



Open Educational Resources as an Innovative Pathway for Enhancing Quality Education with Minimum Financial Affordability

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Abstract

The best education system is that syndicate equity and quality. Integration of technology in education become a common practices and technology motivate the learners to expand and update knowledge day by day. Open educational resources are newly emerged technological innovation which facilitate flexible learning environment to the learners. Open educational resources are the web resources which distribute knowledge for free. It gives the possibility to the makers and users of open resources to enhance and build qualitative knowledge community. This paper focuses on the importance of open educational resources as an innovative pathway for enhancing quality education with minimum financial affordability.

Key Words: Open Educational Resources (OER), Licensing, Creative Commons, OER initiatives in the world, Quality Education.

Introduction

Education is the comprehensive process of exchange of ideas, information, knowledge and skills targeting towards the overall development of an individual and society. Generally, education is future oriented, the new inventions and application of knowledge marked evolutions in knowledge societies widening its horizon to an unlimited area. Twenty-first century is characterised by rapid changes and development in scientific innovations and research which leads to the integration of technology in each and every walk of our life. Now a day's technology is one of the practicing tools in education to make best use of it for easy grasping, understanding, analysing and reflecting on the teaching-learning situations. Application of technology in education marked a significant change in the existing system of education; it has accelerated distance education, open and online education, widening a new opportunity for learners. Integration of technology in education has a positive impact on generating more knowledge and more applications fruitfully benefiting to the students, teachers and institutions.

The knowledge of sharing digital resources is not a newly discovered idea, and it is a distinct

feature of information technology, which offers resources in an easily communicable way through the digital format with negligible costs. At the beginning instructional designers concentrated on the expansion of reusable learning objects (RLO), generally defined as digital learning resources which can be reusable for learning purposes (Wiley, 2007). This signified the needs and utilization of open learning resources in digital format for the best production of qualitative learning resources more effective and efficient.

Rapid technological development is the sound approach for learners to meet the educational needs and requirements. The trend of sharing knowledge has admired through the open educational resource (OER) movement. Open educational resources are the digital learning resources easily available in internet which flourish the knowledge society in the technological era. Open educational resources drive the obscuring of formal and informal learning strategy. It gives a basic philosophical base and validation of knowledge and concepts with considering issues of intellectual property right and distribution of knowledge across the world. Open educational resource is the novel approach to the knowledge sharing community for the effective use of knowledge of the social, cultural, political, educational and economic success.

Use of innovative digital and flexible Open Educational Resources offers new opportunity for learning usually marginalized learner groups who endeavour with the limitations of time, place and pace for learning. For reclining the limitations, innovative learning environment can only be entirely benefited if learners' comfort is considered. Professional support from trained teachers and peer group support can make a significant contribution to the new learning environment. Since the 2008 global financial crisis, particularly the cost of high-quality learning materials leads to a challenging situation to the learners. Increasing the ratio of participation in education system also influenced the cost of learning materials. In this situation, it is essential to think and



act on creating and building more efficient educational content in a digital format.

Open educational resources provide a space for reducing costs through developing, sharing and updating digital resources more cost efficiently than traditional school textbooks. The cost of innovative educational resources can be reduced by reprocessing existing resources from other creators. This cost saving is apparent for textbooks and printed materials, which are extensively used as a base for the teaching-learning purpose at all educational levels around the world. Their replacement by open digital resources can lead to cost saving and envision the relevance of digital educational resources.

Open Educational Resources (OER): Meaning and Nature

Learning resources have a significant importance in a competitive knowledge society, open educational resources provides space for the individuals and institutions to easily access and share the content through digital support without much economic burden (OECD, 2007). OECD defines an Open Educational Resource as digital teaching, learning and research material freely and openly accessible for self-learners, students and educators. Open educational resources comprise learning contents, software tools and implementation resources under open licenses. Learning materials include texts, images, audio, video and websites in digital format to use, adapt and reuse the learning content (OECD, 2007).

The term Open Educational Resources was first introduced in the UNESCO conference conducted in 2002 about the Impact of Open Courseware for Higher Education in Developing Countries (UNESCO, 2002). Hewlett Foundation defines Open Educational Resources as digital resources used for teaching and learning purposes under an intellectual property license. Open educational resources are freely available in digital form, but all free resources in digital are not considered as OER. Free resources in digital source may be available for temporary and restricted from its use for future reference or may demand for the fee for accessing it. Open Educational Resources (OER) are free resources permitted under copyright to the author and users for adapting, modifying and redistributing. One of the unique characteristics of OER is intellectual property license and the freedom given by license to users for easy accessing and utilizing it. Copyright licenses are advanced form in using digital resources which facilitate the learners free to use OER.

