

BLENDING LEARNING INITIATIVES FOR AUGMENTING TEACHING-LEARNING EFFECTIVENESS

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Abstract

Blended learning has been the most sought after approach to education since it intergrates all the available multiple media for quality content generation and dissemination to reach the unreached and to enable them to access from anytime and anywhere at their own pace and path. Collaborative teaching-learning has all time high with blended teaching-learning processes with the available state of the art technology.

This paper outlines the new innovative technologies in both print and media space in addition to Government initiatives to promote collaborative learning. Against a backdrop of the performance evaluation of different states in India, a list of suggestions have been presented for improved adaptation of blended learning as a principal strategy for augmenting teaching and learning effectiveness.

Key words: Blended Learning, Intergration, Interactivity, SWAYAM, SWAYAM Prabha, Virtual Studio, Interactive Radio Counselling.

introduction

Today we have fifth generation blended learning model (also called Intelligent Flexible Learning Model) which allows Interactive Multimedia (IMM) online, Internet based access to WWW resources, Computer mediated communication, using automated response systems, Campus portal access to institutional process and resources (Taylor, Jim (2001:3) According to A W Bates, 1990, the effectiveness of media is determined by the following factors: Access, Cost, Teaching Learning, Interactivity, Organizational Issues, Novelty and Speed (ACTIONS).

The media is considered suitable for education purposes if it satisfies certain criteria, namely Government Policy, Quality Content, Distribution and Interactivity. Ultimately, the content is the king. All the other technological factors are only top-ups. For instance, Ministry of Human Resource Development (MHRD), Government of India, initiated few policies like National Programme on Technology enabled learning (NPTL) targeted for content generation, National Knowledge Network (NKN) aimed at dissemination and collaborative network, National Mission Education through Information Communication Technology (NMEICT) etc. In its National Mission Education Through Information, Communication Technology (NMEICT), Government of India encourages institutions to use the Information Communication Technology for augmenting teaching-learning processes through Study Webs of Active Learning For Young Aspiring Minds (SWAYAM), an integrated education platform and Swayam Prabha with a mandate to achieve three cardinal principles of access, equity and quality.

SWAYAM attempts to bridge the digital divide for the students who were sofar remained untouched by the digital revolution and were not able to join the mainstream of the knowledge economy. The courses hosted on SWAYAM are varied in nature. They include (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. The learning experience is enriched by using audio-video and multi-media and state of the art pedagogy / technology.

Swayam Prabha is a bouquet of Direct-to-Home (DTH) education channels to reach the unreached. These are aimed at primary education, secondary education, technical development and overall development of the learners with particular focus skill development..

Innovative Technologies in Print Media

Quick Response (QR) can be read quickly by a cell phone. It is used to take a piece of information from a transitory media and put it in to your cell phone. QR Codes can be seen in a magazine advert, on a billboard, a web page or even on someone's t-shirt. The learning materials today are developed in quick response format. Today QR emerged as part of security measure and the original degrees/certificates or any other documents are preserved in QR format. For instance, Government of Andhra Pradesh extensively integrated QR in Learning Management System (LMS).

Innovative Technologies in Radio

Interactive Radio Counselling (IRC) provides interaction through radio between the teacher and the learner. It is a platform that helps the learners from remote locations in their teaching learning activities through the radio channel, in which the teacher along with the expert sit in the studio and discuss about the subjects.

Community Radio is also called as campus radio or college radio. It covers the following (i) Programmes with the experts on education, stress management, health, interpersonal relationship between parent and children, examination stress etc. (ii), career awareness, career counseling and broadcasting other socially relevant programmes. (iii) Seminars, workshops, lectures, discussions, debates are customized to student requirements apart from cultural functions (iv) Hygiene, anti smoking, gender sensitization, environment and other issues pertaining to local communities. (v) Interactive programmes for the students enrolled at open learning schools, who could not get hitherto the opportunities for face to face teaching-learning process. (vi) programmes for development and social advancement of the local community i.e on improved health and sanitation, enhancing the empowerment of women, educating the people from various fields and communities and reversing the loss of environmental resources.

Internet radio (also popularly called web radio, net radio, streaming radio, e-radio, IP radio, online radio) is a **digital audio** service transmitted via the **Internet**. It functions only if there is internet facility. It is used to communicate and easily spread messages through the form of talk. It is distributed through a wireless communication network connected to a switch packet network (the internet) via a disclosed source.

