractive and increases engagement
2. Increased concentration and focus on listening rather than note taking/delivery.
3. Better learning/knowledge retention & Self-paced learning
4. Increased enrolment & Mass education

5. Improves understanding of complex ideas making abstract subjects tangible to students
6. World-wide reach: allows to deliver lectures to multiple classrooms at the same time without physical boundaries
7. Anytime, Anywhere On-demand learning.
8. Education to educationally backward regions.
9. Connect geographically remote classrooms with experts and provides live interaction among them
10. Enhances the productivity of teacher and allows him to teach integrating variety of media

Conclusion

The power of this innovative technology can transform the course delivery methods. Such tools and technologies can be used for customizing the teaching-learning process as per need of specific course. Especially in the Indian scenario, where the traditional method is predominantly used, thesetools and technologies should be supported with the real classroom method to harness its full potential. Their judicious use combined with the traditional method can create constructive and creative learners' community.

As 3D technology becomes more commonplace and finds its way into our education institutions, it could bring a previously unimagined level of engagement and excitement such as simulating past or future event wherein students can be part of it virtually [6]. Similarly a mature artificial intelligence supported by machine learning algorithms will lead to effective student-centric and self-paced learning.

These tools will be interwoven as the future pedagogy in mainstream education. However, the cost of infrastructure for setting up this environment, its maintenance and training the users will be a major hindrance for many of the institutions in India.

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09. A Study of the Opinions of Secondary School Teachers Towards "School Based Comprehensive Evaluation" of Ahmedabad

Ankitaben J. Patel*

Introduction

"If we want that our culture and education are lived long and long time, we do some change in it according to a new generation. When we forget this matter, our culture and education are destroyed." - Dr. Sarvapalli Radhakrishana

When we started a modern education system, we make different type of education commission every year for developing it. Our educators people tried to make a good education system. A new wave of revolution is going to spread in school level education and it is on education system for getting good.

Educational goal. Learners is not able to develop himself with all his strength due to recramming , copy etc.. The plants needs ploughing, fertilizer and water at proper time and in proper quantity for better growth. In the same way ,a new educational system is needed change with new generation. Before three years Gujarat State Secondary Education Board took a decision related to change education system which is called "SCHOOL BASED COMPREHENSIVE EVALUTION". This SCE creates mental development, physical development, economic development ,vocational development , and environment development in child of secondary school. Teachers, principals and educators takes the challenge for creative children of 21st century .SCE system is created for total development of child.

Literature review

The review of all these related literature has however, elucidated the following observations, which further justifies the causes of taking up the present study.

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Dr (Mrs) Deepa Sikand Kauts & Ms. Vishavpreet Kaur studied on Perception and Attitude of Teachers from Rural studied on Perception and Attitude of Teachers from Rural and Urban Background towards Continuous and Comprehensive Evaluation at Secondary Level.They used Scale of Perception towards CCE and Scale of Attitude towards CCE for tool to get date. 50 teachers from rural background and 50 teachers from urban background of secondary schools affiliated to CBSE of Jalandhar city have been randomly selected. On the basis of the parameters of CCE, Scale of Attitude and Scale of Perception have been prepared. Internal Consistency method was used to calculate the Coefficient of Reliability for items included in the scale of attitude and scale of perception. The value of reliability of the scale of attitude was to be found .95 and of scale of perception was to be found .94.and concluded that the attitude and perception of teacher's were based on the parameters of CCE. Rural teachers perceive the working conditions in a better way, the reason may be attributed to the rural working style. Urban teachers should also be given exposure of such life experience so that their R.Shivakumar,S.Pazhanimurugan & Dr.Edward (2013) studied on students Attitude Towards Continuous and Comprehensive Evaluation of Upper Primary Schools.They used Survey method . A questionnaire comprising of 21 questions on implementation of CCE in Schools were used for the study. There are seven govt. and Aided schools with upper primary classes in sivaganga district were randomly selected and the number of students is 350. Researchers concluded that that female students' attitude (96%) is higher than the male students (91%) and Govt. and private school students (94%) and Govt. Employee parents' attitude (97%) is higher than the private school (86%) and private employee parents' attitude (90%).

A study on implementation of continuous and comprehensive evaluation in upper primary schools of Kerala was studied by R. G. Kothari and Mar y Vine e tha Thomas.The Survey method was used for this study.The study was carried out in Ernakulam district in the state of Kerala. There are 105 English medium schools with upper primary classes in Ernakulam following Kerala State Board Syllabus. Ten schools were randomly selected. All upper primary teachers of these schools formed sample of study. Thus it became cluster sampling. A total of 75 teachers formed the sample of the study.As a tool questionnaire comprising of 21 questions on implementation of CCE in schools was used for the study and concluded that Teachers need to be given more clarity and more specific

materials on how exactly to conduct CCE and on how to tackle the problems they face while implementing CCE in their classes

Importance of proposed research work

Every study is important. This study's effect puts on society and gives new thought in life of human.

We find after study the research that how does it useful to us.

1, After study ,we find the opinion of secondary school teacher's towards SCE system

2, The research will be very useful to Education system for policy making.

3, The research will be used for GSEB & GHSEB for taking different dicision in education field.

