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Research Article

Participative Learning in Higher Education: A New Approach

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Education constitutes the backbone of a country as it produces the human force which plays the most determining role in the advancement of a nation and also in the progress of a civilization. The march of a nation towards glory is carried forward by the competent human resource that a strong education system prepares. Education is one that provides the thrust in getting ahead and building up a powerful democratic society. India is today at cross road of emerging as a major player in global scenario. But for fulfillment of this dream the problems of our education system are to be identified and remedied correctly. The irony is that while India's strength lies in education, particularly in higher education, in the emerging global knowledge economy, India's main hurdle to achieving development also lies in education, as the quality of education remains poor for the majority of the population.

India's higher education system is the world's third largest in terms of students, next to China and the United States. As India strives to compete in a globalized economy in areas that require highly trained professionals, the quality of Higher Education becomes increasingly important. Higher Education worldwide is in a period of transition, affected by globalization, the advent of mass access and development of new technologies.

In addition to these, there are many basic problems facing higher education in India today. These include inadequate infrastructure and facilities, large vacancies in faculty positions and poor faculty, thereof, low student enrolment rate, outmoded teaching methods, declining research standards, unmotivated students, overcrowded classrooms and widespread geographic, income, gender and ethnic imbalances.

Four basic challenges of Indian Higher Education can be summarized as below:

a) **The supply demand gap-** India has a low rate of enrolment in higher education, at only 18% compared with 26% in China and 36% in Brazil. There is enormous unmet demand for higher education. By 2020, the Indian Government aims to achieve 30% gross enrolment which will mean providing 40 million university places, an increase of 14 million in six years.
b) **The low quality of teaching and learning-** The system is beset by issues of quality in many of its institutions; a chronic shortage of faculty, poor quality teaching, outdated and rigid curricula, lack of accountability and quality assurance, separation of research and teaching.
c) **Constraints on research capacity and innovation**- With a very low level of research enrolment , India does not have enough high quality researchers; there are few opportunities for interdisciplinary and multidisciplinary working, lack of early stage research experience; a weak ecosystem for innovation and low levels of industry engagement.

d) **Uneven growth and access to opportunity**- Socially India remains highly divided. Access to higher education is uneven with multidimensional inequalities in enrolment across population groups and geography.
Three central pillars of the government's plan for education reflect those realities; expansion, equity and excellence.

So we can conclude that one major drawback of Indian education system is lack of quality of higher education. It may be due to poorly crafted curriculum or use of outdated methodologies. As we are aware that today's education system should aim to create competent, committed and confident workforce which is able to withstand the pressure of constant improvement through continuous learning. The development of requisite set of skills, commonly referred to as 21st century skills is to be encouraged. The list of 21st Century skills and competencies is given below:

1. Information processing skills
2. Communication skills
3. Media literacy and ICT Literacy
4. Thinking and Problem Solving skills
   a) Inventive Thinking
   b) Creative Thinking
   c) Problem Analysis and solving
   d) Decision Making
   e) Logical Thinking
   f) Critical thinking
   g) Systems Thinking
5. Interpersonal and Intrapersonal Skills
   a) Flexibility and Adaptability
   b) Initiative and Intrinsic motivation
   c) Social and Multicultural Adaptability and Coexistence
   d) High Efficiency and Accountability
   e) Leadership and responsibility

This paper is an attempt to highlight the new pedagogical techniques that shall help to overcome the boredom, monotony of a conventional classroom and shall in turn help to improve the quality of education and fulfillment of goals of education on a whole. The focus on above mentioned skills has influenced the teaching learning system i.e. the instructional system has shifted to learner centric system from the conventional teacher oriented system. New dimensions of learning through constructivist approach are being emphasized. The constructivist approach deals with participative learning, experiential learning focusing on creation of knowledge by the learner. One major challenge of this system is concept of lifelong learning in place of learning over a specified period and in a specified geographical area. As Alvin Toffler says, "The illiterate of the 21st Century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn".

