

# An Analysis of Online Courses: With Special Reference to SWAYAM

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**Abstract** - This paper examines the online courses of SWAYAM (Study Webs of Active – Learning for Young Aspiring Minds programme) project which is developed by MHRD, Government of India to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The data were collected from SWAYAM website (<https://swayam.gov.in>) for this study during Sep-2018 and further analyzed by top ten major subjects, learning path, top five Institutions and top five faculty members. It is found that total 1556 online courses has contributed by 15 major subjects and further it is found that in major subject category of Engineering has contributed 935 online courses and Architecture & Planning has contributed 2 online courses.

**Keywords:** SWAYAM, MHRD, Architecture and Planning

## I. INTRODUCTION

In the present era of gray revolution, teacher's role is highly challenging to make their students meet global demands. Instructional practices and instructional strategies vary based on the need of the learners. Technology can be imperative for individualized instruction in order to bridge the gaps between teaching and learning.

## II. REVIEW OF LITERATURE

Jeyapragash, B., Rajkumar, T, and Muthuraj, A. (2017). This paper examines the e-content modules of e-PG Pathshala project which is developed by MHRD Government of India under the National Mission on Education through ICT. The data were collected from e-PG Pathshala website (<http://epgp.inflibnet.ac.in/>) for this study during May 2017 and further analyzed by major subjects and sub categories of major subjects. It is found that total 15416 modules has contributed by 6 major subjects and further it found that in major subject category the Social Sciences has contributed 5917 Modules and Medical and Health Sciences contributed only 483 modules. It is suggested that the Medical and Health Science experts should come forward to contribute more e-content modules for the benefit of medical and health science students and research scholars.

Amutha (2016) In the present era of gray revolution, teachers' role is highly challenging to make their students meet global demands. Instructional practices and instructional strategies vary based on the need of the learners. Technology can be imperative for individualized

instruction in order to bridge the gap between teaching and learning. Contribution of science is instrumental for the economic growth and social transformation. The Kothari commission report asserts that if science is poorly taught and badly learnt, it is a little more than burdening the mind with dead information. It could even degenerate into new superstitions. In India, science teaching needs overhauling. To understand the real concept of science, classical face-to-face teaching methods may have to be supplemented by innovative methods.

Developing e-content is emerging to be an innovative method which could help the learners visualize the content so as to make them be creative and productive learners. The e-contents are developed with the integration of multimedia components such as text, audio, video, animation and image which are set to ensure better understanding of science by the students. In that way, e-content on cloning was developed for finding its impact on learners. 60 final year undergraduate Botany students from both genders were taken as a sample. Results revealed that e- content has its positive impact on science learning among students irrespective of gender.

Ueda and Nakamura (2016) aimed to improve security awareness education by developing more robust e-learning services that can maintain itself in the busy period including the beginning of new semesters. This paper focuses on the improvement of e-learning services on SWAYAM with limited system resources. The study obtained effective operational findings for developing robust e-learning services, particularly for SWAYAM. Therefore, robust e-learning services with SWAYAM can be obtained even with limited resources. Additional research is being conducted to analyze learning records and system logs to improve the contents according to the assumption that the best method to improve e-learning is by considering learner's behaviour.

Arkorful and Abaidoo (2015) investigated the effectiveness of using e-learning in teaching in tertiary institutions. It unveils some views that people and institutions have shared globally on the adoption and integration of e - learning technologies in education through surveys and other observations. It looks at the meaning or definitions of e-learning as given by different researchers and the role those e-learning plays in higher educational institutions in relation

to teaching and learning processes, and the advantages and disadvantages of its adoption and implementation.

Kovacova and Vackova (2015) provided assessment of the significance of the e-learning implementation, as one of the most modern methods of teaching, using information technology in security education. The implementation is based on the main idea of e-learning, it means, that it is necessary to provide free and unrestricted access for students towards their education.

If we want the society to take advantage of security education as an intensive factor of economic and social growth, it is important to know the manner of applying such methods, forms and means, the intensity and the circumstances necessary to impact on the learners, in order to achieve the final efficiency of education.

### III. OBJECTIVES OF THE STUDY

The major objectives of the study are

1. To find out the contributions of online courses by top ten subject wise in SWAYAM.
2. To identify the online courses by language, learning path, top five institutions and top five faculty members were contributed in SWAYAM.

