Webology (ISSN: 1735-188X)
Volume 17, Number 1, 2020

Online Learning With Special Reference To Swayam: An Overview

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ABSTRACT
India is a distinct emerging nation with a large population, a diverse geography, and a rich cultural heritage. It also has its own set of educational difficulties. The biggest obstacle to delivering equitable and high-quality education throughout the nation is India. The Indian government has made steps to ensure that those living in rural and economically disadvantaged areas have access to high-quality education. This research describes the function that Swayam MOOCs play in the digital and distance learning systems in India, how technology has transformed the face of distance learning over time, and how useful and relevant these courses may be for those who learn remotely. This presentation goes on to discuss the characteristics and development of the SWAYAM portal, as well as the availability of MOOCs in India and at other universities.

KEYWORD : Swayam, And Moocs, E-Pg Pathshala, Quadrants Of Sayam
Swayam –Coordinators, Swayam Prabha, E-Shodhsindhu, Mookit

1. INTRODUCTION

One of the main focuses of the Indian government's "Digital India" initiative is "Massive Online Open Courses (MOOCs)". "Study Webs of Active Learning for Young Aspiring Minds" (SWAYAM), a major initiative by the Ministry of Human Resource Development, Government of India, aims to provide an integrated platform and portal for online courses covering all courses in higher education, high school, and the skill sector. An Indian-made IT platform called SWAYAM is used to offer Massive Open Online Courses, or MOOCs.

When the National Programme on Technology Enhanced Learning (NPTEL), a collaborative initiative of IITs and IISc, was launched in 2003, SWAYAM's journey officially began. In the fields of engineering, science, and the humanities, this was the nation's first significant attempt at e-learning using online web and video courses. Expanding its reach to include all disciplines within the higher education sector, the National Mission on Education via ICT (NMEICT) was established in February 2009.

A significant quantity of e-content has been produced thus far under the NMEICT and is accessible under the CCBY-SA license. 933 courses, 67 undergraduate subjects from the Consortium of Educational Communication (CEC), and 77 postgraduate subjects from the University Grants Commission (UGC) include e-content generated by NPTEL. In a similar vein, several other universities have produced e-content at varying levels across a variety of fields. All of the

NMEICT-developed content is being repurposed and made MOOCs compatible as part of the SWAYAM program. On August 15, 2016, SWAYAM's beta version went online. This article offers an overview of the SWAYAM program and considers the obstacles and problems that arise when implementing it in the Indian setting.

2. SCOPE OF SWAYAM

1) Curriculum-based course materials spanning a wide range of subjects in the higher education sector, including the arts, sciences, business, performing arts, social sciences and humanities, engineering, technology, law, medicine, and agriculture (all courses should be certification-ready).

2) Modules for school education (9–12 levels); for the training of teachers; and for the purpose of providing teaching and learning aids to students in order to improve their comprehension of the material and to better equip them for competitive exams required for entrance to professional degree programs.

3) courses that focus on skills; they include industry skills accredited by sector skill councils of several Ministries, as well as post-higher secondary school skills now taught at polytechnics.

4) The Choice Based Credit System (CBCS), which is presently being implemented at the undergraduate level in India, may be customized to satisfy the demands of advanced curricula and professional certification under a single system in the higher education sector.

5) Courses and curricula that can accommodate lifelong learners' demands.

6) Courses that are taught independently, outside of a predetermined curriculum, and intended to develop certain skill sets or serve as awareness courses or continuing education programs.

3. JOURNEY OF SWAYAM

ICT-enabled education is quickly altering the landscape of higher education by drawing students of all ages and offering chances for training and learning at the perfect moment. It has the capacity to enhance student enrollment, reduce institutional or organizational expenditures, and overcome limitations posed by time and physical distance.

The Ministry of Human Resource Development (MHRD) launched the National Mission on Education through ICT (NMEICT) in 2009 as a centrally sponsored scheme to harness the potential of ICT in the teaching and learning process. This initiative was considered a major intervention in improving the Gross Enrollment Ratio (GER) in Higher Education. The historic NMEICT program aims to meet all of the demands that students, educators, and lifelong learners have in relation to education and learning.

