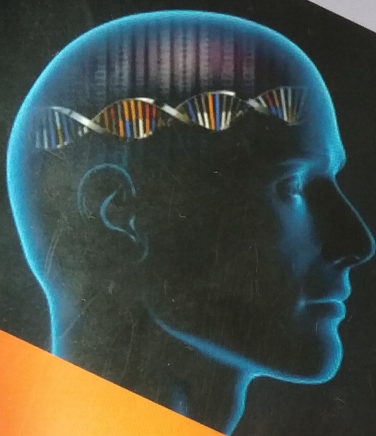


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Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)
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TECHNOLOGY ENHANCED LEARNING IN INDIAN HIGHER EDUCATION

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Abstract:

The progress of the internet and World Wide Web have led to global information dissemination and provided radical changes to global communication and interaction. In addition, such web based communication technologies have enabled changes in the social practice surrounding computer use and influenced choices made at all levels, by academicians, librarians, institutional policy makers and politicians. This paper presents the development of Technology Enhanced Learning in Indian Higher Education. The development of online learning platforms NPTEL, SWAYAM, SWAYAMPRAKHA and e-PG Pathshala is discussed at length with special focus on NPTEL. It has been witnessed that the Technology Enhanced Learning helps in the overall professional development of teaching and learning process and individuals (students and teachers) involved in the programs of Higher education.

Keywords: Higher education, technology enhanced learning, e-learning; quality enhancement
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1. Introduction

The introduction of learning technologies has long been seen as an enabler for educational change, a focus "in and of itself" for capacity building. Technology continues to be presented as a way of enhancing existing modes of course

delivery and new mode, ranging from content-based to open and community-orientated models of learning, which challenge the established roles of the instructor and learner [1]. This transformation is illustrated through the changing language that has been employed to describe learning technologies – from the MHRD's current focus on "flexible learning" in which technologies are employed to help meet the needs of the diverse range of students entering higher education, enabling student choice and a degree of control over the pace, place and mode of course delivery [2-3].

2. Review of literature:

Most has been said about the definitions of e-learning, online learning and distance learning [4-5]. With the advent of the Internet and the intensive use of this medium by users worldwide these definitions drive us to the process of learning as a result of the use of one medium that is, in the majority of the cases, the Internet. But if one concedes that the Internet is an ideal medium to support the learning experience it does not constitute per se an enhancement of the quality of teaching and learning [6-8]. The use of Internet based Information Communication Technologies (ICT) in teaching and learning (TL) strategies can, in most cases, be responsible for: (i) promoting lack of leadership; (ii) enabling difficulties in communicating; (iii) fostering disaggregated

teaching and learning processes and learning strategies [9-10] and (iv) increasing drop-out rates [11], especially when comparing with the more traditional TL strategies.

The first online course of MOOC (Massive Open Online Learning) was the course "Connectivism and Connective Knowledge" organized by George Siemens and Stephen Downes of University of Manitoba, Canada, in August 2008. Approximately 2,300 students signed for this course that was offered for free. The first MOOC to get really massive was the course "Introduction to Artificial Intelligence", offered in fall 2011 by Sebastian Thrun, professor of Stanford University, and Peter Norvig, Director of Research at Google. In May 2012, MIT and Harvard University, originally USA Ivy League rivals, announced their joint project edX, with the goal of develop a non-profit MOOC service provider. NPTEL is an acronym for National Programme on Technology Enhanced Learning. NPTEL as a project originated from many deliberations between IITs, Indian Institutes of Management (IIMs) and Carnegie Mellon University (CMU) during the years 1999-2003.

SWAYAM is the digital platform for distance learning where distinguished faculties offer best quality content for students from school till post-graduation. The courses on SWAYAM are produced and delivered by faculties from AICTE for self-paced courses, NPTEL for engineering, UGC for post-graduation education, CEC for under-graduate education, NCERT for school education, IGNOU for out of the school students and, IIMB for management studies. The courses hosted on SWAYAM are in 4 quadrants: Video lecture, specially prepared reading material that can be downloaded/printed, Self-assessment tests through tests and quizzes, an online discussion forum for clearing the doubts.

