

Open Educational Resources: Issues and Challenges in India

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Abstract

In the modern era of information technology, digital resources have become a readily accessible source of learning for teachers as well as learners. One such movement that encourages and enables sharing such learning resources is OER (Open Educational Resources). In India OER movement is especially important as higher education is still facing the paucity of high-quality teachers, inadequate infrastructure of the universities and more specifically their libraries, and the derisory quality of Educational Resources utilized at the various universities and colleges. The paper intends to elucidate the OER movement in Indian higher education and to introduce the open educational resources initiatives in Indian higher education. It also outlines the issues hindering the progress of OER in India along with the recommendations that may address these issues.

Key Words: Information Technology, Digital Resources, Open Education Resources, Higher Education.

Introduction

In today's knowledge-seeking environment, information technologies have proved themselves as a more readily available and easily accessible medium of information for both teaching and learning. All the stakeholders involved in education have found that a vast number of digital resources are available from many sources such as the internet and other digital technologies. It is often found that many teachers and students use the internet in their courses and this is one of the reasons for the growing number of contents in digital format. Until recently it was seen that a large number of the material was locked up behind passwords within proprietary systems, this limited the usage of these resources for many categories of learners. For this reason, efforts were made at different levels to make Open Educational Resources (OERs) accessible to all which aimed at offering opportunities for free and open sharing of the content to a wide range of users. The effort has now taken the form of almost a movement.

The National Knowledge Commission (2007) has also highlighted the importance of OER in widening access to higher education. It has stated that the "National Educational Foundation with a one-time infusion of adequate funds must be established to develop a web-based repository of high-quality educational resources. Open educational resources (OER) must be created online through a collaborative process, pooling in the efforts and expertise of all major institutions of higher education. The OER repository would supply pedagogical software for various programs run through Open Distance Education (ODE) and be available for utilization by all ODE institutions. An enabling legal framework that would allow unrestricted access without compromising intellectual authorship must be devised for this purpose."

Objectives of the Paper

The following are the primary objectives of the present paper:

- To define and understand the concept of Open Educational Resources,
- To exemplify OER initiatives in India,
- To identify the challenges to OER in India.
- To recommend suggestions for overcoming the identified challenges.

Methodology

This paper is based on secondary data. The data has been taken from different research reports, journal, research papers and internet sources.

Open Educational Resources

OER are teaching, learning, and research materials in any medium that reside in the public domain. The concept of Open Educational Resources came into existence during a conference hosted by UNESCO in 2002. Since then the term has become a subject of interest and many explorations have been done by the institutions on finding out the contributions it can make to education. The initial concept on OER was developed further based on follow-ups through online discussion hosted by UNESCO. The final form is as follows:

Open Educational Resources are defined as 'technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes.' They are typically made freely available over the Web or the Internet. Their principal use is by teachers and educational institutions to support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabuses, curricula, and teachers' guides.

According to Atkins, Brown & Hammond (2007) OER has also been defined 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 or re-purposing by others" In more simple words it can be said that OER describes the educational resources that are freely available on the internet for the use of learners, educators and educational institutions and doesn't accompany itself with the need of paying royalty, license or registration fee. The scope of OER ranges from full courses to course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge. But it should be noted that OER is not explicitly about e-learning as many people conclude it because of its sharing content on the digital architecture of the internet. OER do use the digital architecture of the internet but share printable materials stored in digital format and share it as easily as any form of multimedia.

OER, in general, refers to digital resources and focus on its usage in online or hybrid learning environments. A license is issued for each resource which spells out how the resource can be used. Some content or learning material can only be used in their original form while some can be modified or remixed. OER is found in collections or repositories of a single institution or in collections of materials gathered from institutions or individuals from a wide range of single institutions from where the OER can be downloaded by the learners or instructors for use in formal or informal learning.

As in OER, Educational resources are developed in an open environment which results in their improvement by a broad community of educators and as a result, pedagogical innovations, new and innovative methods for effective teaching spurs up. It also provides an opportunity to the learners and instructors to get familiar with huge content which never found its way into educational use. OER also increases the accessibility of the high-quality learning material by distributing the cost of development of content over a large number of users and makes it possible for the learners to obtain the educational content at low cost. Moreover, by providing the learning content all the time it enables particularly the adult learners, nontraditional students and the students who work full time to learn independently. OERs have also potential to facilitate new styles of teaching and learning by giving an opportunity of modification and assembling of open resources uniquely.