### IV. RESEARCH METHODOLOGY

The data for the study were collected from SWAYAM website (<https://swayam.gov.in>) during Sep 2018. There are about 1556 online courses available in the SWAYAM digital platform. Further, this study analysed to find out the contributions of online courses by top ten subjects, language, learning path, top five institutions and top five faculty members and also analysed the course rating by top five major subjects by using simple calculation and ranking method.

### V. DATA ANALYSIS

#### A. Online Courses Contributions by Top Ten Subject

The contributions made by top ten subjects in the SWAYAM were analyzed the same is given in Table I.

It is found from Table I that the “Engineering” subject has contributed highest number of 935 (65.00%) online courses in SWAYAM and placed in first rank among other major subject disciplines.

It is followed by “Science” subject has 145 (10.00%), “Humanities” 103 (7.10%) and “Education” and “Management” contributed 53 (3.60%) online courses and occupied two, three and fourth ranks. It is also indicated that the “General” subject has 35 (2.40%) online courses and placed in six rank respectively in SWAYAM.

TABLE I ONLINE COURSE CONTRIBUTIONS BY TOP TEN SUBJECTS

S. No.	Subjects	No. of Online Courses	%	Rank
1	Engineering	935	65.00%	1
2	Science	145	10.00%	2
3	Humanities	103	7.10%	3
4	Education	53	3.60%	4
5	Management	53	3.60%	4
6	General	35	2.40%	6
7	Language	26	1.80%	7
8	Library and Information	25	1.70%	8
9	Mathematics	20	1.30%	9
10	Commerce	18	1.20%	10
	Total	1556	100	

#### B. Online Course Contributions by Language

The contributions made by language in the SWAYAM were analyzed the same is given in Table II.

TABLE II ONLINE COURSE CONTRIBUTIONS BY LANGUAGES

S. No.	Languages	No. of Online Courses	%
1	English	1532	98.40%
2	Hindi	23	1.40%
3	Bengali	1	0.06%
	Total	1556	100

Table II indicates that the contributions of online courses by Language wise in SWAYAM. It is found that the good number of 1532 (98.40%) online courses available in “English” language and placed in first position in SWAYAM. It is followed by the language of "Hindi" has 123 (1.40%) online courses and occupied second rank. It is inferred that the less number (0.06%) of online course contributed in "Bengali" language.

#### C. Online course Contributions by Learning Path wise

The contributions made by learning path in the SWAYAM were analyzed the same is given in Table III.

TABLE III ONLINE COURSE CONTRIBUTIONS BY LEARNING PATHS

S. No.	Learning Path	No. of Online Courses	%	Rank
1	Undergraduate	964	62.00%	1
2	Postgraduate	361	23.20%	2
3	School	110	7.00%	3
4	Certificate	81	5.20%	4
5	Diploma	38	2.40%	5
		1554	100	

Table III explained that the contributions of learning path. It shows that Undergraduate learning path has contributed more number of 964 (62.00%) online courses in SWAYAM. It is followed by "Postgraduate" learning path has 361 (23.20%), "School" 110 (7.00%), "Certificate" 81 (5.20%) and "Diploma" learning path has 38 (2.40%) online courses in SWAYAM portal respectively.

**D. Contributions of Online Courses by Top Five Institutions**

The contributions made by top five institutions in the SWAYAM were analyzed and the same is given in Table IV. It is found from Table IV that the Contributions of online courses by Institutions wise. It shows that the "IIT Madras" has contributed more number of 240 (28.20%) online courses and placed in first rank among other institutions in SWAYAM. It is further found that "IIT Kharagpur" has contributed 213 (25.00%) online courses and occupied second rank. It is also indicated that "IIT Bombay" has 150 (17.60%) , "IIT Kanpur" 150 (16.60%), "IIT Roorkee" 106 (12.40%) online courses and placed in third, fourth, fifth ranks respectively.

