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Open Educational Resources Initiatives In India: An Overview

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ABSTRACT

The term "open access" refers to many website formats and publicly accessible educational materials on the internet that anybody may view, read, and save for their relevant subject matter. Students, instructors, and scientists can use digital resources around the clock to get information on research projects and course materials. Online instructional resources, known as "open education resources", are freely available and adaptable to enhance teaching and learning. These days, open-access electronic resources—which include textbooks, video lectures, assessments, learner activities, and other resources—have evolved into an educational centre to promote open education. Some web-based digital directories, such as Google Scholar, DOAJ, and others, are openly accessible and also available for open access to OER. This essay describes open educational resources (OER), legal requirements, restrictions on open material, how OERs might help instructors and students receive high-quality education—especially in developing nations like India—and weighs their benefits and drawbacks. The following is a list of significant Open Educational Resource projects in India.

Keywords: Open Educational Resources, Creative Commons, users, Learning Materials

1. Introduction

Education is the sign of civilisation. In early times, education was in the oral form. Man is always eager to learn something, either orally or in writing. Man learned a lot from nature and then started to explore it.

The education system has changed from physical classrooms to online classes.

Even the scope of the academic degrees has been changed from a local university to a foreign university while sitting at home. There are so many universities in India and foreign countries where you can get an academic degree from them while sitting at home. Open Educational Resources play a great role in gaining knowledge at a personal level. Open Educational Resources (OER) are teaching and learning materials that are open to everyone online, and you may freely use and reuse them at no cost and without asking permission. OERs have no restrictions, such as subscription fees or paywalls. Journal articles, conference papers, theses and databases are a few available materials. OERs seek to democratise access to information, making research more accessible to the global community.

Open instructional resources may be kept, reused, revised, remixed, and distributed by users under the terms of an open license. ORES gives instructors and students a choice in accessing and utilising instructional information. It consists of textbooks, lectures, quizzes, and other educational tools.

Definition of Open Educational Resource

Open educational resources are teaching, learning, and research materials that are purposefully designed and licensed to be free for the end user to own, distribute, and, most of the time, alter. This definition comes from Wikipedia.

Open education resources are defined as learning, teaching, and research materials in any format and medium that are in the public domain or protected by copyright and that are made available under an open license, allowing for free access, reuse, repurposing, adaptation, and redistribution by others (UNESCO, 2002). The term was originally used to describe related resources.

According to Creative Commons OER is as "Teaching, learning and research materials offer freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research. OER includes learning content, software tools for developing, using and distributing content, and implementation resources such as open licenses."

The Organization for Economic Co-operation and Development (OECD) defines OER as "digitised materials offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning, and research." OER comprises educational materials, software tools for creating, utilising, and sharing materials, and tools for implementation, like open licensing.

The Hewlett Foundation defines open educational resources (OER) as "Teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and repurposing by others."

Five R's of Open Educational Resources

There are key points to consider when using open educational resources within licensed boundaries

Retain: Content can be reused in its unaltered and original form the right of use, such as In the classroom, in the study group, on a website, on a video, etc.

Reuse: Copies of content may be retained for personal archives or for reference.

Revise: Content may be modified according to specific requirements and the right to adopt, edit or modify, such as transferring material to other languages etc.

Remix: The right to mix the content with other relevant content and the right to create new content.

Redistribute: Exchange the obtained material with others in original or modified form. Copies of original material or revised materials and the right to Share your combined material with others.

Advantages of Open Educational Resources

- Lowering the cost of education for students
- Closing the gap between the nation and various social classes;
- Availability of OER anytime, anywhere
- Enhancement of conventional course materials;
- Scalability;
- The growth of class materials
- Quick information dissemination using open educational resources (OER);
- Student cost savings;
- Alumni connection to the institution;
- Regularly improved resources;
- Expanded learning opportunities through OER;
- Customizability of course materials.

Disadvantages of Open Educational Resources

- Concerns about the quality and dependability of OER resources
- Impediments to language and culture
- Problems with technology
- Problems with sustainability
- Restrictions on the use of copyright property protection.

Types of Open Educational Resources

Open Educational Resources include full courses, course materials, modules, learning objects, open textbooks, openly licensed videos, tests, software, and other tools, materials, or techniques used to support access to knowledge.

Useful Open Educational Resources in India

There are many open education materials available. The resources for open educational materials include Khan Academy's Wikipedia, the OER Meta finder, the Library, the OER Commons, YouTube, Merlot, and Creative Commons search. Furthermore, additional websites provide easy access to higher education resources. OER encompasses a wide range of content categories, including as tutorials, transcripts, books, articles, curricula, journals, basic media, assessments, dissertations, and textbooks. Following are some useful open educational resources websites in India that provide free access to a wide range of educational materials:

- The National Digital Library of India (NDLI) is a digital repository launched in 2018 by the Ministry of Education and Forests (MoE) under NMEICT. It offers free online learning resources for students of all educational levels, 24/7. The platform has 71 lakh registered users, 400+ language coverage, 2800+ NDLI Clubs, 11 main Indian language interfaces, and two regional hubs for North-East India and South India.

