
E-PG Pathshala: Transforming Higher Education through Open Educational Resources in India Education

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Abstract

Open educational resources (OER) facilitate learning without geographical or economic constraints, categorized into OCW and MOOCs. In India, e-PG Pathshala, backed by UGC-INFLIBNET and MHRD, contributes to this initiative through a comprehensive e-learning platform under the National Mission on Education through ICT (NME-ICT). An assessment of e-content modules reveals that 62% are produced by AHSS faculty, while STEMM faculties contribute 38%. The subject area is divided into five disciplines: Social Sciences, Arts, Humanities and Languages, Engineering, Technology, and Management, and Biological and Health Sciences.

Keywords

Open Courseware; MOOCs; Open Educational Resources; e-PG Pathshala; e-Content Module

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1. Introduction

Advances in Information and Communication Technology (ICT) have brought about tremendous changes in the teaching and learning process. Self-directed learning resources in various fields are increasing the trend toward self-study. Self-directed learning processes are described as learners' innate ability to manage their learning process, viewing themselves as the source of their own decisions and actions as responsible for their lifelong learning. (Se-Yeng and Hussain 2010). Among the few recognised OERs, e-PG Pathshala has had a massive impact on the growth, promotion, and advancement of e-learning in India. It is an e-learning platform supported by the University Grants Commission through the INFLIBNET Center and funded by MHRD, Government of India. It acts as a gateway to all postgraduate-level courses. The e-PG School develops e-content in nearly 70 subjects at the postgraduate level, including high-quality, curriculum-based, cross-disciplinary interactive content across social sciences, arts, fine arts and humanities, and natural and mathematical sciences. The present study attempts to analyze the status of e-content modules.

2. Review of Literature

OER, Open Courseware (OCW), or Massive Open Online Courses (MOOCs) in collaboration with e-learning is not a new area of research, although there is a huge lack of awareness about Indian OER platforms such as e-PG Pathshala. Discussed below are some potential studies that attempt to paint a picture of the state of Indian OER and e-learning platforms regarding e-PG schools: Maharaj (2018), in his paper "Study on the Role of e-PG Schools in the Development of e-learning". The study includes the ratio of total visitors to registered visitors; State-wise visitors in India regarding total state population and total higher education enrolment; Hazam (2016) presented a SWOT analysis of an e-learning platform e-PG Pathshala. This paper discussed the concept of open courseware in general and specifically elaborated on the meaning, purpose, and objectives of e-PG schools in India to evaluate the SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of e-PG schools. In addition, the role of libraries and information centers in the electronic distribution of information was also mentioned in the study.

3. Objectives

1. To examine the present status of e-Content in the Indian OER e-PG Pathshala.
2. To analyze the subject-wise contribution of e-content in e-PG schools.
3. To explore the contribution of e-content in more depth sub-category level.
4. To determine the statistical correlation present between the number of papers and uploaded modules in different subject disciplines.

4. Scope and Limitations of Study

The scope of the study extends to all 67 subject categories (actual number = 70, but data for three fields are missing from E-PG statistics) of e-PG schools, which are mainly divided into two broad categories. STEMM (Science, Technology, Engineering, Medicine, and Management) and AHSS (Arts, Humanities, and Social Sciences), which are further divided into 5 major subject categories. In addition, the study tests the existence of statistical tests to check the presence of any correlation between paper and module number.

E-Text	Video	Experts	Quiz	Subjects / Papers
20000+	19000+	3200+	30000+	70/723

5. Research Methodology

Data for the study were collected in June 2023 from the website of e-PG Pathshala (<http://epgp.inflibnet.ac.in/>) (e-PG Pathshala, n.d.-b). Data mining was performed from the raw data with the use of spreadsheet software for enhanced visualisation. Studies were systematically categorised into broad to narrow categories of subject areas covered under E-PG Pathshala. Initially, the data

were organised into two broad categories, AHSS and STEMM, followed by 5 major disciplines: Social Sciences; Arts, Humanities, and Languages; Engineering, Technology, and Management; Physical and Basic Sciences; and Bio-medical and Health Sciences; and 67 major subject sub-categories in subsequent steps. The subcategory of major subjects contributed 908 papers and 25283 modules.

6. Data Analysis and Interpretation

After the data collection is over, the raw data is analysed by a simple quantitative method based on the relevant parameter set suitable for interpreting the present study.