The SWAYAM PRABHA is a group of 32 DTH channels. It is devoted to telecasting of high-quality educational programmes on 24X7 basis. This uses the GSAT-15 satellite. Every day, there will be new content for at least 4 hours which would be repeated 5 more times in a day, allowing the students to choose the time of their convenience. The channels are uplinked from BISAG, Gandhinagar. The contents are provided by NPTEL, IITs, UGC, CEC, IGNOU, NCERT.

e-PG Pathshala is an initiative of the MHRD under its National Mission on Education through ICT (NME-ICT) being executed by the UGC. Interactive e-content in 70 subjects across all disciplines of social sciences, arts, fine arts and humanities, natural and mathematical sciences, linguistics and languages have been developed by the subject experts working in Indian universities and other R & D institutes across the country. Every subject had a team of principal investigator, paper coordinators, content writers, content reviewers, Language editors and multimedia team.

NPTEL is one of the largest online repositories of engineering course material and one of the most successful multi-institutional projects in the country.

3. Objectives of the Study:

The main objectives of the present study are -

1. To take overview of present technology enhanced learning platforms.
2. To study the technology enhanced learning in Indian higher education system.
3. To study the growth in student enrolment, SPOC and teachers in technology enhanced learning (NPTEL).

4. Research Methodology:

For the present study secondary data is used. The data is collected from the annual reports

published by the NPTEL, IIT Madras and MHRD, Government of India. The data collected from secondary sources is tabulated and presented graphically.

5. Results and Discussion:

National Programme on Technology Enabled Learning (NPTEL) is one of the largest online repositories of engineering course material and one of the most successful multi-institutional projects in the India. The learner engagement includes watching a video lecture, testing yourself through weekly assignments, discussion through forum and referring the online notes and study material. As mentioned above, the secondary data collected from the annual reports published by the NPTEL, IIT Madras and MHRD, Government of India. In table 1 we present the preliminary the data associated with various NPTEL courses coordinated by IIT Madras and run by seven IIT's and IISc.

Table 1: The data for students enrolled, registered and present for examination under NPTEL courses.

Session	Enrolled	Registered	Present	Courses
Mar-Aug 2014	53807	1380	1182	1
Sep-Nov 2014	58947	1653	1549	2
Jan-June 2015	137016	6346	4557	54
Jul-Nov 2015	160819	7284	6027	36
Jan-Apr 2016	241691	17345	15310	64
Jul-Oct 2016	389893	31426	26820	104
Jan-Apr 2017	539132	44099	38405	130
Jul-Oct 2017	1040338	70427	63390	159
Jan-Apr 2018	934156	86942	76125	226

From above table it is clear that the number of courses offered under NPTEL is increasing, along with the number of students registering and appearing for examination. Currently around 1500 courses are offered by

NPTEL in different sessions and of different week (4/8/12 week) durations. The average attendance for NPTEL online examinations is around 85%, which is a good number. The passing percentage for various courses is around 82%.

Till now more than 36 lakh students have registered for NPTEL courses, the reasons behind this are facility to transfer credit via college, exploring new domain of knowledge, campus recruitment, GATE preparation, helpful in exploring the current job, and sometimes mandated by college. The gender wise analysis indicates male: female ratio 60:40.

The general observations about NPTEL courses are tabulated in following Table 2.

Sr. No.	Criteria	Observations
1	Enhancement of academic success	Academic success is explicitly expressed and is directly linked to the use of TEL
2	Enhancement of motivation	Teacher and students are more willing to pursue with their roles
3	Enhancement of participation	Students participate more in the teaching and learning process
4	Existence of entrepreneurial competences	Both teacher and students embrace innovations and new trends
5	Existence of scientific competences	The teacher has scientific competences related with the taught subject
6	Existence of self-regulation competences	The students have self-regulation competences
7	Communicative competences of learners	Improved
8	Technological competences	Improved
9	Institutional recognition	The institution values the teacher and students work

6. Conclusion

Technology Enhanced Learning offer courses and not degree programs and is some sort of combination of distance learning and e-learning. These are incredible tools for skill development and knowledge obtainment.

Technology Enhanced Learning helps in the overall professional development of teaching and learning process and individuals (students and teachers) involved in the programs of Higher education. It can be infused in the learning process so as to acquire the knowledge and skill efficiently. Technology Enhanced Learning provides access to resources so that teachers can apply new knowledge and skills they have learnt. Technology Enhanced Learning helps to develop and strengthen the capacity of the student at the same time. The capacity building of teachers in the utilization of Technology Enhanced Learning for education requires long term continuous development through training and sharing of knowledge among the teachers, and support from principals and administrators. In the coming era of digitalization the scope of Technology Enhanced Learning will increase even more and will be beneficial for students, professionals and also institutions.

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