- SWAYAM is a MOOC platform introduced by the Indian government in July 2017 to realize the three main tenets of education policy: quality, equity, and access. It hosts all classes from 1X to post-graduation and makes them available for free retrieval by anyone, anywhere, at any time.

- e-PG Pathshala is a government of India effort under the MoE's NMEICT program, offering over 20,000 e-texts, 19,000 videos, 3200 experts, 30,000 quizzes, 70 subjects, and 720 pages. It is accessible on Google Play, the web, Windows, and App Store.

• NPTEL is the largest online course repository in the world, offering open access to recorded lectures from fundamental science, engineering, and certain humanities and social science courses offered by its member institutes.

• nE-Yantra is a project by IIT Bombay to promote robotics and embedded systems education, supported by the Ministry of Education (MOE) of India through the NMEICT. It aims to provide hands-on experience to engineering students without access to labs and mentors. The project has assisted various Indian colleges by training professors and students.

• Sakshat Portal is a one-stop education portal that details all online learning environments in India. FOSSEE is an initiative of the Ministry of Education under NMEICT to promote open-source software in educational institutions. Spoken Tutorial provides instructional audio-visual tutorials for anyone with a computer and a willingness to study.

• SWAYAM PRABRA offers 32 top-notch educational channels via DTH on a 24-hour basis. These include curriculum-based courses for grades 9 through 12, postgraduate and undergraduate studies, and lifelong learning opportunities. Shodhganga is an electronic repository for Indian Electronic Theses and Dissertations maintained by the Information and Library Network Center of India (INFLIBNET).

• NPTEL is the world's largest online course repository, with recorded lectures from its member institutes' engineering, basic science, and certain humanities and social science courses available for open access

• IIT Bombay launched **FOSSEE**, an initiative of the Ministry of Education under NMEICT, to promote open-source software (OSS) in educational institutions. It seeks to limit the quantity of proprietary software used by educational institutions. The Textbook Companion (TBC0), Lab Migration, conferences, seminars, practical workshops, and FOSS forums are free and open-source projects. FOSSEE encourages academics and students to use various project tools in education and research. Include the Python programming language, the R statistical tool, and SOUL (Science Opensource Software for Teaching Learning). Examples include Scilab software, ESim, open Modelica, open FOAM, and FOCAL (Free and Open-Source Creative Art Library).

• **Spoken Tutorial** (https;/spoken-tutorial.org) is an IIT Bombay project under the MoE of the Indian government under NME ICT. supplying instructional audio-visual tutorials. Anyone with a computer and a willingness to study may do it at any time, from any place, and in any language of their choice, thanks to its self-paced, multilingual courses. This website's whole material is offered under a Creative Commons license.

• **Shodhganga** (https;//shodhganga.inflibnet.ac.in/) is an electronic repository for Indian ETDs (Electronic Theses and Dissertations) maintained by the Information and Library Network Center of India (INFLIBNET). At present, Shodhganga has MOUs (Memorandum of Understanding) with 638 Indian Universities, 43 Indian INIs (Institute of National Importance), and CFTLs (Centrally Funded Technical Institutes). All documents uploaded to Shodhganga are openly available for reading and downloading wherever in the globe. This comprehensive database currently offers over 3,56,600 of these, gathered from over 540 colleges. Submissions to Shodhganga are subject to Creative Commons licenses. Additionally, Shodhgangotri, a collection of research ideas and synopses from PhD programmers at Indian institutions, is maintained by the INFLIBNET Centre.

• **NIScPR Online Periodicals Repository** (http://nopr.niscair.res.in) provides free access to full-text articles from 19 CSIR scientific journals, NISCAIR (National Institute of Science Communication and Information Resources), and three popular science magazines. The entire amount of content available is around 53.900 or more.

• eGyanKosh is a national digital repository created by Indian institutions of open and distance learning. It offers over 55,300 items from B.A, B.Sc, and B.Com courses through communication channels like the Indian Journal of Open Learning, IGNOU Self-Learning Material, and IGNOU Facebook Live Recorded Videos.

• mThe Consortium for Educational Communication (CEC) is an Inter-University Center founded by the Indian government's UGC in 1991 to meet higher education needs by utilizing television and ICT technologies. The Indian Academy of Sciences Repository gathers and distributes research results produced by IAS community members to deposit their preprints and academic publications.