Variables

This study includes different variables as below:

(1) Gender: male and female

(2) School type: self finance and grant in aided school

Hypothesis/ Research objectives

According to Dr. D.A. Uchat "After deciding the objectives and the title of the topic, researcher will guess about the different types of temporary results of this topic which is called hypothesis." Excellent research begins with a clear hypothsis which can be examined by the generation of new data by different technique.

HO_1 There will be no significant difference in mean score of opinion towards SCE system between male and female teachers of secondary school.

HO_2 There will be no significant difference in mean score of opinion towards SCE system between Grant –in- aided school and self-finance school teachers of Secondary school.

HO_3 There will be no significant difference in mean score of opinion towards SCE system between male teachers of Grant-in-aided schools and male teachers of self finance schools.

HO_4 There will be no significant difference in mean score of opinion towards SCE system between female teachers of Grant-in-aided schools and female teachers of self finance schools.

Objective of the Study

1 . To develop the opinionnaire on SCE for secondary school teachers.

2 . To Know the opinion of school teachers on SCE system.

3 , To study the opinion of secondary school teacher's towards SCE on the basis of gender.

4 , To study the opinion of secondary school teacher's towards SCE basic of school type.

9 , To know the inter relation between gender and school types secondary teacher's about SCE system.

Research Methodology

The research design for exploring openions of secondary teachers towards SCE system . Survey method will be conducted to collect data.

Population and Sample

Research is invariably conducted by means of a sample drawn from the target population on the basis of which generalizations are drawn and made applicable to the population as a whole.

The target population in the present study covered 25 schools of Ahmedabad selected randomly for drawing out the sample of the study.

Tool used

To collect the requisite data for the present study, the researcher used Opinionnaire Sheets which will be standaredlised by some experts of this field.

Statistical Technique Used:

't-test' will be used to find out the Mean difference. The obtained data will be subjected to further statistical analysis to give meaningful results with the level of "t -test" for teachers

The purpose of analysis is to find out the relationship between variables which leads to the verification of hypothesis.

Data analysis and interpretation

HO_1 There will be no significant difference in mean score of opinion towards SCE system between male and female teachers of secondary schools.

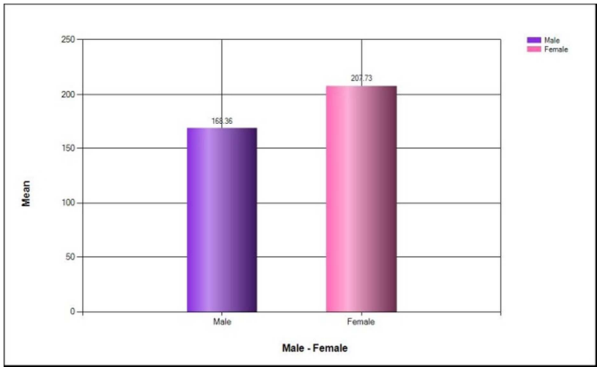
Variable	N	Sum	Mean	SD	SED	t-Value	Remark
Male	704	118528	168.36	7.28	0.38	104.39	**
Female	472	98048	207.73	5.62			

df	0.05	0.01
1174	1.96	2.58

According to above results, the values of mean and standard deviation of male are 168.36 and 7.28 respectively. The values of mean and standard deviation of female are 207.73 and 5.62 respectively. The calculated t-value is 104.39. For df = 1174, table t-values are 1.96 and 2.58 at 0.05 and 0.01 levels respectively.

Calculated t-value is higher than table t-value at both the levels. Therefore hypothesis is rejected and there is a significant difference between mean scores of male and female.

The mean of female is higher than the mean ofmale. So it is concluded that theopinions given by female towards SCE are more positive than theopinions given by male.



HO_2 There will be no significant difference in mean score of opinion towards SCE system between Grant –in- aided school and self-finance school teachers of Secondary schools.

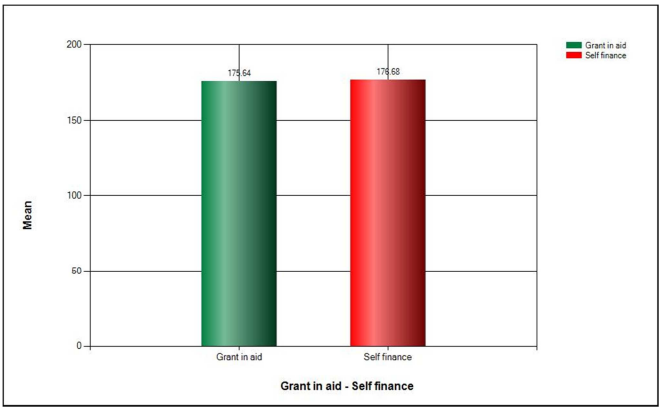
Variable	N	Sum	Mean	SD	SED	t-Value	Remark
Grant in aid	608	106792	175.64	8.29	0.46	2.25	*
Self finance	568	100352	176.68	7.41			

df	0.05	0.01
1174	1.96	2.58

According to above results, the values of mean and standard deviation of teachers of grant in aid schools are 175.64 and 8.29 respectively. The values of mean and standard deviation of teachers of self finance schools are 176.68 and 7.41 respectively. The calculated t-value is 2.25. For df = 1174, table t-values are 1.96 and 2.58 at 0.05 and 0.01 levels respectively.