The theme of Seminar is **"Quest for Excellence in Higher Education".** By excellence is meant achieving the best quality i.e. a standard which is most superior. This paper is confined to achieving excellence in the modern 21st century classroom through the use of participative learning methodologies.

The main focus of a 21st century classroom is to create inspiring, meaningful, challenging and engaging learning experiences for students. The demands of system have also changed. The main goal of education system has undergone a transition. Main focus is on the development of new age skills. We have observed in our discussion that one sided learning is monotonous, boring and unproductive so participative teaching learning methods are to be used for this first thing is use of ICT mediated learning.

ICT mediated teaching and learning ICT has fundamentally changed the way we live now. We find a world of difference in the practices and procedures of various fields such as medicine, travel, tourism, business banking and engineering- in how they operate now in comparison to how they operated two decades ago. In contrast, the impact of ICT on education however has been far less and slow. The most fundamental cause seems to have been the deep seated belief that teaching is an art or at best an imperfect science with no role of technology in the design and delivery of instruction. This belief system has been largely responsible for the restricted access to higher education, quality of in class experience being limited to the chalk and talk and in the absence of many opportunities for stimulating and evaluating learner engagement and higher order learning. But now times have changed and the paradigm of education and learning has changed from art and science to technology mediated instruction and learning. Three fundamental dimensions of digital technologies are interactivity, symbolic flexibility and the vast array of available information. All these resources are to be harnessed in meaningful fashion in order to outline an effective teaching learning system. ICT can therefore be perceived as a big change agent for education and the realization seems to have dawned on the teaching community that ICT is primarily meant to empower them and not to replace them. This endeavour of achieving ICT enabled education can succeed only through capacity building of teachers in ICT skills.

Use of Web Based Techniques- With the increasing dependence on internet sources, educational web tools have offered teachers with various opportunities to investigate the most appropriate educational web tools have offered teachers with various opportunities to investigate the most appropriate educational tools to suit their students' learning preferences. Students in the digital age need to learn how to effectively and efficiently create, collaborate and share new information on the web through the use of different tools available on the web for lifelong learning. In response to this need, an empirical study on educational web tools as a technique to enhance students' learning was conducted. Students demonstrate positive attitudes on the use of educational web tools. Researchers further revealed that the students' skills and the benefits they have experienced differ according to their attitudes toward the use of educational web tools in the subject. Based on the findings, conclusion has been drawn regarding the use of educational web tools to support the teaching-learning process. Multimedia has the unique strength of communicating difficult concepts in simpler ways and thus offers several advantages in the field of education. Multimedia enables us to provide a way by which learners can experience their subject in a deeper way. With the help of multimedia content developers teacher can convert their subject expertise and creativity into multimedia- rich content.

Blended learning is a formal education program in which a student learns at least in part through delivery of content and instruction via digital and online media with some element of student control over time, place, path, or pace. While still attending a "brick-and-mortar" school structure, face-to-face classroom methods are combined with computer-mediated activities.

Defining hybrid or blended education is a trickier task than one might think–opinions vary wildly on the matter. In a report on the merits and potential of blended education, the Sloan Consortium defined hybrid courses as those that ***"integrate online with traditional face-to-face class activities in a planned, pedagogically valuable manner.***

Blended Learning can generally be classified into six models:

Face to face driver - where the teacher drives the instruction and augments with digital tools.

Rotation - students cycle through a schedule of independent online study and face-to-face classroom time.

1. Rotation model — a course or subject in which students rotate on a fixed schedule or at the teacher's discretion between learning modalities, at least one of which is online learning. Other modalities might include activities such as small-group or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments. The students learn mostly on the brick-and-mortar campus, except for any homework assignments.