The three pillars of Education Policy—access, equity, and quality—should be well-served by NMEICT through the provision of free high-quality e-content, low-cost access-to-computer devices for educators and students, and connectivity to all colleges and universities.The Mission offers all Indian educators and specialists a chance to pool their collective knowledge for the good of all Indian students, closing the digital divide and reaching out to previously underserved populations in rural and impoverished corners of the nation.

Several organizations and colleges have created a great deal of e-content under NMEICT. NPTEL is a mission-funded collaborative effort between IITs and IISc that offers online courses in science, engineering, and the humanities using web and video formats. Currently in its second phase of development, the initiative is producing over 990 courses across 23 engineering and science fields.

Under the moniker e-PG Pathsala, CEC has taken up big initiatives for e-content development in 68 disciplines for UG level courses while UGC has taken up substantial activities for PG level courses in 77 subjects. In addition, a large number of other universities are producing e-content in specialized fields. The ultimate objective is to provide curriculum-based, interactive material of the highest caliber for every topic and make it available on an integrated platform for the use of colleges, universities, and the global academic community. For the benefit of the nation's educators and learners, all of these courses are made accessible as Open Educational Resources (OER) under the Creative Commons CC-BY-SA license.

A collaborative effort including twelve partner institutes nationwide, led by IIT Delhi, has created over one hundred Virtual Labs to supplement the NPTEL e-Content. The India MOOCs appear to be the answer to closing the gap between the vastly different educational facilities available in different parts of the country and the just-in-time delivery of high-quality educational resources and teachers to students regardless of their social, economic, or educational status.

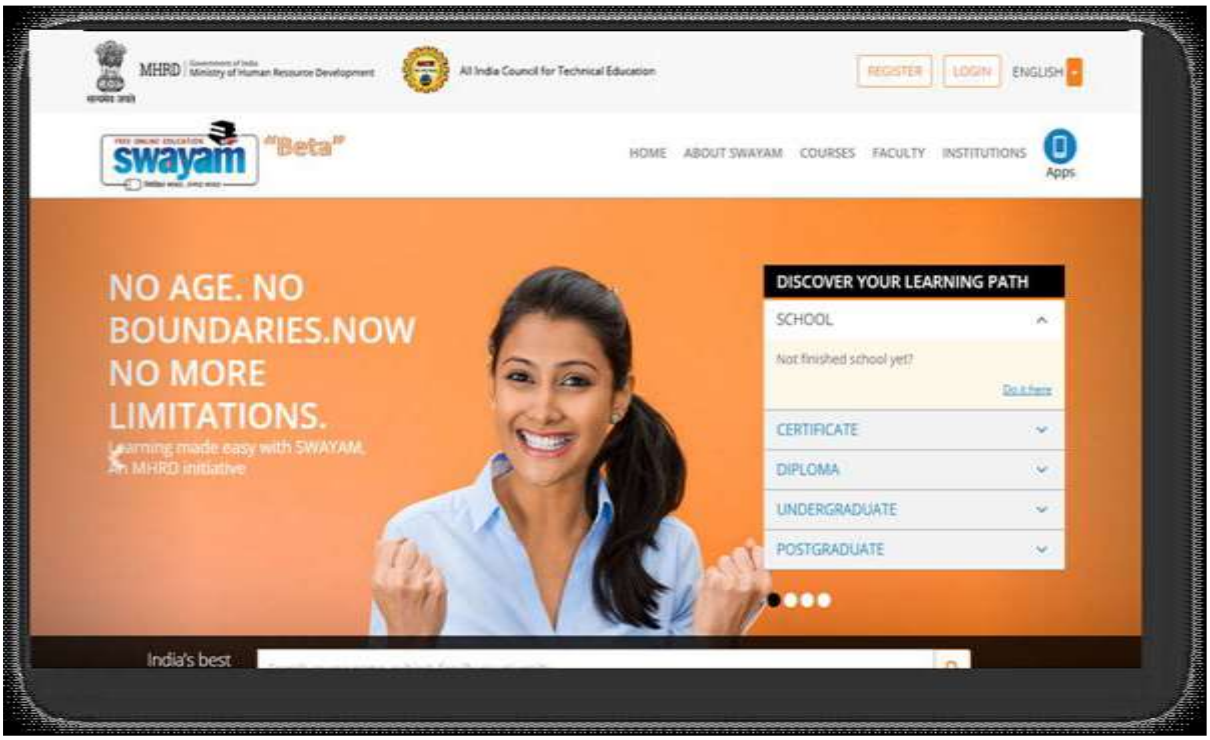
In the middle of 2013, NMEICT began to sponsor some efforts after realizing how urgently MOOCs were needed. IIT Madras used the Course Builder platform to provide three MOOCs in March 2014. The NPTEL Online Course Portal now offers over 157 different courses. Over 25,000 people have registered for various courses at times. In addition to offering courses, IIT Madras collaborated with TCS and NASSCOM to provide proctored exams. The certificates were not free, but the courses were.