High Definition (HD) Technology allows for 16:9 view as against 4:3 standard television with high resolution suitable for scientific and engineering video content generation to develop applied knowledge for the learner. This gives more scope to the faculty to share more content.

Multiple screen, Audio-video interactivity With multiple screens along with the HD technology, interactivity is facilitated among multiple locations.

Virtual studio is a television studio that allows the real-time combination of people or other real objects and computer generated environments. It contains high quality instructional design content which includes text, audio, video and animation is designed and developed on a specific topic or a series of lessons/programs for the benefit of the learners. It facilitates Live Interactive Student's Response along with on the spot assessment.

The virtual scene allows high degree of flexibility every time to the camera settings in terms of zoom, pan, angle, traveling, etc. This is a new approach in developing high quality video content in digital HD technology. It combines set, HD Digital Technology and multiple media. It allows to produce digital content which can be easily accessible both online, offline and on demand via television, computer, Ipad

and mobile phone for the learner. The content generated through Virtual studio can be scaled up to any level at minimum cost with high speed. Even the production cost is economical when compared to the conventional studio recordings. It is in sink with the recent government policy of NMEICT, SWAYAM and Swayam Prabha and learner's e-learning habits. The interactivity is spontaneous and promotes collaborative learning.

Online learning Online learning addresses affordability, ease and accessibility. Massive open online courses (MOOCs) have become very popular in terms of enhancing the skills like artificial intelligence, machine learning, data science with python etc particularly among the students from Tier 2 and Tier 3 cities. The online learning has become key resource as it provides specific skills and enables the learner to fetch a high paying job. There has been wide disruption in the traditional class rooms because of e-learning focus and quantitative outcomes such as making people employable through industry-oriented skill up programmes. Because of this, the demand-supply gap in the Indian industries could be successfully bridged.

Digital Video Broadcasting (DVB) is a set of international open standards for digital television maintained by the DVB Project, an international industry consortium. These standards are meant for temporally-compressed distribution to mobile devices (DVB-H). It is an initiative from Ministry of Information and Broadcasting, Government of India. It is an emerging concept to disseminate the content through mobile phones.

National Digital Library of India (NDL India) pilot project—This is intended to develop a framework of virtual repository of learning resources with a single-window search facility. Learners can find out the right resource with least effort and in minimum time in any language for all academic levels. This is open education resource.

Government Initiatives

Ministry of Human Resource Development Ever since

- UGC-Country wide class Room 1984
- DD Gyan Darshan 2003
- Gyan vani 2000
- Edusat 2004
- National Mission Education through Information, Communication and Technology (NMEICT) 2009
- e-Gyan kosh, shakshat Portal – A digital Repository
- National Knowledge Network (NKN)
- National Programme on Technology Enabled Learning (NPTL) 2014.
- The National Policy on Education (NPE) in 1992, emphasized the use of educational technology to improve the quality of education.
- The Tenth Plan provided further impetus to use of ICTs in education in the 21st century. It emphasized knowledge and use of new information and communication technology for ensuring quality in teaching and research.
- Eleventh Five-Year National Knowledge Network (NKN), a national ICT initiative, was launched based on the recommendations of the National Knowledge Commission (NKC).

- National Mission on Education through ICTs (NMEICT) was launched by the MHRD to leverage ICTs to provide quality, personalized, interactive knowledge modules over the Internet/intranet to all learners in higher education institutions, any time anywhere (Kelly, 2010).
- The primary objective of All India Radio and Doordarshan is to promote Agriculture and Education.
- In 1961, the Delhi School Television Project was initiated in about 150 higher secondary schools of Delhi.
- Training and Development Communication Channel TDCC (1993)
- e-gyan Khosh
- Pan-African e-network project
- Bulk Short Message/email Service (SMS)
- Interactive Radio counselling
- Television
- One way video two way Audio in GD2
- Two way video,Audio EDUSAT
- SWAYAM
- SWAYAM PRABHA – DTH TV Channels
- Gyan Vani: A dedicated educational network FM Radio Stations, a collaborative initiative by the MHRD, IGNOU, NCERT,NGOs, state open universities and other educational institutions.
- **DD Gyan Darshan**
 - *GD-1* is a 24-hour exclusive educational TV channel which telecasts educational programmes for target audience of different age groups. Programmes of NCERT/CIET, IGNOU, NIOS, DST. After a brief lull, this was revived and revamped recently. The following are yet to see the light of the day.
 - ❖ *GD-2* TV Channel is an interactive channel used for tele-counselling, tele-training and tele-convocation purpose.
 - ❖ *GD-3*, TV Channel known as Eklavya Channel, is exclusively devoted to technology education for the benefit of students of IITs and other engineering colleges in India.
 - ❖ *GD-4* Vyas is co-ordinated by Consortium for Educational Communication (CEC), University Grants Commission (UGC).