6.1. Contribution of Broad Branches of Subject

Table 2: Broad Branches of Subject

Branch of Subjects	No. of Major Subjects Category	No. of Sub-Categories	Total no. of Papers	Total no. of uploaded modules	(%)
AHSS	2	38	538	15553	61.52
STEMM	3	29	371	9730	35.48
Total	5	67	908	25283	100.00

Table 2 shows that although the AHSS branch covers only two major subject categories, e-PG covers 61.52% (15553) of the total modules uploaded in the school. The STEMM faculty of the subject covered 38.48% (9730) of the uploaded modules with 3 major subject categories. Again, the faculty of AHSS has also pressed the STEMM faculty to consider the numbers.

6.2. Contribution of Major Subject Category

Table 3: Major Subject Category

Sr. No.	Major Subject Category	No. of Sub-Categories	Total no of Papers	Total no of uploaded modules	(%)
1	Social Sciences	22	319	8791	34.77
2	Arts, Humanities, and Languages	16	218	6782	26.82
3	Engineering, Technology, and Management	10	131	4158	16.45
4	Physical and Basic Sciences	8	112	3845	15.21
5	Bio-Medical and Health Sciences	11	128	2627	10.39
Total		67	908	25283	100.00

From Table 3 above, it is observed that among the 5 major subject categories, "Social Sciences" has contributed the largest number of E-PG colleges with 8791 (34.77%). It is followed by "Arts, Humanities and Languages," which contributed 6782 (26.82%). This was followed by "Engineering, Technology, and Management" 4158 (16.45%), "Physical and Basic Sciences 3845 (15.21%)" and "Bio-Medical and

Health Sciences 2627 (10.39%)". is given It is clear from this that out of the top three contributors of e-PG schools, two are from AHSS faculty and one from STEM faculty.

6.3. Contribution of Sub-Categories (Individual Subjects)

Table 4: Sub-Categories (Individual Subjects)

Sr. No.	Subject	Paper	Mod-ules	%
1	Hotel & Tourism Management	16	693	2.74
2	Home Science	16	640	2.53
3	Sanskrit (MA)	16	460	2.53
4	Computer Science	17	633	2.5
5	Food and nutrition	15	602	2.38
6	Human Resources Management	16	599	2.37
7	Management	15	599	2.37
8	Psychology	16	599	2.37
9	Statistics	16	595	2.35
10	Hindi	16	592	2.34
11	Economics	15	567	2.24
12	Mathematics	16	567	2.24
13	Chemistry	16	565	2.23
14	English	16	560	2.21
15	Forensic Science	16	560	2.21
16	Astrology-mathematics	16	560	2.21
17	Performing Arts (Dance/Drama/Drama)	16	560	2.21
18	Spanish	16	560	2.21
19	Anthropology	16	559	2.21
20	Sanskrit(grammar acharya)	16	534	2.11
21	Environmental Science	16	530	2.1
22	Sociology	15	526	2.08
23	Indian culture	15	524	2.07
24	Linguistics	16	493	1.95
25	Social Work Education	16	487	1.93
26	Visual Arts	14	487	1.93
27	criminality	14	482	1.91
28	Commerce	16	469	1.86
29	Physical science	16	465	1.84
30	Law	16	462	1.83
31	Business Economics	16	457	1.81
32	Japanese	16	453	1.79
33	Biophysics	14	450	1.78
34	Russian studies	13	436	1.72
35	Women's Studies/Gender	15	431	1.7

Study			
36	Library and information Science	20	395 1.56
37	media and Communication Studies	9	383 1.51
38	Population studies	14	383 1.51
39	Human rights and Duties	10	364 1.44
40	Physics	12	343 1.36
41	Geography	16	337 1.33
42	Philosophy	16	333 1.32
43	Food Technology	14	329 1.3
44	Information Technology	16	318 1.26
45	Urdu	11	312 1.23
46	Biochemistry	16	261 1.03
47	Biotechnology	12	261 1.03
48	Analytical Chemistry/Instrumentation	15	222 0.88
49	political science	7	222 0.88
50	Pharmaceutical Science	12	215 0.85
51	Adult education	8	190 0.75
52	Zoology	16	184 0.73
53	Electronic Science	15	177 0.7
54	Botany	7	176 0.7
55	Architecture	6	164 0.65
56	Geology	11	136 0.54
57	Social medicine and Community Health	6	111 0.44
58	Education	15	106 0.42
59	Public administration	15	102 0.4
60	Comparative of Religions Study	13	77 0.3
61	Buddhist studies	12	67 0.27
62	Earth Science	9	49 0.19
63	M Planning	2	45 0.18
64	Physical Education , Sports and Health Education	14	37 0.15
65	Chinese	8	26 0.1
66	Risk/DisasterManagement	3	21 0.08
67	Bioinformatics	2	1 0
Total		908	2528 3 100.0 0

