

# Open Educational Resources: Innovations in Education

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**Abstract:** Technological innovations have changed the way we communicate and learn with the world. With development in online learning and education, learners are able to acquire knowledge in such a way that it caters to their different learner's needs like their learning styles, work, their geographical distances from other learners, etc. Open Educational Resources (OER) can be defined as materials offered freely and openly to use and adapt for teaching, learning, development and research. Thus, they have the potential to facilitate the expansion of learning everywhere. This paper explores the formation and use of OER in learning process. It attempts to answer certain questions as- How OER can be developed? Whether the use of OER has helped in accessing knowledge? How OER support lifelong learning? The diverse needs of learners and several learning processes benefit from the use of OER. The author throws light on how personalized learning is encouraged by the use of OER, and the motivation for teachers to use OER in teaching learning process. There's need to analyze the understanding, and usefulness of these resources so as to harness their potential to maximum extent possible in the process of learning.

**Keywords:** Open Educational Resources, Teaching-Learning process.

## 1. INTRODUCTION

Education in general involves learners, teachers, and educational resources, all interacting in some manner. Learning is a purposeful human activity and teachers guide to support the learning process for the learners and help in utilizing the correct educational resources or learning materials. Education is a lifelong process. Sometimes it may not involve teachers, proper classroom settings etc. such learning occurs in the social and cultural environment of the individual. Technological innovations have changed things work now, including education. The increased use of internet and other digital technologies and content have changed the way learning occurs. Learners have gained access to learning materials that were previously difficult to obtain. They can communicate with other learners worldwide and within seconds, all thanks to internet and information and communication technology. This technological growth has tremendously affected education. Advancements in teaching

practices are also visible. Education has become learner oriented, replacing traditional tools like blackboards replaced by whiteboards, classrooms by Virtual Learning Environments, etc. Online learning is widespread and more acceptable. Thus, this use of worldwide web and technology has motivated students or learners to devise innovative ways of learning. In order to support educational advancements, Open Educational Resources (OER) has emerged as a great tool. It greatly increased the accessibility and sharing of materials all over the world. Open educational resources can be described as educational materials or resources available for use and reuse by educators, students, etc. without having to pay any fees or royalties. OER include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge [5]. It is a resource based learning tool, and acts as a method of communication in educational courses. The resources can be digitized and shared via internet. This differs from other educational resources in that it is license-free; no permission is required from the copyright holder. As new developments in openness of education through globalization and worldwide web are seen, we need to be prepared by acknowledging, channeling and correctly harnessing newer paradigms in education.

## 2. OPEN EDUCATIONAL RESOURCES (OER) - MEANING, PRODUCTION, & SHARING

“One of the main driving forces for efficient and quality e-learning in the future is likely to be OER, which is a tremendous opportunity for everyone to share, use and reuse the world's knowledge” [4]. The OER provides structured content that is available beyond formal educational contexts. The important characteristic of OER is co-creation of educational materials and courses. The academicians all over the world are working, sharing, commenting, and using the learning resources available. They are helping in creating authentic resources for learners to aid in their study. There have been a variety of different approaches to OER including OpenCourseWare, Re-useable Learning Objects and Massively Open Online Courses (MOOC). Large repositories

of OER have been built such as those from Merlot, MIT, Connexions, etc. OER are shared via the websites of education providers and through public services like iTunes U, SlideShare, YouTube, etc. The movement originated in the late 1990s by MIT which released 50 freely available courses in 2002 through the OpenCourseWare initiative. The OpenCourseWare consortium is a collaboration of more than 200 higher education institutions and associated organizations from around the world creating a broad and deep body of open educational content using a shared model [8]. Similarly, MERLOT (Multimedia Educational Resource for Learning and Teaching Online) provides free and open resources designed primarily for faculty and students of higher education. It allows users to find peer reviewed online teaching and learning materials, share advice and expertise about education with educators.

### *In 2005 a study on UK*

Open University (OU) [5] to analyze the impact of using open content and resources, the OpenLearn initiative was undertaken. In this project, three features were closely analyzed i.e. the site design, the content and the transferability of resources to learners. The site design consisted of LearningSpace for learners and Labspace for those who wanted to rework on the material available. Both these areas were based on Moodle learning environment for providing access to open sources. The LearningSpace attracted large number of users while Labspace was more of experimental in nature. The content was published as study units of varying size and media complexity. The users alongside the original content can use the space to write entries, reviews, etc. The educators can come up with new ways to utilize open content. The OpenLearn thus proved successful as many projects utilize content and materials from it. The use of Learning Objects (LO) and OER is incredible in learning process. The power of openness is the stimulator to use these tools. The use of an open, some rights reserved 'copyleft' license is the important feature of OER. Thus emphasis was placed on openly publishing educational content that can be treated as LO by both teachers and learners. The repository can be single disciplinary programs like Planet Math, or multidisciplinary, which are more common. The users and producers of OER can be anybody either a well-educated self-learner or some academician involved in exchanges of information with other institutions. Why are the resources available free? It has been put to light that free sharing leads to faster dissemination of knowledge and more people get involved in problem solving, thereby increasing equality, societal development, and faster technical and scientific development. Why institutions involve in OER was summarized by Hylén[3]: (1) sharing knowledge is a good thing (2) it increases the value of existing investment of public money (3) it can cut costs and improve quality (4) it can be good for public relations (5) provides a chance to explore global business models, and (6) open sharing will stimulate innovation. Some of the major university initiatives