Current OER Initiatives in Indian Higher Education

Indian higher education is posing a challenge with a rapid increase in demand and with limited increases in resources. Further, there has been a rollout of ICT infrastructure into higher education institutions; all this has created a distinctive situation. It has become increasingly important to widely use OER to expand the coverage of higher education in India. Further, the use of OER is being done with the goal is to make education available to everyone in the country (particularly those in the geographically difficult terrains or who could not otherwise afford an education—as well as self-learners). In India, Government, universities and research institutions have realized the importance of Open Educational Resources in widening the access to higher education and for this, they are undertaking several efforts to promote it in the country. In India, there are not many major initiatives for creating open educational tools and resources, most of them are in the area of science and engineering. Some other initiatives are highlighted below:

Digital Library Initiatives: A Digital library is a type of information retrieval system where collections to be stored in digital formats which can be accessed with the help of computer networks. In India following digital library initiatives have been taken up:

- CSIR Explorations
- Cultural Heritage Digital Library in Hindi (CHDLH)
- Digital Library of India
- Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium
- Kalasampada Digital Library - Resources of Indian Cultural Heritage (DL-RICH)
- Vidyanidhi

Open Courseware Initiatives: The term "Open Courseware (OCW) refers to that digital material which is freely and publicly available, and that is either a part of or a complete course from an educational institution such as a university or college. These OCW generally includes audio/video lectures, course syllabi, study material and evaluation tools. In 2002 MIT started the initiative by offering 50 open online classes on its website. The number of classes and materials grew by leaps and bounds in the later years and there is more than 5,000 open courseware at the end of 2018. Some of the OCW initiatives in India are:

- CEC Learning object repository,
- eGyankosh - A National Digital Repository,
- National Programme on Technology Enhanced Learning (NPTEL),
- Ekalavya,
- E.Grid,
- Brihaspathi.

Open Access Journals: These are sometimes called "gold road to open access" are the scholarly journals which are available online without financial, legal, or technical barriers. They provide open access to literature and publications in journals. A few Open Access Journals available in our country are:

e-journals @ NTSA,

Indian Academy of Sciences Published Open Access Journals,

INDMED@NIC and MEDIND@NIC: Biomedical Journals from India,

Challenges to OER In India

The appropriate use of information technology can help equalize the distribution of high-quality knowledge and educational opportunities for individuals, faculty, and institutions within India. However, there are obstacles to the spread of OER, the following are a few important obstacles of OER in India:

Economic Issues: Teachers rarely show any interest in the development of the open courseware as most of them are already unpaid and supporting the OER movement by developing the content at no cost is of no interest to them. Therefore, the concept of open courseware is encountering resistance from educator's in India.

Intellectual property: Intellectual property is still the biggest problem with OER in India. None of the content is available under the Creative Common License to ensure the copyright. In this competitive age, universities are seeking ways to protect their intellectual property for fear that it might be stolen or used by others and without assurance of copyright they feel reluctant to share thesis/ dissertations on public portals.

Infrastructure: Where there is a shortage of power, it is difficult to imagine a strong network enabled infrastructure. Most of the Indian semi-urban and rural areas are still struggling for a sufficient amount of supply of electricity and the students in these areas are deprived of facilities being offered by ICT at their doorstep. A strong network enabled delivery infrastructure with the focus on access and delivery is required to make OER movement successful.

Lack of Awareness: In India, there is still a lot of unawareness about the availability of Open Educational Resources and the opportunities provided by among the educators and learners communities. Libraries and librarians are still to get involved in OER related work.

Technological Backwardness: OER movement in India needs technological overhauls. OERs are presently based on Web 1.0 tools whereas migration towards Web 2.0 is necessary. It is not just technological backwardness but may be non-affordability of the latest technology.

Language and/or cultural barriers: Most of the OERs available only in English, limiting their usefulness to non-English speakers. Additionally, not all resources are culturally appropriate for all audiences. The Indian learner audience is generally from the non-English background.

Lack of Quality Assessment and Assurance Provisions: Most of the OERs are not following any pre-determined standards and are not related to the teaching-learning process. Moreover, the content is not updated regularly.

Financial limitations: Institutions are generally operating in a financial crunch. Since OER generally do not generate any type of payment for their usage, there may be little incentive for institutions to update their OER or ensure that it will continue to be available online.

Recommendations for Overcoming Challenges to OER Indian Higher Education

There need to be considerable efforts in both directions – for reducing barriers and also understanding and stimulating use. Barriers can be reduced by dealing with technology issues and understanding can be promoted with R&D, feasibility studies, plus awareness creation. Following measures can be taken to overcome hindrances caused in the way of OER in Indian Higher Education:

Development of user-friendly systems is required for ensuring the implementation for quality assurance of courseware;

Adoption of new and appropriate technologies to match the teaching-learning environment;

Initiating steps to increase the awareness among the teachers, researchers and students about the availability and benefits of OERs in facilitating quality teaching-learning process;

Reward system should be introduced to motivate the educators for developing open educational resources.

Integrate OER into university curricula and organizational structures.

Application of licensing, copyright and intellectual property rights.

Modularizing the content to meet localization needs.

Development of skills among the teachers to use or share the resources developed by other teachers or institutions.

High-quality content materials can be achieved largely by funding content development from well-established educational institutions.

Capacity-building efforts need to be made for both teachers and learners to train them for the effective use of OER.

Research should be increased in about and around OER to make future efforts in the right direction.

Infrastructure needs to be developed for general software and middleware services for creating, federating, and finding OER resources.

Appropriate e-infrastructure or cyberinfrastructure needs to be generated in the country.

Conclusion

The present world of education demands creativity and innovation from all of us. A culture of learning needs to be developed to equip people to prosper in a rapidly evolving, knowledge-based world. A computer-enhanced learning environment can help make the much-needed transition from just 'knowing' to 'sharing'. OER is one such great initiation in this way for effective teaching as well as learning.

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