- The Rotation model includes four sub-models:
    - **Station Rotation** — a course or subject in which students experience the Rotation model within a contained classroom or group of classrooms. The Station Rotation model differs from the Individual Rotation model because students rotate through all of the stations, not only those on their custom schedules. Lab Rotation
    - **Lab Rotation** – a course or subject in which students rotate to a computer lab for the online-learning station.
    - **Flipped Classroom** – a course or subject in which students participate in online learning off-site in place of traditional homework and then attend the brick-and-mortar school for face-to-face, teacher-guided practice or projects. The primary delivery of content and instruction is online, which differentiates a Flipped Classroom from students who are merely doing homework practice online at night. Individual Rotation
    - **Individual Rotation** – a course or subject in which each student has an individualized playlist and does not necessarily rotate to each available station or modality. An algorithm or teacher(s) sets individual student schedules.

Flex - Most of the curriculum is delivered via a digital platform and teachers are available for face-to-face consultation and support.

- Flex model — a course or subject in which online learning is the backbone of student learning, even if it directs students to offline activities at times.
- Students move on an individually customized, fluid schedule among learning modalities.
- The teacher of record is on-site, and students learn mostly on the brick-and-mortar campus, except for any homework assignments.
- The teacher of record or other adults provide face-to-face support on a flexible and adaptive as-needed basis through activities such as small-group instruction, group projects, and individual tutoring.
- Some implementations have substantial face-to-face support, whereas others have minimal support.
- For example, some Flex models may have face-to-face certified teachers who supplement the online learning on a daily basis, whereas others may provide little face-to-face enrichment. Still others may have different staffing combinations. These variations are useful modifiers to describe a particular Flex model.

Labs - All of the curriculum is delivered via a digital platform but in a consistent physical location. Students usually take traditional classes in this model as well.

Self-Blend - Students choose to augment their traditional learning with online course work.

Online Driver - All curriculum and teaching is delivered via a digital platform and face-to-face meetings are scheduled or made available if necessary.

4 Benefits of Blended Learning

1. Enhanced Communication Skills
2. Increased Digital Fluency
3. Expanded Networking
4. Strengthened Professionalism

Multimedia Approach to Teaching Learning Process

Multimedia is defined as Digital integration of Text, Graphics, Animation, Audio, Still images, Motion Video. Multimedia approach uses a number of media, devices, techniques in the teaching learning process. It can convey vast information and provide many sources from which student can access the information and improves the teaching learning process. Multimedia approach is not restricted to a single type of learning style. It can provide the support to wide range of activities. It aims at providing meaningful learning experience via a mix of media in order to achieve predetermined objectives. Multimedia approach provides the opportunity to gain mastery of competencies and skills. The choice of the media has to be done carefully so that one does not hamper or reduce the effect of the other. That is each media must complement the other. Multimedia approach enables the learner to get access to information in dynamic environment.

Procedure for Adopting Multimedia Approach

The following are the six steps to be followed while adopting the Multimedia Approach

- ***First Stage***
    - In this stage the teacher initiates the teaching – learning activities.
    - Teacher deliver a well prepared lesson based on the objectives formulated.
    - Teacher could use a variety of media for his presentation.
- ***Second Stage***
    - Teacher demonstrates a specific and specialized unit using a mix of media.
    - The teacher may provide learner with programmed learning materials, cassettes, CD's etc.
- ***Third Stage***
    - This is a preparatory stage for the learner before he stars independent learning.
    - The student discusses with peer students and teachers his plan of action.
- ***Forth Stage***
    - In this stage the learner actively participates.
    - He uses variety of media and materials in his self-study.
- ***Fifth Stage***
    - In this stage the learner integrates theory and practice.
- ***Sixth Stage***
    - In this stage learner finds that teaching – learning activities have to be organized on a higher level.
    - The student involved in critical analysis, critical evaluation and exchange of ideas.