Current Status: An Assessment and Evaluation

India is on the threshold of digital revolution with new 500 million users of internet technologies apart from the present 370 million internet users. This indicates India's enormous potential as a huge market for blended learning.. According to KPMG Report 2018, the Indian online education industry will register a 6X growth in 2021. From 1.6 million users in 2016, it will grow to 9.6 million users by 2021. It will also be worth \$1.96 billion. Online learning has been directly contributing to an increase in the Gross Enrolment Ratio (GER) duly complementing the traditional learning methods. The present trend across the world is that there is a substantial increase in the revenues from elearning market. It is forecast that the revenues from elearning market to surpass 243 billion US dollars by 2022.

Blended learning promotes skill-based learning and creates job-ready people for the industries.

There are some premier institutions such as Vellore Institute of Technology (VIT), where hi-tech learning has been a way of life. Teachers use latest gadgets like smartboards to write notes which can be seamlessly assessed by students through the cloud on their tablets in real time. It is regular practice that they save the notes, watch video and presentations on the topic and even have a synchronous life discussion with the faculty online, supplementing the discussions in the class. In other words, the classroom experience is enriched and teaching method is supplementing with digital models.

When compared to advanced countries such as US, it is to be admitted that the student interaction in India is at lower pace. There are many bottlenecks such as poor quality of content, presentation, production values, internet connectivity speed and mismatch of the technology in the receiving end apart from the paucity of competent faculty. But those who are leveraging the technology are really reaping the benefits.

Students are encouraged to prepare for competitive exams with the help of technology solutions. The use of digital platforms is on the rise. Tests are given on line and the parents are connected through an app which provides data on the performance progress of the child. Online assessment is made easy with the help of National Testing Agency. Solutions are provided for smaller cities where internet speeds are slow and erratic through innovative web based tablet meant for school students. The courses and notes are given in an SD card (as downloading them takes too much time), but exams and discussions with the mentor can take place through a web-based app. Even the school education in some select cases is found to be offered through the Internet.

The blended learning technologies support the students across the world with the lessons from the best teachers with the exact same high quality, but also personalises the way students learn. Today blended technology provides an incredible technology platform that can deliver personalised learning outcomes in a way which is truly scalable

There are cases where the contemporary technologies such as Virtual reality (VR), artificial intelligence, Internet of things (IoT) are extensively integrated into the education platform to help the learner the personalised mock tests to prepare competitive exams.

There has been limited supply of skilled professionals who can handle and generate self-learning material (SLM) integrating graphics, animations and sound effects.

There are cases where a quality of video content generated but not made available to users in large numbers with proper indexing. Learners stop with learning but do not participate in developing video content on their own gadgets, fail to participate in life interactive sessions. Social media is more seen as platform for entertainment and infotainment. For education purpose it is used to a limited extent.

Recommendations

- It Is recommended to use graphics, animations and sound effects to portray the life situations for more comprehensive understanding the subject being discussed in the video lessons.
- The edited video lessons have to be digitalised and uploaded as repository on the concerned institution portals with proper indexing.
- Learners are encouraged to develop a video content on their own gadgets and the same may be shared among the peer groups to share their knowledge as part of enhancing teaching learning effectiveness.

- A list of available video content which may be generated with video material may be made available online to enable the learner for better understanding.
- Disseminate the video content through webcasting allows the learners to view via computer smart phone and tab.
- Integrate social media as a part of teaching learning process.
- Encourage collaborate learning through teleconferencing by leveraging 4G/5G technology.
- Increase the frequency of orientation programmes for effective presentation, use of various formats, self-generated video clippings, animations to enhance the production values and to make the presentation more attractive and interesting.

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