Calculated t-value is lower than table t-value at 0.01 level but higher than table t-value at 0.05 level. Therefore hypothesis is rejected and there is a significant difference between mean scores of teachers of grant in aid schools and self finance schools.

The mean of teachers of self finance schools is higher than the mean of teachers of grant in aid schools. So it is concluded that the opinions given by teachers of self finance schools towards SCE are more positive than the opinions given byteachers of grant in aid schools.



HO_7 There will be no significant difference in mean score of opinion towards SCE system between male teachers of Grant-in-aided schools and male teachers of self finance schools.

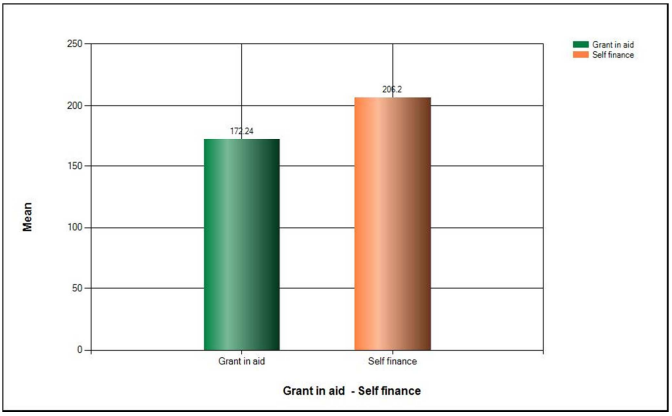
Variable	N	Sum	Mean	SD	SED	t-Value	Remark
Grant in aid	366	63040	172.24	8.64	0.60	56.27	**
Self finance	338	69696	206.20	7.36			

df	0.05	0.01
702	1.96	2.58

According to above results, the values of mean and standard deviation of male teachers of grant in aid schools are 172.24 and 8.64 respectively. The values of mean and standard deviation of male teachers of self finance schools are 206.20 and 7.36 respectively. The calculated t-value is 56.27. For df = 702, table t-values are 1.96 and 2.58 at 0.05 and 0.01 levels respectively.

Calculated t-value is higher than table t-value at both the levels. Therefore hypothesis is rejected and there is a significant difference between mean scores of male teachers of grant in aid schools and self finance schools.

The mean of male teachers of self finance school is higher than the mean of male teachers of grant in aid schools. So it is concluded that the opinions given by male teachers of self finance schools towards SCE are more positive than the opinions given by male teachers of grant in aid schools.



HO_8 There will be no significant difference in mean score of opinion towards SCE system between female teachers of Grant-in-aided schools and female teachers of self finance schools.

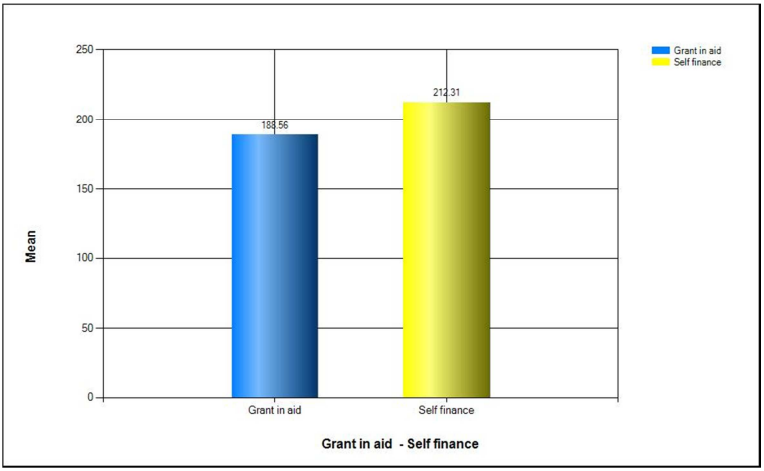
Variable	N	Sum	Mean	SD	SED	t-Value	Remark
Grant in aid	242	45632	188.56	7.45	0.66	35.86	**
Self finance	230	48832	212.31	6.94			

df	0.05	0.01
470	1.97	2.59

According to above results, the values of mean and standard deviation of female teachers of grant in aid schools are 188.56 and 7.45 respectively. The values of mean and standard deviation of female teachers of self finance schools are 212.31 and 6.94 respectively. The calculated t-value is 35.86. For df = 470, table t-values are 1.97 and 2.59 at 0.05 and 0.01 levels respectively.

Calculated t-value is higher than table t-value at both the levels. Therefore hypothesis is rejected and there is a significant difference between mean scores of female teachers of grant in aid schools and self finance schools.

The mean of female teachers of self finance schools is higher than the mean offemale teachers of grant in aid schools. So it is concluded that the opinions given by female teachers of self finance schools towards SCE are more positive than the opinions given byfemale teachers of self finance schools.