Open educational resources are substance for educational innovation through which teachers, students and other stakeholders interact to build a knowledge society. OER can treat prolonged and additional source for easy adaptation and distribution of quality educational materials. OER has its own flexible and adaptive feature that enables to modify and adopt educational resources in any context. This flexibility may create a complicated situation for quality assurance. This issue may deal with promoting and assessing the quality principle or accept standardized quality available open educational resources. Open educational resources are an innovative digital material, which improved the teaching-learning environment at an affordable cost. The OER is different from other digital learning resources in openness and copyright licenses, which enable to adapt, reuse and modify the open educational resources (Butcher and Hoosen, 2012).

In the present technological era, open educational resources promoting teacher education as well as the professional development of teachers. Open educational resources aim at providing quality education resources and breaking down the barriers to achieve quality education resources, including access, costs, time and space. In teacher education, the networking between students, teachers and experts can be expanded through developing and sharing Open Educational Resources together. Open educational resources collaborate the learners and teachers to develop skills and knowledge to cope with digital resources and barriers related to accessing resources. Teachers engagement with digital resources has been exposed as significant to actual learning. The use of open educational resources supports teachers to modify and review their educational resources to improve the educational environment. It can also help to collaborate between teachers and experts to produce and invent the best approach or method and good knowledge in their lectures, which leads to professional development of teachers.

OER Initiative in the World

The use of open educational resources had begun from the 90's onwards, but the exact growth of OER had taken up recently in all around the world. Some of the OER initiatives are listed below.

MERLOT (Multimedia Educational Resources for Learning and Online Teaching): MERLOT provides online learning resources and content development tools for the learning communities of learners, educators and researchers.





OER Commons: OER Commons is the digital library provides users to explore, create and collaborate open educational resources to improve teaching curriculum around the world.

Open Course Ware Consortium: The Open Courseware Consortium is a global collaboration for open education. It works to enhance capacity to find, create, share and reuse open educational resources and develop sustain models, policy, innovation and international collaboration.

Commonwealth of Learning (COL): COL delivers a Custom search to the OCW and OER repositories for higher education. This provides open access repository for learning materials and publications. It provides online courses and open educational resources for the sustainable development of learning.

MIT Open Course Ware– Massachusetts Institute of Technology: MIT provides nearly 1,900 courses and free and open study materials to the learners.

Edu Commons: It is a content management system for open course ware project to offer open access to course materials.

Australian Flexible Learning Framework– Learning Object Repository Network (LORN): LORN is a digital portal for the Australian VET sector provide access to quality learning resources to the teachers and trainers. It provides nearly 2500 learning objects contributed by seven-member repositories, which covering subject areas like business, technology, community services, tourism and horticulture etc.

Development Gateway: DG has expanded its work across four regions, six continents and eighty-five countries. It provides a platform for finding resources and to share their resources, participate in discussion and connect people together with similar interest.

CEC Learning Object Repository: Consortium for Educational Communication (CEC) is initiated by University Grants Commission (UGC) and the Government of India. This repository offers digital learning resources for Arts, Science, Language, Education, and other subjects.

National Repository of Open Educational Resources (NROER): National Repository of Open Educational Resources (NROER) was collaboratively developed by the Government of India, Ministry of Human Resource Development, Department of School Education and Literacy, the Central Institute of Educational Technology (CIET), and National Council of Educational Research and

Training (NCERT). NROER is a collaborative platform to those who were interested in school and teacher education. E- courses and E- resources are offered through NROER platform.

National Programme on Technology Enhanced Learning (NPTEL): NPTEL provides a platform for video and web courses collected from IITs and IISc in India.

OER 4 Open Schools: this repository was initiated to support open schools and increase its capacity in developing countries. This provides activities like capacity building programs, workshops, creating handbooks and research for enabling open resources.

Curriki: Curriki is collaborating digital community of educators, students and education experts to share open source curricula and educational materials.

Wikiversity: Wikimedia Foundation initiated Wikiversity project for developing OER for students, teachers and researchers to use open resources for professional training and distance learning.