IIT Kanpur created mooKIT, a MOOC management system, an in-house platform built on open source software. Specifically designed for underdeveloped countries, mooKIT was created by IIT Kanpur in partnership with Commonwealth of Learning (COL) and has already been implemented in 12 courses both domestically and internationally. At IIT Kanpur, mooKIT is also being used to provide blended learning courses, or flipped classrooms.

IIT Bombay started working on worldwide course offerings from July to December 2013, as well as implementing the platform for their blended MOOCs and T10KT (Ten Thousand Teacher Training) initiative. IIT Bombay thereafter released six MOOCs on the edX Platform.MHRD directed IIT Bombay to work on the platform development utilizing monies available from other projects that have already been sanctioned and are underway, keeping in mind the urgent need to roll out MOOCs countrywide. SWAYAM (Smart Webs of Active Learning for Young Aspiring Minds), which was discovered through a student competition, was suggested by IIT Bombay.
Later on, Study Webs of Active Learning for Young Aspiring Minds replaced this. IIT Bombay started working on developing a SWAYAM version based on opened X and training instructors to create and manage MOOCs on the Ministry's recommendation. Beginning in 2015, the government recognized the urgent need to develop a single platform that would combine various MOOCs provided by the nation's higher education institutions. By combining subject matter experts and

educational resources, this platform would enable a large number of students who would not otherwise have access to higher education to participate. The ministry issued a worldwide tender with the goal of creating an indigenous platform for SWAYAM (India MOOCs).

All India Council for Technical Education (AICTE) was ultimately given the responsibility by the Ministry after many rounds of procurement failed to produce a suitable bidder. On August 15, 2016, AICTE, Microsoft, and its software partner WizIQ created and launched the site's beta edition. [11] This was completed in a record-breaking four months. It is anticipated that 2000 courses and 80000 hours of learning—covering undergraduate, graduate, professional, engineering, legal, and other professional courses—will be available on the locally created SWAYAM platform.



SWAYAM Main Page (https://swayam.gov.in/Home)

4. THE IMPORTANT TASKS OF SWAYAM

4.1 Despite this, the Digital India initiative is expanding in a number of areas, most notably the academic digital revolution. This project's primary characteristics are as follows:

i) One-stop interactive online and mobile content for all courses, from high school to university level.

ii) Excellent multimedia-based learning opportunities available whenever and wherever needed.
iii) Cutting edge technology that makes certification, monitoring, and access simple.
iv) Interaction among peers and a place for debate to allay concerns
v) A hybrid delivery model that raises the standard of instruction in the classroom.