Findings of study

1. The result of data analysis shows thatthere is a significant difference between mean scores opinionaire of male and female towards SCE.The mean of female is higher than the mean of male. So it is concluded that the opinions given by female towards SCE are more positive than the opinions given by male.
2. There is a significant difference between mean scores of teachers of grant in aid schools and self finance schools.The mean of teachers of self finance schools is higher than the mean of teachers of grant in aid schools. So it is concluded that the opinions given by teachers of self finance schools towards SCE are more positive than the opinions given by teachers of grant in aid schools.
3. There is a significant difference between mean scores of male teachers of grant in aid schools and self finance schools.The mean of male teachers of self finance school is higher than the mean of male teachers of grant in aid schools. So it is concluded that the opinions given by male teachers of self finance schools towards SCE are more positive than the opinions given by male teachers of grant in aid schools.
4. There is a significant difference between mean scores of female teachers of grant in aid schools and self finance schools.The mean of female teachers of self finance schools is higher than the mean of female teachers of grant in aid schools. So it is concluded that the opinions given by female teachers of self finance schools towards SCE are more positive than the opinions given by female teachers of self finance schools.
5. teachers having experience less than or equal to 5 years.

Suggestions and recommendations

- The government should conduct such researches, analyze the opinions given by teachers and try to understand whether the SCE system is succeded or failed.
- The government shoud try to remove the drawbacks of the SCE system and improve it.

Suggestions for future research

Research means search of search, it mean one research can open direction of new research, from present research, researcher suggests some suggestions for futureresearch.

- In present research researcher has constructed opinionaire to study the opinions of secondary school teachers towards SCE system. The effectiveness of this system can be studied in future.
- Such type of research can be conducted for the evaluation system in primary education.

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10. Integration of Technological Innovations in Higher Education: A Dire Need of an Hour

Smt. Rupal N. Vora*

Abstract

Information and Communication Technology (ICT) today rules the education sector so much so that we are compelled to make use of the technology in order to develop and deliver the contents. People are spending more time on-line, rather it has become a subconscious action. So the teachers/students have to take the opportunity and make use of the technology for learning and teaching. Such technologies provide opportunities to learn anywhere, anytime and from anyone, literally at no cost. There are different types of e-learning and teaching viz. Recording lectures in smart class rooms through video coverage, recording through web studio, self web camera recording, mobile recording, uploading the lectures in You tube, video conferencing.

The students/Teachers/life long learners may benefit from it according to their own requirements. A student can learn and develop their skills/knowledge, a teacher can observe and develop his teaching skill and the lifelong learner may utilize this knowledge for the sake of the society at large.

There is an urgent need of the hour that Higher Educational Institutions should create e-learning centre. Whatever initiatives taken by Government may be it is the individual contribution and the support from the management and teachers concerned makes it successful and useful

The purpose of this paper is to discuss the emerging trend in higher education- blending of the social networking sites with the conventional pattern of teaching and learning (face to face learning). The social networking sites are being used as learning tools in higher education. The learners of various fields collect information and distribution of information during their learning activities. This article indicates the effect and utilization of social networks and social media by teachers and learners. ICT will

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control the entire world in this twenty first century. We have to include the technology in our daily routine according to the changing environment to reach our full potential.

Introduction

Higher Education plays an important role in the overall development of a nation. It is a crucial segment in every country as individuals play a major role in the growth of the nation by acquiring intellectual capability and skills. In fact, education forms the building blocks of the nation. Indeed it is medium to bring in social transformation. Our Higher Education system is the third largest in the world, next only to the United States and China. In the twenty first century it seems that education sector is rapidly growing and its access to different sections in is expanding phenomenally as individuals and nations recognize its role in empowerment.

Due to rapid technological development education sector also has to work with the ICT(Information and Communication Technology). ICT today rules the Education sector so much so that we are compelled to make use of the technology in order to develop and deliver the contents. People are spending more time on-line, rather it has become a subconscious action. So the teachers/students have to take the opportunity and make use of the technology for teaching and learning. On line technologies provide opportunities to learn anywhere, any time and from any one, literally at no cost. The students/teachers/life long learners may benefit from different types of e-teaching, learning viz and they may benefit according to their own requirements. A student can learn and develop their skills/knowledge, a teacher can observe and develop his teaching skill/technology and the lifelong learner may utilize this knowledge for the sake of the society at large. With 356 million 10-24 year old India being a country with high population of young people has a huge opportunity for education sector development. And this is going to grow further. This is India's demographic dividend. India can become the human resource capital of the world. The potential of this huge brigade can be realized if every segment contributes in his/her capacity to the fullest. Increase in the number of education institutes and universities have made a clear roadmap towards the development of India's higher education system.

Need of technological Innovations in Higher Education

Our country has produced great visionaries and leaders who shaped the destiny of this nation post-independence. The vision of our first Prime Minister Pt. Jawaharlal Nehru gave birth to Modern India through Science and Technology. He strongly believed that it is only S&T that can bring prosperity in our country and alleviate hunger and poverty. Education is the backbone of the current industrialized world. Digital revolution is bringing in sweeping changes in the Higher Education landscape. Every institute is taking various initiatives in promoting digital education.

The new age of Information era stands at its peak in recent times. We, humans, have far surpassed what was considered next to impossible. The new prospect of technological innovation has immensely enhanced and simplified the lives of human beings. The same technology has improved the higher education sector and made information accessible to all regardless of their creed, gender or any criteria, the internet plays no bias. Youth have an outstanding opportunity to bring transformative changes into societies around the world. The new advancement in technology had helped the younger generation far surpass its predecessors, regarding accessibility and predispositions of easier access to information which before was hard to analyze and compile has become readily accessible.