include that of a National Digital Repository of learning resources established by IGNOU in India. The repository, eGyankosh, envisages to store, index, preserve, distribute and share the digital learning resources of open and distance learning (ODL) institutions in the country. It consists of self-instructional study materials, audio-video programmes, and archives of radio and television based live interactive sessions.

### **3. OER AND SCHOOL LEARNING**

OER can be used as entire courses, full units, lesson plans, or supplemental materials. The various contributions of OER in school learning can be enlisted as:

- OER are free
- More up-to-date than textbooks
- Updated and modified without any permission from the creator of content
- Exist in digital mode, so learners need to have laptops, internet, etc.

The United Nations "Millennium Development Goals" face the challenge of making quality education universally available to all. Quality learning requires access to quality curricula that includes defined learning objectives, scope and sequence for instruction, lesson plans, instructional materials, teacher training and student assessment. The culture of sharing and collaboration is being fostered through open and online technologies. More and more academics look towards digital material for creating their course content and are less resistant to new methodologies. They see the benefits of inculcating learner-centered approaches both in their teaching and learning practices. There is motivation to use educational technologies to enhance learning [2]. The exchange of knowledge, openness of communication and social interaction, increased collaboration has proved encouraging. There is increased freedom to learners in learning process as active participants. However, more authentic learning experiences need to be delivered. The creative and collaborative engagement of the learners is also important. The shift of role of learners from passive listeners to active participants is needed. Emphasis is on building challenging environments for learners that help them in seeking new information, meaningful knowledge and creative thinking. An environment that gives the learners to explore, follow their interests, find solutions to their problems etc. is motivating and supportive in quality education.

### **4. TEACHER'S MOTIVATIONS TO USE OER**

The teacher will be utilizing the OER to download or print a textbook, display audio and video lectures, build and share lesson plans, access free books, interactive simulations, exploring game-based learning programs, and gather and

assemble resources like photos, sounds, and diagrams. Motivation for teachers can be summarized as (1) sharing knowledge being a basic academic value (2) the increase in personal reputation in an open community (3) being a leader in the field, and (4) there is little value in keeping the resource closed. Teachers need to employ several teaching strategies that fulfill the need of constructive learning. Students are very proficient in searching and utilizing online content. It is essential that focus be on not only digitalizing content but also on pedagogical approaches and enhancing quality and innovation in teaching learning process. Good educators are required to facilitate the process of content delivery and have the knowledge to utilize the potentials of OER. Findings from the OECD questionnaire reported that access to the best possible resources and flexible materials was the prime aim to use OER by teachers and students in teaching learning process. Assisting developing countries, bringing down costs for students, and outreach to disadvantage communities seemed less important. The perceived benefits of OER to lecturers and other educators as given by Hylen mentioned in [6], which include using study units as recommended or supplementary reading for an existing course, sharing materials and ideas with other educators worldwide, collaborating with others in developing new OER, reworking and localizing study units for their own purposes and their own contexts, etc.

## 5. SUCCESSFUL ADOPTION OF OER

It is of interest to everybody from library staff to learners through academics and even marketing professionals to use OER. There's a need to build on previous work or material, and help staff to develop the skills and knowledge required to create and use OER. Support changes in teaching practices or strategies through awareness, workshops, capacity building and communities of practice. Incorporating OER into virtual learning environment, embedding the creation and use of open educational resources into other institutional activities is required to make it more sustainable [1]. The possibility to create and use OER cheaply in efficient manner is the rationale for adopting OER. In a study on UK Open University, following benefits of OER have been given-extending the reach to new users and communities; supporting wider participation; providing an experimental base of material for use within the university; accelerating uptake and use of new technologies; etc.

*Developments in India:* India has launched a new learning repository for OER, namely NROER (National Repository of Open Educational Resources). The default license for the repository's all resources is Creative Commons Attribution-ShareAlike (CC BY-SA). The repository currently includes videos, audio, interactive media, documents, images, and aims to make all digital content and resources accessible to all languages, classes and subjects. The two important aspects of openness in OER indicates that there should not be any

technical, price, legal or permission barriers to use them; and the end user apart from using or reading the resource can adapt, build upon it and reuse it. With the ever increasing growth of Internet, there is a unique chance to change the curricula paradigm, and to exponentially spread quality learning at affordable cost.