Across five major categories of faculties, 67 individual subjects have contributed to the high-quality, syllabus-based, interactive e-content of e-PG Pathshala, with 25283 modules from 5 faculties. Hotel & Tourism Management 693 (2.74%) has contributed the most to this, followed by Home Science contributed 640 (2.53%) modules. After that, Sanskrit (MA) 640 (2.53%), Computer Science 633 (2.5%), and Food and Nutrition 602 (2.38%) contributed significantly, and the contribution of other subjects is shown in the table.

6.4. Contribution of Subject in Library and Information Science

Table 5: Contribution of Subject in Library and Information Science

Sn	Subject Of LIS	Mod-ules	%
1	Information Communication Technology For Libraries	39	9.92
2	Public Library	36	9.16
3	Information Sources, Systems and Services	35	8.91
4	Knowledge Organisation And Processing: Cataloguing	34	8.65
5	Management Of Library and Information Centre's & Amp; Knowledge Centers	31	7.89
6	Library Use And User Study	31	7.89
7	Digital Libraries	30	7.63
8	Special And Research Libraries	28	7.12
9	Knowledge Organization And Processing: Classification	26	6.62
10	Academic Libraries	23	5.85
11	Informetrics & Amp; Scientometrics	19	4.83
12	Knowledge Society	17	4.33
13	Information Storage And Retrieval	15	3.82
14	Social Science Information Systems	15	3.82
15	Media And Information Literacy	14	3.56
Total		393	100

About 67 subjects have contributed to this database. Among them, library and information science is an important subject. A total of 15 papers and 395 modules are shown in this subject but actually, only 393 modules are available on the E-PG Pathshala database. Most of the modules have been published in this paper on Information Communication Technology for Libraries. Since then, the public library has been published in this paper. Media and

Information Literacy papers have the least number of modules published.

7. Findings

This study analyses the collation, tabulation, organisation, evaluation, and dissemination of e-materials accessed by students and researchers through the e-PG Pathshala database, with a focus on geography and related subject areas.

Key findings include:

- While e-PG Pathshala claims to cover approximately 70 subject areas (Table 1), in reality, it provides data for only 67 subjects, indicating a gap of three fields.
- The subjects are broadly classified under two major faculties: AHSS (Arts, Humanities, and Social Sciences) and STEMM (Science, Technology, Engineering, Mathematics, and Medicine). Of the total uploaded modules, AHSS accounts for 15,553 modules (61.52%), whereas STEMM covers 9,730 modules (38.48%) (Table 2).
- These broad faculties are further categorized into five major subject groups: "Social Sciences," "Arts, Languages and Humanities" (both under AHSS), and "Engineering, Technology and Management," "Physical and Basic Sciences," and "Bio-Medical and Health Sciences" (under STEMM).
- Overall, there are 67 individual subjects, 908 papers, and 25,283 modules available on the platform (Table 3).
- Specifically, in the field of Information and Communication Technology for Libraries, although 15 papers and 395 modules are listed, only 393 modules are actually accessible in the database.

These findings highlight both the extensive scope of e-PG Pathshala and the discrepancies between reported and actual content availability.

8. Conclusion

Open Educational Resources (OER) are freely available teaching, learning, and research materials in any medium that reside in the public domain or are shared under open licenses, allowing access, use, adaptation, and redistribution. In higher education, platforms like OCW (Open Courseware) and MOOCs

(Massive Open Online Courses) play a key role in advancing e-learning systems globally. In India, the Government's National Mission on Education through ICT (NMEICT) launched E-PG Pathshala, providing quality e-content to students nationwide. This platform has developed over 25,283 modules covering STEMM (Science, Technology, Engineering, Mathematics, Medicine) and AHSS (Arts, Humanities, Social Sciences). Interestingly, module contributions are almost double for AHSS compared to STEMM. To bridge this gap, more content in "Engineering, Technology & Management" and "Bio-Medical & Health Sciences" is essential. A UGC-defined curriculum and proactive e-content development can make OER a powerful tool to deliver equal, high-quality education across India.

9. References

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