Integration (blending) of Technological Innovations in Higher Education

The teaching landscape is rapidly changing, the technological rise of the 21st century and widespread integration of those technologies into our society, combined with access to the internet has integrally changed teaching/learning in just a few years. The rapidly changing landscapes should be a marker to show that teaching methods need to evolve to keep up with the changing times with integrated technologies into learning model. These technologies are not going to go away, they will continue to be integrated into our society and it's time to embrace them for the advantages they bring.

Over the past few years, education has seen the rise of a hybrid method of learning that combines traditional face-to-face approach with tech-powered e-learning. Both students and educators have agreed on the efficiency and benefits of blended learning methods since it combines the best of both worlds allowing less costly, time-saving and more personalized ways of

knowledge acquisition. It is a student-centred approach to creating a learning experience whereby the learner interacts with other students, with the instructor and with content through thoughtful integration of technological innovations and face-to-face environment. It is an effective and low-risk strategy. Such teaching-learning strategies vary according to the discipline, the year level, student characteristics and learning outcomes.

With the heavy integration of technologies we will be able to improve teaching, information retention, engagement, responsibility and enjoyment. Teachers must be committed to and well trained in blended and hybrid education and its technologies and students must have a clear understanding of what is expected of them in this new environment.

Integration (blending) of Social Networking Sites in Higher Education Environment

Higher education represents a qualitatively different and superior level of education where the minds always try to develop and improve by collecting information and analyzing it. This exercise of mind helps us to think independently and to adopt the best amenities of the modern world so that the method of learning becomes easy and more interactive. The increasing use of

Social media in modern day higher education environment is an example of the above statement. In 21st century social networking sites like Face book, Twitter, You tube, Google+, I Google, Whats App, Instagram, Skype, Snap chat, Flicker, etc, are the latest examples of the communication technologies those have been widely and gradually adopted by the students of higher education and attracting to various academic fields in higher education as well as research fields.

Social networking sites are introduced for open communication. The students explore the new world of information collection and distribution. In higher education environment students communicate, discuss with each other and share various information and resources among themselves and promote new and existing content which makes social networking sites a new platform for higher education. The social networking sites are being used as learning tools in higher education. Apart from teaching and learning mainly they are used by the institutions for their announcement, advertisement and for posting their photo gallery . The students communicate much more with social

networking sites but faculty members for daily communication are much more comfortable in using e-mail.

Artificial Intelligence and Higher Education

Artificial Intelligence (AI) has become the dominant theme in the technology world today, engaging the attention of every enterprise. It is not only the technology companies which are developing new platforms based on AI but also the Educational institutes and Government is preparing the students to thrive towards AI. It has caught the attention of the government at the campuses. AI has the potential to solve issues pertaining to quality and access in the Indian education sector.

Higher education and artificial intelligence are not alien to each other. AI as an area of study is catalyzing creation of new major, minor and certification programmes in universities and colleges. Apart from obvious areas of higher education, AI and Robotics are going to change the very substance of higher education. The typical problems of higher education could be solved by AI based solutions to a significant extent. The advancements in technologies have tremendous potential to bring significant values to higher education by engaging and motivating the students and staff and to increase speed of learning.

Barriers to adoption of Technological Innovation

Information Communication Technology will control the entire world in this twenty first century. We have to capture the technology in our daily routine according to the changing environment to reach our full potential. There is an urgent need of the hour that Higher Education Institutions should create e-learning centre. Blended learning, technological innovations, hybrid learning, flipping classroom, web enhanced instruction and mixed-mode instruction, whatever one choose to call it as this method of learning combines classroom and technology. Blended learning is an education programme that combines online digital media with traditional classroom methods. It requires the physical presence of both teacher and student, with some element of student control over time, place, path or pace.

Most important barriers of change have been noticed as: Structure, Culture and Resources institutional policies and lack of support in order to implement technological innovations.

As any other method, Integration of technological Innovations in higher education has its bright and dark sides. The combination of self paced education and face-to-face training can be beneficial but only when wisely applied. Sometimes there are risks to overbalance the rewards, because not all students are ready to stand on their own feet when it comes to learning. For some of them, this modern educational environment can be motivational while the others feel confused about it. If teachers keep an eye on their students and provide strong support to them, more quality courses will be delivered. If teachers are passionate about what they are doing, they will always find their way.

It is inevitable that campus-based higher education institutions will adopt technological innovations in a significant way. The academic benefit, evidence and competitive advantages are clear, only the will and commitment remains. Such innovations can begin the necessary process of redefining higher education institutions as being learning centred and facilitating a higher learning experience.

Digital Initiatives of Government of India:

Imparting key education and life skills to the young population is one of the most important responsibilities of the governments all over the world. However, a large part of the world today is faced with a challenge in fulfilling this responsibility towards its masses. To provide quality higher education is one of the main concerns of our government of the nation. In an Indian context there is a need for policy measures by the government , Higher Education Institutions and the Industry to prepare learning and Academic delivery model that equips the youth to create a Global Impact. The Ministry of Human Resource Development and University Grants Commission (UGC) are in constant efforts for growth and development of Higher Education. The Higher Education in India is witnessing a sea change , thanks to the rapid technological advancement and Innovation Technology has disrupted the learning models. These learning models are impacting the Indian Education Landscape.