Advantages of the multimedia Approach

- Multimedia approach enables the student to represent information using several different media.
- Can arouse the curiosity among the learner and provide them vivid impressions.
- Multimedia can take into account different learning styles – some pupil learn by interpreting text, while others require more graphical representations.
- Can develop a positive attitude among the learners towards the teaching-learning process.
- Multimedia Approach allows for self-pacing
- Technique of simulation can be effectively applied through the multimedia approach.
- Helps in development of higher order thinking skills.
- Multimedia approach provides the student the flexibility of 'any where', 'any time' learning.
- Helps in developing group and interpersonal skills.
- Effective remediation programmes can be implemented through the multimedia approach.
- Multimedia approach can bridge language barriers since audio is not the only means of communication.

Thus ICT can be used as a tool in the process of education in the following ways:

- Informative tool: It provides vast amount of data in various formats such as audio, video, documents.
- Situating tool: It creates situations, which the student experiences in real life. Thus simulation and virtual reality is possible.
- Constructive tool: To manipulate the data and generate analysis.
- Communicative tool: It can be used to remove communication barriers such as that of space and time.

  The moves to competency and performance- based curricula are well supported and encouraged by emerging instructional technologies (Stephenson, 2001). Such curricula tend to require:

  a) Access to a variety of information sources; forms and types
  b) Student-centered learning settings based on information access and inquiry
  c) Learning environments centered on problem centered and inquiry based activities
  d) Authentic settings and examples
  e) Teachers as coaches and mentors rather than content experts

A Comparison of a traditional pedagogy and an emerging pedagogy enabled by ICT

Aspect	Traditional Pedagogy	Emerging Pedagogy for the information society
Active	• Whole class instruction • Little variation in activities • Pace determined by the programme	• Working in teams • Heterogeneous group • Supporting each other
Creative	• Reproductive learning • Apply known solutions to problems	• Productive learning • Find new solutions to problems
Integrative	• No link between theory and practice • Separate subjects • Discipline based • Individual teachers	• Integrating theory and practice • Relation between subjects • Thematic • Teams of teachers

Evaluative	• Teacher directed • Summative	• Student directed • Diagnostic

To summarize, we can conclude that ICT mediated teaching methodologies are beneficiary to students, employers and government as well. To students it means increased access, flexibility of content and delivery, combination of work and education, learner centered approach, self paced learning and higher quality of education and new ways of interaction.

To employers it means high quality, cost effective professional development in the work place, upgrading of employee skills, increased productivity, development of new learning culture, sharing of costs and of training time with the employees and increased portability of training.

To governments it provides increased capacity and cost effectiveness of education and training systems, an opportunity to support and enhance the quality and relevance of existing educational structures, promotes innovation and opportunities of life long learning.

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

Major initiatives and policies for introducing ICT in Higher Education are:

- Indira Gandhi National Open University (IGNOU) uses radio, television and internet methodologies.
- National Program on Technology Enhanced Learning: a concept similar to the open courseware initiative of MIT. It uses internet and television technologies.
- Eklavya initiative: Uses Internet and television to promote distance learning.
- IIT-Kanpur has developed Brihaspati, an open source e-learning platform.
- Premier institutions like IIM- Calcutta have entered into a strategic alliance with NIIT for providing programs through virtual classrooms.
- Jadavpur university is using a mobile- learning centre.
- IIT-Bombay has started the program of CDEEP (Centre for Distance Engineering Education program) as emulated classroom interaction through the use of real time interactive satellite technology.
- National Mission on Education through ICT have been launched recently. Under this mission, a proper balance between content generation, research in critical areas relating to imparting of education and connectivity for integrating our knowledge with advancements in other countries is to be attempted. It has three guiding principles namely, Human resource development, E-content/resource development and building connectivity and knowledge network.
- Indian government has already approved the establishment of National knowledge network (NKN) in 2010. It is a major step towards building a knowledge society without boundary. It is a multi- gigabit, unified, high speed network that aims to connect over 1500 institutions like universities, research institutions, libraries, laboratories, healthcare and agricultural institutions, nuclear, space and defence research agencies in the country.

  Thus we have a long way to go and shall have to show commitment by all stakeholders to bring about a true excellence in teaching learning process.

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