4.2 Elements for the overall SWAYAM courses are expected to include:

1) Syllabus Template (which includes objectives for participation, certification, and faculty communication, as well as netiquette norms, academic integrity, and a course description with important learning outcomes and faculty biographies).
2) A course summary to get you started: What is the subject matter of the course? What is covered in the course? What will the course teach me? How can I utilize the features of the course?
3) A course schedule that includes weekly specific plans for organizing instructional activities
4) A list of announcements that serves as a reminder for upcoming deadlines and course changes.
5) Guidelines for both synchronous and asynchronous activities (questions to be answered in the Discussion Forum, assignments to be completed, and how to communicate with teachers and TAs (eTutors))

4.3 Four quadrants of SWAYAM are described in following below table.

Table 1: Four Quadrants of SWAYAM

SWAYAM (Quadrants)	Quadrant I: e-Tutorial: video lectures with the use of animation, multi-media, and audio-video.
	Quadrant-II: e-Text: Downloadable, specially prepared reading materials (text, PDF, e-books, presentations, associated links, research papers, and articles with illustrations).
	Quadrant –III: Discussion forum: Set up by the course coordinator or his/her team to address questions and provide clarification.
	Quadrant –IV: Self-Evaluation Exams It includes multiple choice questions, fill in the blanks, matching questions, short and long questions, quizzes, assignments and their answers, frequently asked questions (FAQs), and explanations for common misconceptions on a variety of subjects.

Table 2: Nine Coordinators involved in SWAYAM

SWAYAM Coordinators					
SCHOOL EDUCATION	**OUT-OF-SCHOOL EDUCATION**	**UNDER-GRADUATE EDUCATION**	**POST-GRADUATE EDUCATION**	**TEACHER TRAINING PROGRAMME**	**SELF-PACED**
(I) National Institute of Open Schooling **(II)** National	**(III)** Indira Gandhi National Open University (IGNOU)	**(IV)** Engineering education (National Programme on Technology Enhanced	**(IV)** Engineering education (National Programme on Technology Enhanced	**(VIII)** NITTTR (National Institute of Technical Teachers Training and Research)	**(IX)** AICTE (All India Council for

Council of Educational Research and Training		Learning) **(V)** Management education (Indian Institute of Management, Bangalore) **(VI)** Consortium for Educational Communication	Learning) **(V)** Management education (Indian Institute of Management, Bangalore) **(VII)** University Grants Commission (UGC)		Technical Education)

4.4 SWAYAM Android Mobile App/Google Play/IOS

SWAYAM is accessible via the Android Mobile App, Google Play, or iOS (iPhone Operating System). Anyone interested in pursuing education through MOOCs can download the app and register as a learner or student for any course beginning in standard 9th grade and continuing through post-graduation (All India Council for Technical Education, 2017).

4.5 SWAYAM: Study Webs of Learning for Young Minds

SWAYAM is a native IT Massive Open Online Course (MOOC) platform that offers top-notch instruction that anybody may access via the internet at any time. The ALL India Council for Technical Education (AICTE) and the Ministry of Human Resources Development (MHRD) are working with Microsoft to build the SWAYAM Platform. It offers 80000 hours of learning and about 2000 courses. Schools, recent graduates, postgraduates, engineers, lawyers, and other professional courses are covered. The greatest faculty members create all of the interactive courses, which are offered at no cost to Indian students.

SWAYAM PRABHA

SWAYAM PRABHA is a collection of 34 DTH channels that use the GSAT-15 satellite to stream premium educational content around the clock. Every day, students will have access to fresh information for at least four hours, which will be replayed five more times during the day, letting them select the time that works best for them. The channels have an uplink from Gandhinagar's BISAG. The NPTEL, IITs, UGC, CEC, IGNOU, NCERT, and NIOS are the providers of the contents. The website is maintained by the INFLIBNET Center.