With the advent of online and digital learning platforms and technologies like the MOOCs, Artificial Intelligence and Internet of things the learning process has far more enriched . The digital technologies has transformed the current education system to be more cost effective and accessible. Rapid internet

penetration, surge of smart phones, demographic dividend, the falling cost of online education and the government's digital efforts are driving this growth. MOOCs have recently emerged as vital mechanism for learning over a period of time. It is defined as a online course aimed at unlimited participation and open access via web. The main objective to launch this platform is to serve the education at a very large scale and to reach the unreached learners to satisfy their educational needs. MHRD, Government of India has initiated the 'SWAYAM' portal to digitalize the education system and to reach the remote areas all over the India to achieve the objectives of education for all. NAD (National Academic Depository) portal is one more initiative of Government which has a tremendous impact in the life of students. Through this portal students can verify their degrees and awards online. E-pathshala isone more government programme which gives different benefits to the students. Whatever initiatives taken by Government may be, it is the individual contribution and the support from the management and teachers' concern makes it successful and useful.

Conclusion

Education is the soul of any civilized society and one of the main responsibilities of the government. Its importance cannot be overlooked and hence governments the world over have made efforts to make equal opportunities of education accessible to all. Technology has influenced all walks of life of the world. Information Communication Technology (ICT) has become a necessary component and daily life of human beings in the advanced world as well as academics. Education in India has a brightest past history with Nalanda and Taxshila. Our Gurukul System was unique one, which ensure all round growth of the students. Our society is a welfare society and naturally the state is also a welfare state. But globalization, Liberalization and Privatization has changed many of the perceptions around the world and have left a massive impact on all the sectors. Education is also not an exempted one. Higher Education in India is facing many challenges. Challenges aroused due to globalization need to be examined closely to take it from present status to a state of excellence. This exaltation is not an easy task. In order to survive, we need to adopt global models which would be helpful in sustainable growth of Indian education sector. Objectives of Higher Education are though well-defined for the needs of our land, the globalization phenomena has changed the very face of every sector.

Technology developed during the last three decades in particular has made it possible to scale greater heights. Higher Education Sector should open its gates for innovation from all spheres. Technological development especially the new digital and Information and Communication Technologies have opened up many opportunities of technological innovations. Higher Education Sector in India is proceeding with proactive approach towards the culture of innovation. But we need to revamp our support system to achieve our goals. Technological innovation would pave ways for excellence of Higher Education in India and its expansion to the global arena. We should pave ways to it with conducive environment in all spheres.

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11. Role of Teachers in Quality Enhancement in Higher Education

Dr. Sanjay K. Radadiya*

Abstract

Education considered as the most important and noble endeavors. It helps person to get their complete personal, spiritual, mental, social & physical potential. In India very large number of student who can't reach school for primary education and from primary education to secondary education and again secondary education to higher education the dropout rate is very high. There may be much different reason for that very less student attracted towards higher education. Reason may be lack of availability of resources, lack of Employment, poverty etc. Government trying to achieve the required infrastructure for the potential student, it may be in the form of recourse, infrastructure, qualified faculty etc. Here we must keep in mind our higher education must end with an employability that means the education is inclined towards employment because in developing country it is biggest motivating factor. Also how teaching-learning process motivated that discuss. Here the role of faculty comes in picture, employment largely depends on how the faculty interact with student and in this paper focus on quality education, teacher role, student development.

Role of Teachers in Quality Enhancement in Higher Education

"We want that education by which character is formed, strength of mind is increased, the intellect is expanded, and by which one can stand on one's feet" –Swami Vivekananda

Introduction

According to Rabindranath Tagore, "A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame". In the age of explosion of knowledge at an

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unprecedented speed, even those who had the advantage of acquiring the most sophisticated education will become outdated in a very short span of time. If they have to remain up to date and relevant and face the challenge of other modes of acquiring knowledge, the need for their re-education, relearning and de-learning is essential.

Higher Education in India

During the last decade, in higher education sector in India there has been a steep growth. However, despite impressive growth, India's higher education gross enrolment ratio (GER) is at 19.4 per cent is currently well below the global average of 27 per cent. (Ernst and Young, 2012). The government of India plans to increase GER in higher education to 30 per cent by 2020 (FYP, GOI, PC, 2012). According to a recent UGC report (2017) , the number of higher educational institutions has increased from about 30 universities and 750 colleges in 1950-51 to about 789 universities and 48,647 colleges and stand – alone institutions (as of 2016-17).

Present Scenario of Higher Education in India

It has been found that only 10 % of Indian youth go to college. This percentage is 40-50% in developed countries. As per the available reports, two third of the Indian universities are providing sub-standard education while 90 % colleges in India are below average. Today, most of the institutions have become factory of degrees only. Students / teachers are running after attaining or providing degrees and not towards the gaining knowledge and wisdom. Attendance in the institution has dropped drastically and class room teaching is becoming only a ritual, to be followed mechanically. Though, it is said that the destiny of nation is shaped only in the class rooms, very little importance is being given to class room teaching. The overall scenario of higher education in India does not match with the global quality standards. It does not foster the global competencies and even does not make significant contribution to the national development. The present education system does not match with the needs and expectations of the employment sector.