OER Licensing

Open licences are considered as the legal tools that construct and operate existing copyright laws. The copyright law permits the copyright holder for licensing their work according to their choice. Open license approach benefited from open source software to develop content with licensing. The Free Software Foundation developed the first form of an open licence in 2000. This type of licensing used to develop open materials with standard copyright restrictions. This licence is named as Free Documentation License or GNU FDL and open source software developers utilised it for creating open resources. While it was handed down by Wikipedia, now Creative commons licence takes the place of it. Generally, the educators are not practically aware about copyright law related to digital sources. National law and International law on copy right released by the World Intellectual Property Organization (WIPO), which restrict content under open licence and copy right law. Often OER seem as an adaptable, cost saving initiative and feasible to use.

Creative Commons Licences

The well-advanced licensing approach Creative Commons (CC) was created by Larry Lessig of Stanford University in 2000. Creative Commons licence is a user-friendly open licensing approach, which apply copyright restrictions for digital materials. By 2006 around 45 million web resources approved by CC licenses with full-fledged



copy rights laws (Smith & Casserly, 2006). Creative Commons provides license generator in its web site for the users. Creative commons offer freedom to the authors and readers to get permission for accessing open resources, affix copyright symbol or notice in all copies of the work, publish the license, maintain and preserve actual copy right license and lawful use of the licenses. The creative commons tools provide every individual and large institutions, a standardised means of copyright permissions to their own original work. The massive users of creative commons license highlight the growing need of digital commons and copy right law for copying, editing, remixing, distributing and creating the digital content.

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OER as Open to enhance Quality Education

The open educational resources are openly licensed educational materials which have incredible possible to contribute to refining the quality of education. It is necessary to support the growing access of open educational resources for developing and improving curricula, course design, contact sessions with learners, design effective assessment techniques and improving teaching-learning materials intended to developing teaching and learning environment while considering the cost of education through improved practice of resource-based learning. The licenses for OER significantly offers some 'freedom', which permits to read, use, adapt and redistribute with free of cost. Many supporters of open educational resource movement advocate that the main profit behind developing open content is that it is available at free, that means no cost for downloading and using open resources. This argument literally proven by definition- open content could be share with others without authors permission and out of granting license fees (Butcher, 2015). Though, basic assertions that OER are free

and use of OER will reduce the cost of delivery of educational content.

The cost-effective approach of OER offers following benefits to the stakeholders for ensuring quality education:

- *Open License* provides safest way to share learning content for public and protect the author's IPR and copyright, which strictly guide to provide attributes to the original author. Sharing of original learning content may expose plagiarism, that is easy to prevent copying tendency of online materials.
- *Open sharing of knowledge* will collaborate networking between institutions, students, teachers and educators around the world to generate productive ideas, concepts and knowledge.
- Increased availability of relevant and high quality of learning materials for generating *flexible use of learning resources*.
- *Reduce number of hours and efforts* to collect the resources and enable active participants of learners in educational process, those re-use and adapt learning content which contributing for effective learning environment.
- *Provides opportunity* for educational institutions and educators to develop competency in producing open educational materials with quality parameters.

Educational institutions can increase the efficiency and productivity of teaching-learning materials by investing on developing improved programs, courses and materials. Open educational resources initiatives are cost effective approach to improve the quality of educational materials (Butcher, 2015). One of the advantages is that many educational institutions will start to share educational materials openly under an open license. This kind of initiatives may attract learners in enrolling the programs and may increase the interest in learning. This will turn to bear commercial benefits to provide more opportunities for students to search and re-search the quality of the educational experiences and learning resources that they receive over web sources. The Global Report of 2017 on Open Educational Resources stated that up to 80.88% OER reduced the cost of learning materials and 74.45% of continuous quality improvement enabled under open licensing of OER. OER assisting for accessing quality materials of 77.75% for developing countries (Commonwealth of Learning, 2017). This statistical analysis of open educational resources sustains the development and





benefit of open learning resources to enhance the quality output in learning environment.

Conclusion

Open educational resources are the revolutionary strategy against the traditional practice in the educational sector. The growing technological era encouraged Open Educational Resource initiative all over the world to improve the quality and distance learning environment affordable to the learners. A global initiative of open resources intended to reduce the cost as well as increase the enrolment ratio in the higher educational sector. Some of the governmental and non-governmental organisations took initiative to promote digital platforms for creating OER. UNESCO, OECD, CERI, William and Flora

Hewlett Foundation, MIT and Creative Commons are the known agencies at the global level functioning for open educational resources. Creative Commons is well known for its licensing service. OER. Different kinds of licensing service for standard baseline for open educational resources at the higher education level, the OER has a prominent role in imparting and envisioning the need of open knowledge. The minimum expense for open and preserving the open educational resources through web sources had developed easy adaptable learning environment to the users. The increasing number of OER initiatives are the impressive landmark for enhancing quality education with minimum financial affordability.

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