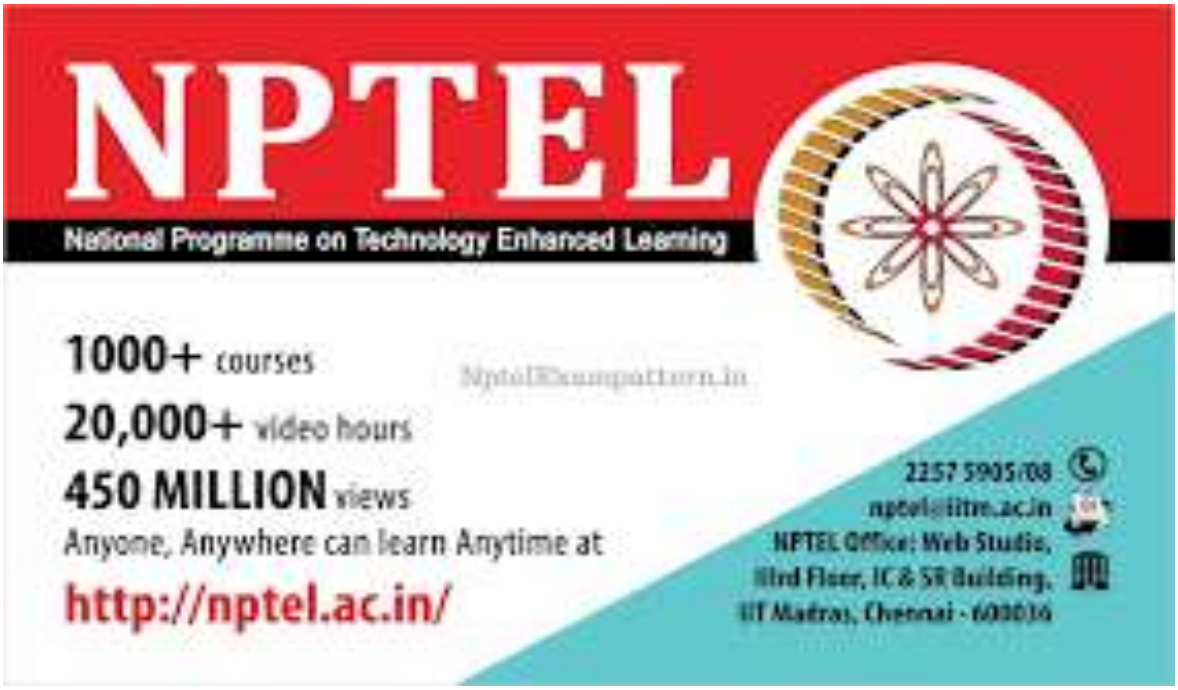
4.6 E-PG Pathshala

E-PG Pathshala is run by the UGC and was started by the MHRD as part of its national mission on education via ICT (NME-ICT).High-quality, curriculum-based, interactive e-content is offered in 70 courses including the social sciences, arts, fine arts and humanities, natural and mathematical sciences, linguistics, and languages. It is the essential part of the educational system. Experts in the field who operate at Indian universities and other research and development centers throughout the nation have created the e-content. Every subject has a team consisting of a primary investigator, organizers of papers, writers and reviewers of material, language editors, and a multimedia team.

4.7 E-ShodhSindhu

The MHRD created e-Shodh Sindhu by combining three consortium initiatives—the NLIST, the INDEST-AICTE Consortium, and the UGC-INFONET Digital Library Consortium—on the advice of an Expert Committee.More than 15,000 core, peer-reviewed journals, as well as a variety of bibliographic, citation, and factual databases across several disciplines from numerous publishers and aggregators, will remain accessible to members of the e-ShodhSindhu, including centrally funded technical institutions, universities, and colleges covered by Sections 12(B) and 2(f) of the UGC Act.

NPTEL (NATIOANL PROGRAMME ON TECHNOLOGY ENHENCED LEARNING)



In 2003, the Indian Institute of Science, Bangalore, and seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati, and Roorkee) launched the National Programme on Technology Enhanced Learning (NPTEL). In this phase, 235 web/video courses covering five basic disciplines—civil engineering, computer science and engineering, electrical engineering, electronics and communication engineering, and mechanical engineering—were produced.NPTEL Phase II (2009–14) aimed to expand on the engineering and core science courses that had been introduced in NPTEL Phase I. In all major engineering fields, 600 more web and video courses were developed, along with undergraduate and graduate-level physical science courses and postgraduate management courses.