The role of the teacher assumes greater significance in this deteriorating scenario of higher education. It is a daunting task for the teachers to improve

the quantity, quality and equality in higher education. It is said that a good teacher can bring the entire world to the class room.

The teacher being a sculptor has to play multidimensional role to inculcate the nuances of subjects to the heterogeneous cult of students. He has to inspire to students to show interest in their subjects, even if he confronts students who are completely demotivated and dispirited.

Quality Education

Quality education is the solution to all the problems and teachers are the main ingredients in giving quality education. It is said that quality is not destination, it is a continuous journey. Quality means doing the right things right. Doing things right - is efficiency and doing right things is effectiveness.

Quality in education is to learn the right things and to learn them well. It is not good enough to learn the right things only half well and it may be even worse to learn the wrong things well. Quality has become the key word in the higher education. Today, improving the quality is the biggest challenge before the higher education system. Access to the global economy will depend more on the quality and productivity. This problem can be solved by making available more and more professional skills. Higher education requires special emphasis and has major role to play in determining the quality of life and the pace of development of a nation and the world as a whole. It is the responsibility of the higher education system to ensure that the skills, understanding and output of the students are equal to the best in the world.

Quality education is the education that best fits the present and future needs of the learners. It is the education that provides students with the tools to deal with and find solutions to challenges confronting mankind. In a changing world of rapid technological advances, this means that what was considered quality education yesterday might not meet the standard of what will be understood as quality tomorrow. It should not be regarded as a process of consumption, but as a process of interaction between teachers and students. Quality education can never be a neutral process, it will always be value based. It must aim at giving the students opportunities for personal

development and confidence to adapt to new situations as well as change these situations, when they find that necessary.

Teachers

The success of any education system depends on the quality of teachers, which, in turn, depends on the effective teaching / learning process. Teachers' role is of vital significance for the development of society and appropriate changes in the society. Thus, the quality of higher education depends upon quality of those who impart it. Teachers are the most important components of any educational system. Teachers play most crucial role in the development of the education system as a whole and also in imparting and maintaining the standards of higher education.

In the present scenario, the 'personality' of the teachers has deteriorated. Teaching is considered as one of the noblest professions but unfortunately this profession is losing its status in the society because of modernization, political influence, castism, corruption and other unfair means. For many teachers, especially in medical and dental sciences, teaching profession has become easy source of earning money. Making many money by unfair means like malpractices in examination resulted in decline of the quality of teaching values. Changing social attitude, non-responsiveness and poor level of accountability, emphasis on western system of education, impact of modernization, absence of the traditional Indian education system, etc. are the factors responsible for the degradation of teaching values in the society.

“The primary task of a society is to find a real teacher, one who performs his duty with perfection and dedication and is a perfect moral example for the society”

- Rabindranath Tagore

Quality of Nation

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Depends up on

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Quality of Citizens

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In turn depends up on

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Quality of Education

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Ultimately depends up on

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Quality of Teachers

Thus, teachers play critical role in taking quality education and in shaping the future and destiny of a nation. Teachers teach the ways of life, channelize youth power and mold their character. In a real sense, the teachers are the backbone of the nation.

Role of Teachers in Quality Enhancement

"Education is the manifestation of perfection already in man"

- Swami Vivekanand

Teachers play crucial role in improving the quality of higher education in following ways;

1) Dedication and Commitment

Dedication and commitment of teachers plays a crucial role in improving the quality of education and shaping the future of nation.

2) Motivation

A teacher should act as a motivational force and should be able to create a learning environment in which students are encouraged to

think carefully, rationally and express their thoughts and decide on the situations and difficulties. It is the responsibility of teacher to create a context in which the students' desire and ability to learn can work most effectively. A teacher should act as the role model for the students.

3) Skill Development

Skill development is crucial to the success of students in the job market. Skill development of students, on par with their counterparts elsewhere is an important aspect of enhancement of quality of higher education. With liberalization and globalization of economic activities, the need to develop skilled human resources of a high caliber is imperative. Consequently, the demand for internationally acceptable standards in higher education is evident. Therefore, preparing the students to achieve core competencies, to face the global requirements successfully is very important. This requires that the teachers should be innovative, creative and entrepreneurial in their approach, to ensure skill development amongst the students. By various means such as establishment of collaborations with industries, social organizations, networking with the neighborhood agencies/bodies and fostering a closer relationship between the “world of skilled work” and the “world of competent-learning”, it is possible to develop required skills.

4) Imparting Value Based Education

It is said that skills are of less importance in the absence of appropriate value systems. Hence, teachers should shoulder the responsibility of inculcating the desirable value systems amongst the students. In a country like India, with cultural pluralities and diversities, it is essential that students imbibe the appropriate values commensurate with social, cultural, economic and environmental realities, at the local, national and universal levels. Whatever be the pluralities and diversities that exist in the country, there is ample scope for inculcating the core universal values like truth and righteousness. The seeds of values sown in the early stages of education, mostly aimed at cooperation and mutual understanding, have to be reiterated and re-emphasized at the higher educational

institutions, through appropriate learning experiences and opportunities.