## 6. OPPORTUNITIES AND CHALLENGES

It is important that we address the challenges and obstacles to the efficient utilization of Open Educational Resources. There can be many depending upon the infrastructure, learner's needs, expertise and skills required to use these resources, lack of awareness of copyright issues, etc. It is essential that the quality and relevance of the resources be maintained. Peer reviewing, internal quality checks can be done before the materials are released. The users can comment or rate on the resource and the number of downloads done for each resource can also act as an indicator of the quality management. The sustainability of OER initiatives is also an issue to be dealt with. A large number of projects have started in recent years but their sustenance needs consideration. We need to encourage people worldwide to use OER by increasing regional distribution. Efforts should be made to develop curriculum through community contributors. Delivering open content in a cost effective and sustainable manner is important to success in eliminating the education divide. A learning community of student users, parents, educators, and contributors, both inside and outside the classroom can be formed. Certain issues need to be considered before creating and releasing the content. Like what group of learners are using the OER and how (formal or informal) these resources are being used or reused. Large amounts of OER are available on the internet to be accessed or downloaded. A major obstacle in using OER is the lack of knowledge or awareness to use them. There's also the need to carefully evaluate and verify the online material before using them. UNESCO has placed emphasis on adoption of OER in the developing countries but there is fear of "educational neo-colonialism" as the OER are mostly developed in western countries according to their needs and values. The success of OER lies in having faith in these learning resources to support and augment high quality education. Therefore, it's essential that we analyze the difficulties and overcome the gaps that hinder the use of OER reliably. An explorative study conducted by [7] aimed to understand the exposure of OER to school teachers in Germany and their problems in using them. They were doubtful of the reliability and correctness of the searched content. There were worries of digital malware when downloading the learning materials. Language gap was a big concern. Thus, the study points out the barriers of using OER by teachers from a particular country. Some if not all can be assumed to be the concern of other countries as well. A 3 year (2013-2017) project "Research on Open Educational Resources for Development (ROER4D)" is being conducted in the Global South by the Canadian research funding agency,

the International Development Research Centre (IDRC) and Open Society Foundation & UK's Department for International Development. The aim is to answer to questions such as in what ways and under what circumstances can the adoption of OER address the increasing demand for accessible, relevant, high-quality and affordable education and what is its impact in the Global South? The 4 objectives of the project are- (1) build an empirical knowledge base on the use and impact of OER in education, (2) develop the capacity of OER researchers, (3) build a network of OER scholars, (4) curate and communicate research to inform education policy and practice. With the incorporation of technology in teaching learning, there is a need to train teachers and educators for efficient and correct use of the technologies. Mostly teachers work upon their teaching experiences individually and deliver them. However, efforts should be made so that others who are working in the same area can also be helpful, student's involvement can prove beneficial in creating and delivery of the lessons. A large part of the educational and learning experience requires that the teachers utilize their own experiences in deriving content, framing their lessons, working on a map of activities and resources which they consider needed, and use tools and technologies. Thus, open educational resources can help both teachers and students in accessing others work for any topic they choose. The resources provided by others can be used somewhere else to be taught. This increases outreach of the learning materials.

Clearly, OER can be considered a movement, involving learners, educators, institutions, education planners and policy makers.

## REFERENCES

- [1] Groom, C., "Open educational resources programme- phase 1", March 2013, Retrieved from [www.jisc.ac.uk/publications/programmerelated/2013/Openeducationalresources.aspx](http://www.jisc.ac.uk/publications/programmerelated/2013/Openeducationalresources.aspx)
- [2] Gunness, S., "Learner- centered teaching through OER", In Okada, A. (2012), *Open Educational Resources and Social Networks: Co-Learning and Professional Development*, London: Scholio Educational Research & Publishing.
- [3] Hylen, J., "Giving knowledge for free", OECD, Retrieved from <http://www.oecd.org/dataoecd/35/7/38654317.pdf>
- [4] ICDE (International Council for Open and Distance Education), "Report from the 29th Southeast Asian Ministers of Education Organization High Official Meeting", November 2006, Bangkok, Thailand.
- [5] Lane, A., and McAndrew, P., "Are open educational resources systematic or systemic change agents for teaching practice?", *British Journal of Educational Technology*, 41, 6, 2010, pp. 952-962.
- [6] McAndrew, P., Santos, A. I. dos, Lane, A., Godwin, S., Okada, A., Wilson, T., (2009), *OpenLearn: Research report (2006-2008)*, Retrieved January 6, 2010, from <http://oro.open.ac.uk/17513/>.
- [7] Richter, T., and Ehlers, U. D., "Barriers and Motivators for using Open Educational Resources in Schools", *In Open ED 2010 Proceedings*, Barcelona: UOC, OU, BYU.
- [8] <http://www.ocwconsortium.org>
- [9] <http://www.oecd.org/edu/oer>