• Krishikosh is an online archive of amassed knowledge in agriculture and related sciences, containing important books, periodicals, theses, research papers, case studies, and yearly reports.

• The National Mission of Education funds the Vidya-Mitra Integrated e-Content Portal through Information and Communication Technology (NME-ICT) of the Ministry of Education, Government of India, funded by INFLIBNET Centre. The Indian government creates Open Government Data (OGD) to aid with Open Data Initiatives.

• DIKSHA provides educational resources related to the official school curriculum for educators, learners, and parents.

• e-ShodhSindhu enables academic institutions to access full-text, bibliographic, and factual databases at discounted subscription prices.

OER Commons (http://oercommans.org)
Commons is an open digital library for educators that allows users to explore, develop, and work with educators worldwide to enhance curricula. It offers a collection of 46,000 instructional modules from more than 500 major sources for grades K–12. Within a public or private group, OER Commons groups offer a flexible setting for resource organization, creation, sharing, and discussion with other network users. You can also work together to tag resources to shared folders, make your collections, and cooperate with group members.

IGNOU's e-Ggyankosh offers students an open educational environment. It contains text study resources and YouTube videos from Gyan Darshan's educational channels and is accessible to all users. The importance of Open Educational Resources is detailed below.

The significance of open educational resources (OER) in the modern educational landscape is profound, impacting students, educators, and educational institutions in numerous ways. Here are key points highlighting the significance of OER:

1. Enhancing Accessibility and Inclusivity
2. Promoting Equity in Education
3. Cost Efficiency
4. Fostering Lifelong Learning
5. Improving Quality of Education
6. Supporting Teacher Development
7. Encouraging Open and Collaborative Education
8. Enhancing Digital Literacy
9. Supporting Research and Innovation
10. Sustainability and Environmental Benefits
11. Facilitating Student Learning
12. Promoting Lifelong Learning

13. Improving Teaching Practices
14. Curriculum Development and Enhancement

Issues and Challenges with Open Educational Resources

While Open Educational Resources (OER) offer numerous benefits, they also present several issues and challenges. Here are some of the key challenges associated with OER:

1. Quality and Credibility

The quality of OER can vary widely since anyone can create and share them. Some resources may lack thorough review or fail to meet educational standards. Determining the credibility of OER can be difficult, especially when resources are not peer-reviewed or created by reputable institutions.

2. Sustainability and Funding

Developing high-quality OER requires significant investment in time, expertise, and money. Sustaining these resources over time can be challenging without consistent funding. Keeping OER up-to-date with the latest information and educational standards requires ongoing effort and resources.

3. Technological Barriers

In many regions, access to the necessary technology and reliable internet connectivity remains a barrier, limiting the effectiveness of OER. There is a disparity between students with access to digital devices and those without, exacerbating educational inequalities.

4. Intellectual Property and Licensing

Understanding and applying open licenses correctly can be complex. Misinterpretation of licenses can lead to legal issues and misuse of resources. Concerns about intellectual property rights can deter educators and institutions from creating and sharing OER.

5. Adoption and Integration

Educators and institutions may resist adopting OER due to familiarity with traditional textbooks and resources and scepticism about the quality of OER. Many educators and students are still unaware of OER and their benefits, leading to low adoption rates. Integrating OER into existing curricula requires time, effort, and training, which can be a significant hurdle for educators.

6. Localization and Cultural Relevance

OER developed in one context may not be culturally relevant or appropriate for learners in another context. Adapting OER to meet local educational standards, languages, and cultural contexts requires additional resources and effort.

7. Assessment and Accreditation

Traditional assessment methods may not align well with the flexible and diverse nature of OER-based learning. There can be challenges in obtaining formal recognition and accreditation for learning achieved through OER.

8. Professional Development and Support

Educators need adequate training and support to effectively find, evaluate, adapt, and use OER in their teaching. Building a supportive community around OER can be challenging but is crucial for sharing best practices and resources.

9. Sustainability of Open Education Models

Developing sustainable economic models for creating and maintaining OER is a significant challenge. Gaining institutional support for adopting and promoting OER can be difficult, especially in the face of traditional publishing models.

Conclusion

Open educational resources are very important in spreading online education. They are easily accessible. Efforts are being made to bridge the gap in providing quality education

at the national and international levels. At the maximum time, open educational resources may be provided in multiple languages so that they can reach the maximum users in demands excess time and effort to search and find OER that might work for your course, and if you want to create and publish new resources, that takes exponentially more time. OER are free for anyone to access; in conclusion, the continued development and promotion of OER in India are vital for achieving educational excellence and equity. Through concerted efforts by the government, educational institutions, and the wider community, OER can play a crucial role in shaping the future of education in India, making it more accessible, affordable, and effective for all.

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