4.8 mooKIT

A MOOC management system is called MooKIT. Since 2012, it has been entirely developed by the Department of Computer Science at IIT Kanpur.It gives the students cutting edge technology and features that are best in class. Working with mooKIT, which was created for internet newcomers, is comfortable for educators, students, and system administrators. Online courses may be offered using it at any size, from little to large.

5. Advantages of SWAYAM

The points below discuss some benefits that Indian learners might expect when utilizing SWAYAM.

5.1. SWAYAM is completely free to use for studying for any Indian student, however there are certain expenses if they need a certificate.

5.2 In addition to formal education in India, SWAYAM is a new forum for Indian learners.

5.3 Students attending Indian universities and other institutions are unable to find qualified instructors, but SWAYAM provides a platform that allows students to quickly connect with the greatest instructors, including those at IITs and IIMs.

5.4 The classes would be linked to the initiative called Skill India.

5.5This is an excellent platform since anybody can sign up and learn using SWAYAM, meaning that everyone has access to opportunities.

5.6 The Indian government would make every effort to ensure that everyone has access to high-quality education at the lowest possible cost.

6. CHALLENGES OF SWAYAM

While the site's beta version is now operational and has over 200 courses, the real course delivery is anticipated to begin in January 2017, coinciding with the start of the new academic year, in order to maintain alignment with the formal educational system. The true obstacles can be identified after the course delivery process has commenced. On the other hand, the government must provide a workable answer for those concerns that require rapid attention. The following problems must be resolved right away:

I. The government still has to develop a policy for accepting additional forms of evaluation in addition to the online test. Only pen and paper based proctored tests are scheduled for the early rounds. It will be challenging to implement the online test and other evaluation schemes unless the policy is in place.

II. The identity of the person who would certify the MOOCs course is still unclear. Will the certification be handled centrally by an organization or by the institution offering the course? The credit transfer equivalency system must be established if institutions are certifying.

III. To enable credit transfer, it would be crucial to confirm that a procedure for accrediting credits obtained through SWAYAM is in existence.

IV. If the requirements of the degree program are met, it is unclear at this time if a student might gain credits from MOOCs and combine credits from several schools to obtain a degree (Meta University notion). According to the UGC announcement, schools make the decision on which courses to consider for credit transfer rather than offering students a choice.

V. Enrollment will be extremely limited unless and until courses are made accessible in the regional languages. It is suggested that there be at least bilingual material in Hindi and English during the initial launch period. They will soon be translated into more regional languages.

VI. Since Internet access is still scarce in India's rural areas, the SWAYAM courses may only be available to a limited number of people. Delivery via mobile apps is being explored as a potential substitute to increase the reach. Subsidized data fees by the government would be very helpful in advancing SWAYAM. MHRD is currently investigating the options for the required assistance.

VII. Getting the faculty ready to teach MOOCs will be a huge task that calls for extensive capacity-building initiatives. Educating and retraining teachers in course delivery and content creation will be among the primary areas the government must concentrate on to ensure SWAYAM I's success.

7. CONCLUSION

SWAYAM is viewed as a tool for self-actualization that offers chances for lifelong learning. Anyone may sign up and learn at any time using the digital platform SWAYAM. It's a very economical method of education. Students from underprivileged backgrounds or those living in rural areas who do not receive high-quality instruction will particularly benefit from it. However, the low economic status of many Indian communities remains an issue today.

Due to their poorer financial situation, individuals are unable to purchase digital devices such as computers and smart phones. In my opinion, learners or students would profit more from the inclusion of digital equipment like computers in all Indian schools, colleges, and universities as they will receive higher-quality instruction from the top establishments. While writing this review, I saw that the Government of India launched a really good project called SWAYAM for learning, which would prove to be more useful for the next generation. The answer to today's problem of distant learning via platforms similar to SWAYAM in India is MOOCs.

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