TABLE IV ONLINE COURSE CONTRIBUTIONS BY INSTITUTIONS

S. No.	Institutions	No. of Online Courses	%	Rank
1	IIT Madras	240	28.20%	1
2	IIT Kaharagpur	213	25.00%	2
3	IIT Bombay	150	17.60%	3
4	IIT Kanpur	142	16.60%	4
5	IIT Roorkee	106	12.40%	5
	Total	851	100	

**E. Contributions of online courses by Top Five Faculty wise**

The contributions made by top five faculty members in the SWAYAM were analyzed the same is given in Table V.

TABLE V ONLINE COURSE CONTRIBUTIONS BY TOP FIVE FACULTY WISE

S. No.	Faculties	No. of Online Courses	%	Rank
1	Kannan Moudgalya	101	71.10%	1
2	Jaswinder Singh	14	9.80%	2
3	Vimal Rarh	10	7.00%	3
4	Aysha Iqbal	9	6.30%	4
5	Anuradha Mathur	8	5.60%	5
	Total	142	100	

Table V describes that the contributions of online courses by top five faculty wise in SWAYAM. It is found that "Kannan Moudgalya" has contributed highest number of 101 (71.12%) online courses among other faculty members in SWAYAM. It is followed by "Jaswinder Singh" 14 (9.8%) "Vimal Rarh" 10 (7.0%) "Aysha Iqbal" 9 (6.3%) and "Anuradha Mathur" 8 (5.6%) placed second, third, fourth and fifth place respectively.

**F. Online Course Credits**

The study further analyzed the contributions of online courses by course credit rating with its four categories that is "4 stars & above", "3-3.9 stars", "2-2.9 stars" and "0-1.9 stars" in SWAYAM.

Table VI classified that the contributions of online courses by rating wise. The rating is given by end users in SWAYAM. It is found that the end users gives the "4 stars & above" course credit point in 193 (75.3%) online courses in SWAYAM. It is followed by "3 stars-3.9 stars" 29 (11.3%) "2 stars - 2.9 stars" 2 (0.7%) and "0 stars - 1.9 stars" 32 (12.5%) placed second, third and fourth place respectively.

TABLE VI ONLINE COURSE CONTRIBUTIONS BY COURSE CREDITS

S. No	Course Credits	No. of Online Courses	%	Rank
1	4 stars & above	193	75.30%	1
2	3 stars -3.9	29	11.30%	2
3	2 stars - 2.9	2	0.70%	3
4	0 stars - 1.9	32	12.50%	4
	Total	256	100	

**G. Subject wise Credit rating**

Table VII shows that the contributions of online course credit rating 0-5 points scale by major subject wise in SWAYAM. The rating has been ranked as 4 stars, 3 stars, 2 stars and 1 star.

TABLE VII ONLINE COURSE CONTRIBUTIONS BY COURSE RATING

S. No.	Subjects	No. of videos	Credit Rating			
			4 Stars	3 Stars	2 Stars	1 Star
1	Science	57	41	13	-	3
2	Education	40	27	4	-	9
3	Management	31	28	2	-	1
4	Humanities	28	22	2	1	3
5	Library and Information Science	19	13	4	-	2

It is found from Table VII that the contributions of course credit rating in SWAYAM. There are about 1556 online courses available in the SWAYAM digital platform but only 256 online courses got the course credit ratings by the learners. It shows that the subject of "Science" has highest number of 57 online course got 41 with 4-stars, 13 with 3-stars and 3 with 1-star. It is followed by Education (40) online course got 27 with 4-stars, 4 3-stars and 9 with 1-star, Management (31) online course got 28 with 4-stars, 2 with 3-stars and 1 with 1-star, Humanities (28) online course got 22 with 4-stars, 2 with 3-stars, 1 with 2-stars and 3 with 1-star, and Library and Information Science (19) online course got 13 with 4-stars, 4 with 3-stars and 2 with 1-star and placed second, third and fourth and fifth place respectively.

## VI. CONCLUSION AND RECOMMENDATIONS

Online Education is coming up in India and it is supported by M.H.R.D & Department of Information Technology. Now the focus of M.H.R.D is "Education for All". This can be achieved only by the online course and based on their

SWAYAM has initiated and it can be accessed by students and faculty members from anywhere. The SWAYAM also gives the certification with credits. Hence it is recommended that all the students should be aware of the SWAYAM courses & activities to take up the course as per their requirements. The study also recommends that more courses to be added in the subjects of Library and Information Science, Mathematics and Commerce.

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