Values are the guiding principles of life, which are conducive to all round development. They give direction to life and bring joy, satisfaction and peace to life. In ancient India, more importance was given to morality, honesty, duty, truth, friendship, brotherhood, etc and these were considered to be the themes of Indian culture and society. Imparting value based education was the only aim of the teachers of ancient age. But in the present scenario, due to large number of changes, there is a considerable decrease in the quality of value based education.

Wisdom knows what to do next, skill knows how to do it and virtue is doing it. Teachers must try to impart knowledge, which leads to wisdom and not merely to training or skill. He should have capability to impart value based education to the students. The purpose is not to produce outstanding students but to produce outstanding citizens of the country.

5) Impact of Caliber

It has been revealed by many research studies that the caliber of teachers has tremendous impact on the caliber of the students. Hence, a teacher, who is a permanent learner has to update the subject knowledge continuously and should be aware of latest development in their subject.

6) Lateral Thinking

Lateral thinking is solving problems through an indirect and creative approach, using reasoning that is not immediately obvious and involving ideas that may not be obtainable by using only traditional step-by-step logic. Teacher should take initiative to nurture and nourish the students to develop lateral thinking.

7) Use of Resources

Efficient use of resources helps to produce uniquely educated, highly satisfied and employable graduates. Motivated teachers can enrich their teaching with resources and co-curricular activities. Use

of ICTs in teaching-learning process makes the lecture effective and improves the quality of teaching. Continuous updating of teaching methods and use of innovative teaching methods help to improve the quality of teaching.

8) Curriculum Design

The quality of higher education can be enhanced by designing need based curriculum, keeping in view the demands in the employment sector at national and international level.

9) Special Attention to Research

Promotion of research is crucial for improving the quality of higher education system. It is one of the factors, which influences the quality of teaching. Educational research must be strengthened as an instrument for improving educational quality and results of such research must be communicated to teachers in a better way.

The link between classroom teaching and research is extremely important. It must be a link operating in two directions:

- Information to the teachers about latest
- findings.
- Information to the researchers about the problems.

10) Academic Development

To teach is the life-long process of learning

Teachers are the most important components of the higher education system. Academic development of teachers is crucial and necessary for the success of the higher education system because teachers are the prime movers and catalysts for all round development of students. Teachers play a significant role not only in improving the quality of higher education but also maintaining it; the professional competency of teachers has to be of such a high level so as to impart quality knowledge to the students. This would call the continuous upgrading of the professional development of the teachers, which is key guarantee of quality education. High-

quality in service training and professional development within the profession in order to keep in touch with new findings in their subjects and to obtain continuous support for the improvement of their teaching. Teachers need continuous self-development to generate knowledge that goes to contribute towards inculcating high professional competency among students. Development of teachers depends on many factors. It is closely linked with

- The quality of research
- Participation in national and international seminars
- Faculty exchange programs
- Upgradation of qualifications
- Exposure to recent developments
- Writing of books and papers
- Collaborating with fellow researchers in other higher education institute
- These activities help to impart quality education to students.

11) Quality Awareness and Self Evaluation

Ability to improve the quality of education is the ability to reflect on their own teaching, critically examine the methods used and looking for alternative ways of teaching. To create increased quality awareness and help teachers to improve their teaching methodology and skills may be of crucial importance to improve quality in education. One major way of doing this is to systematically evaluate the own teaching and its results. Evaluation helps to improve their own work. This also helps to discuss about newer effective methods to use in the teaching and to discuss about the choice of the best teaching methods.

12) Professional Freedom

Professional freedom of the teacher is of crucial importance in developing quality in education. Professional freedom does not

mean that the teacher can do whether he likes, but that the teacher, who knows the students, is the person best equipped to decide which methods to use in order to create an optimal leaning situation. There has to be a general thrust in the creativity of the teacher. Authorities can give suggestions to teachers regarding the use of newer teaching methods through service training, professional development programs and other means. But authority should not dictate about method to be used by teacher. The teacher should enjoy academic freedom in the discharge of professional duties.

A teacher plays a crucial and demanding role in the process of students learning by creating a context in which the students' desire and ability to learn can work most effectively. The task of the teacher in the higher education system involve the creation of a learning environment in which students are encouraged to think carefully, rationally and to express their thoughts and to decide on the situations and difficulties they wish to confront and resolve. The teacher helps students to achieve their own aims and adopt notion that underlines the higher education. Therefore, the quality of performance of the teachers is of paramount importance.

13) Professional Ethics

Professional ethics of teachers is an important issue. The complex task of teaching and many other responsibilities shouldered by teachers underline the questions related to the responsibilities and duties of teachers. This has also been reflected in a growing discussion on professional ethics among teachers. Promotion of professional ethics also helps to fight against corruption.

Conclusion

Education without vision is fruitless and education without value is meaningless. The inculcation of values and promotion of values in educational system is a need of the hour to make all the possible attempts to inculcate value – oriented education in the centers of learning. The teachers' participation with vision to make education meaningful and valuable will contribute to the overall development of the system of higher education of the country as a whole.

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